(Integrated Projects funded under the LIFE 2014 Call onwards must use this format.)

LIFE Project Number

<LIFE15 IPC/DK/000006-C2C CC>

Interim / Final Report

Covering the project activities from 01/11/2016[1] to 31/12/2018 corresponding to Phase(s) 1 (2017-2018)

Reporting Date[2]

31/03/2019

LIFE PROJECT NAME or Acronym

C2C CC

Project Data

Project location:	Central Denmark Region
Project start date:	01/11/2016
Project end date:	31/12/2022 **Extension date:** <dd/mm/yyyy >
Total budget:	11,690,050 €
EU contribution:	7,009,893 €
(%) of eligible costs:	60%

Data Beneficiary

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Project Website:	www.c2ccc.eu

[1] Project start date

[2] Include the reporting date as foreseen in part C2 of Annex II of the Grant Agreement

Instructions:

Reports must be submitted in **English**.

The coordinating beneficiary shall report to the Contracting Authority about the technical and financial progress of the project. The project's achieved results and possible problems should be highlighted in these reports.
Interim reports shall be submitted according to the reporting schedule included in form C2 of the Grant Agreement, or within 90 days following the end of the project period reported.
The Final Report must be submitted to the DG ENV/EASME[3] no later than 3 months after the project end date.

Identical copies of the report shall be simultaneously forwarded to the DG ENV/EASME and to the external monitoring team designated by the DG ENV/EASME.
The **technical report** shall be provided in both paper and electronic versions.
The **deliverables** shall be provided in electronic version only; however, actual samples of publications (including brochures, posters, books, albums) and other dissemination materials / gadgets produced by the project shall be submitted. An index (in both paper and electronic form) shall be annexed to the report, listing all the deliverables provided electronically along with a short description of the content of each deliverable.
Regarding the **financial report** printed signed originals of the payment request form, all cost statements (consolidated and individual beneficiaries' cost statements) and the beneficiary's certificate (if applicable), are required. A pdf version of these signed forms is also required.
Financial documentation requested by the EC (communication on previous pre-financing payments) must be provided with the Final report in digital format only. However, any certificates, certified statements, including the auditor's certificate (if signed) must be provided as printed signed originals (at least in the package sent to the DG ENV/EASME) as well as in digital copy (pdf). The complete financial report shall be provided in paper form, and in electronic format as an excel file.

Refer to the additional instructions concerning deliverables and the financial report, at the end of this document. Please refer to the General Conditions annexed to your Grant Agreement for the contractual requirements concerning an Interim/Final Report.

The first Interim Report shall report on progress from the project start-date; the following Interim reports shall report on overall progress since the project start and detailed progress during the phase reported. Final Reports shall report on progress (or include the financial data) from the project start-date.

[3] LIFE14 IPE projects should send all reports only to DG ENV and the monitoring team.

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1. List of key-words and abbreviations

3D	Three dimension
3Di	A model/tool
AAU	Aalborg University
AU	Aarhus University
C2C CC	Coast to Coast Climate Challenge
CCA	Climate Change Adaptation
CDEU	Central Denmark EU Office
CDR	Central Denmark Region
Danish MIKE Models	Software models related to water
ECCA	European Climate Change Adaptation
FK	Favrskov Municipality
HbK	Holstebro Municipality
HEDKOM	Hedensted Municipality
HK	Herning Municipality
HORKOM	Horsens Municipality
GWL	Ground Water Level
INNO MT	Innovation network for environmental technology
LGDK	Association of Danish municipalities called "Kommunernes Landsforening"
LK	Lemvig Municipality
LVS	Lemvig Utility
MF	Morsø Utility
MGA	Mutual Gain Approach
MidtRum	File management system for storing documentation
MK	Morsø Municipality
NDK	Norddjurs Municipality
PM	Project Manager
Ppt-presentation	Power Point Presentation
RK	Randers Municipality
SAK	Samsø Municipality
SDG	Sustainable Development Goals
SDK	Syddjurs Municipality
SFV	Skanderborg Utility
SIK	Silkeborg Municipality
SKK	Skive Municipality
SK-KOM	Skanderborg Municipality
SKV	Skive Utility
STF	Struer Utility
STK	Struer Municipality
SUDS	Sustainable Drainage System
TK	Thisted Municipality
TV	Thisted Utility
VESTF	Vest Utility
VHK	Vesthimmerland Municipality
VIA	VIA University College
VK	Viborg Municipality

VV Vesthimmerland Utility

2. **Executive Summary**

The EU LIFE IP project Coast to Coast Climate Challenge (C2C CC) involves 31 partners that collaborate on 24 concrete implementation actions (C-actions). 17 of these sub-projects (C8-C24) have their own project-organisations, and the overall IP incl. A-actions, C1-C7, D-actions, E-actions and the overall project management and financial reporting are run by The Central Denmark Region (CDR). This Phase 1 reporting, reports on the project progress for the first two years, 2017 and 2018, of the six year project period.

Overall, the project is progressing well with progress in all sub-projects and with only minor adjustments, delays and financial changes. Furthermore, the communication actions and policy impact of the project exceeds the initial expectations. In the following, a summery of the most significant progress aspects is provided for the Administrative Part, A, C, D, E and F-actions, Policy Implications, Complementary Projects, and the Financial Reporting.

The Administrative Part

The department of Regional Development in CDR, the administrative unit of C2C CC, has undergone organizational changes due to a national law amendment that changed the regions' role in regional business development. The law came into force by 1st of January 2019. This was known from late summer 2018 and meant a change in staff in the financial officers of C2C CC.

Finalization of A-action

Within the reporting period, five preparatory actions have been carried out (A1-A5). An important part of the preparatory actions was to interview the partners on (perceived) barriers for the implementation of CCA, especially the regulatory barriers. This was carried out as A1 and A4 during the first year of the project with the aim to have the remaining five years to find solutions and influence policy makers. Furthermore, the baseline of the IP has been set up with the GIS data from the municipal CCA plans, however, in the meantime legislation changed and new IPCC scenarios has been defined whereas the baseline is outdated. The project progress is instead applied as baseline (A3). A2 was also influenced by the law amendments, and it was decided to move this action to C5, to continue to follow the policy changes with the aim to influence it during the IP. Lastly, the PM have had several and fruitful collaboration meetings with LGDK and other policy stakeholders, which will continue during the IP. A2 and A5 are continued via C5, and A1, A3 and A4 are considered completed.

Overall good progress among all C-actions

The most significant results of the 24 concrete implementation actions are related to the cross-boundary results, which are the results created across administrative borders. We can observe that already at the end of phase 1:

- Cross-cutting cooperation provides more and better climate adaptation
- In Central Jutland work is done:
    - more holistic
    - more with multifunctional solutions
    - to a lesser extent with sub-optimization / local solutions
- The project's focus on climate adaptation creates a higher level of activity
- Uniform tools provide:

    - interaction on coherent scenario work
    - common high quality preparedness
- Connection to the SDGs
- Great interest in learning:
    - to arrange and apply cross-collaborative collaborations
    - to learn Mutual Gains Approach
- Very positive experiences and widespread use of young people in climate adaptation
- Municipal and regional politicians dare to speak more about climate adaptation and see the potentials

The partnership itself is characterised by motivated officials and change agents, which create an interesting environment for knowledge sharing and innovation. The sub-projects C8-C24 are further characterised by cross-border and cross-organisational collaborations between neighbouring municipalities, municipality and utility, knowledge institutions and industry. These constellations are interesting to follow and they strengthen as the sub-projects progresses. The processes are further supported through activities in C5. The partnership has further defined a focus group to support the development of a user friendly tool to screen for risk areas for terrain-near groundwater. This tool is finalized and training workshops initiated. For the individual C-actions, there is overall good progress among all with only minor changes and delays.

Short summery of D-Actions

Within the reporting period, two monitoring actions are initiated (D1-D2). The change in legislation, as mentioned above, affected the monitoring of the implementation of the CCA plans, whereas monitoring will be based on the progress of the C-actions (defined according to the flood risk areas of the CCA plans). One of the two pilots, C22 Permeable Coating (also called the Climate Road), is implemented and monitoring has been initiated. Monitoring of capacity building is carried out with questionnaires. It is still too early to report on progression.

Highlights from E-Actions

In relation to communication activities, at least 5901 persons have directly received dissemination of C2C CC. In addition, the IP has been disseminated at international conferences and seminars on climate change or water- and nature-related topics. During Phase 1, 51 newspaper articles were published in national, regional and local media, and the project was involved in 3 radio programmes.

Policy implications and the sustainability of the IP

A new law amendment implemented in Denmark in 2018 means a change in the regulatory set up of the local CCA plans, which now are legally integrated into the Danish Planning Act and the Municipal Spatial Plan. The plans are thus expected to enter a second phase or generation, where the first generation is expected to be revised. In this regard, the policy context supports the implementation of local CCA and the objectives of this IP. However, a common CCA strategy across municipal borders are still not on the national policy agenda, whereas C2C CC in phase 2 and 3 will continue its work on formulating a common CCA strategy across the municipalities in the region.

Interviews of the C2C CC partners found some perceived incompatible policies at EU level, which had caused barriers to CCA practice. One such example was a fear among farmers that

these would lose financial support under EU agricultural policy – due to land-use change – if they agreed to let their farmland be flooded in order to protect an urban area downstream. Another example is the contradictory policies between the Floods Directive, on the one hand, and the Habitats Directive on the other. The reason is that the Floods Directive takes its point of departure in a dynamic perception of nature under development, whereas The Habitats Directive takes its point of departure in the seemingly more static conservation of certain natural habitats and of wild fauna and flora. Two areas within C2C CC fall under both directives, giving rise to a dilemma in which one directive may cause that the other cannot be fulfilled. These considerations and outcomes were presented to the EC already in 2017 and formally mailed to DG ENVI (in October 2017) and to DC CLIMA (in September 2017). From both, we have received a positive response with thanks for our attention to the inconsistencies, and have been told that you will work to get them rectified. The issues have also been discussed with other interested parties (CPMR, ERRIN, CoM, EPC, Climate Alliance) in various workshop settings.

In addition, a complementary CCA project "Storkeengen" to C10, C11 and C12 with added value between protected nature, SUDS and coastal protection is in risk of not being implemented due to a recent decision of appeal stated by the Danish Board of Environment and Food Complaints. This decision can impact the implementation of future CCA projects seeking to gain synergies between several considerations.

Finally, C2C CC has been consulted in relation to the EU's Strategy on Adaptation to Climate Change.

Status of complementary projects in Phase 1

28 complementary projects with a total amount of 150 mill. euros were either granted or initiated in Phase 1. The PM has invited representatives from the complementary projects to C2C CC events and distributed written material and information on the complementary projects to the partners. Secondly, supplementary local CCA actions are initiated and implemented by the municipalities and utilities, which further support the implementation of the CCA plans.

3. Introduction

3.1. Overall and specific objectives

The overall objective of C2C CC is: *To create climate resilient cities in a climate resilient region through the formulation of a common long-term strategy among local stakeholders, implementing in a targeted way the local CCA plans, coordinating the CCA analyses and activities, and identifying and improving the resources and adaptive capacities of citizens, municipalities, utilities and companies within the water sector.*

As this IP deals equally with the hydrological cycle as a whole and with the coordination of activities within an integrative CCA planning approach, the following objectives are of equal importance. The objectives of the hydrological cycle related to the challenges documented in the CCA plans are:

- *Sea and fjords:* To increase coastal resilience taking into consideration the environmental state and marine biodiversity and to enhance urban resilience.
- *Rivers:* To increase the resilience of land alongside river banks taking into consideration the environmental state and biodiversity and to enhance urban resilience.
- *Groundwater:* To increase resilience towards rising near-surface groundwater optimizing the use of surplus groundwater.
- *Rainwater:* To increase urban resilience taking into consideration the synergies with green infrastructure and urban livability.
- *Governance:* To increase the resilience through capacity-building, strengthened network governance and cross-border coordinated planning.
- *Tools:* To increase resilience through enhanced decision-making processes.
- *Innovation:* To increase resilience by generating jobs and green investments.

3.2 Main plan targeted

The national government made it mandatory in 2013 for municipalities to prepare CCA plans. It also encouraged that the CCA action plans be integrated into the municipal spatial planning covering all spatial areas including cities and countryside, simultaneously complying with the EU Water Framework Directive and the Floods Directive. The CCA plans have been adopted but implementation of actions are met with the challenge of cross-sectoral coordination. C2C CC provides a comprehensive base for this implementation, evaluate the results and the process as well as give local authorities the tools for better integrated planning, taking into account the uncertainties of future climate change.

3.3 Main strategy for ensuring full implementation of the plan(s)

C2C CC supports the implementation of 21 municipal climate change adaptation (CCA) plans (18 associated beneficiaries plus 3 primary stakeholders), and 4 risk management plans under the flood directive in the Central Denmark Region (CDR). C2C CC supports the implementation of these plans by:

1. Securing cross-border collaboration as a necessity for integrated CCA. The IPs capacity-building elements and decision tools will assist the municipalities in the

transition to new governance needs of CCA, which includes involvement of many actors in the planning and implementation process.

2. Creating analyses and tools to assist integrated CCA planning and decision making processes. The IP will aid and qualify implementation by analysing water issues as part of a hydrological cycle and create modelling tools to assist the municipalities.
3. Involving water industries, research institutions and industry associations in demonstration projects and capacity development activities will push for research and development of new knowledge and technologies.

3.4 Climate related issues adressed

CCA in the region generally deals with challenges related to managing more water[4], touching upon all aspects of the hydrological cycle: sea and fjords, rivers and lakes, groundwater and rainwater.

3.4.1 The solution to be demonstrated

C2C CC approaches the CCA plans as a cross-boundary challenge where coordination, knowledge sharing and capacity-building are necessary for improved governance and development of tools and innovation. The IP consists of four themes related to the hydrological cycle: sea and fjords, rivers, groundwater and rainwater. These are supplemented with three crosscutting themes: governance, tools, and innovation.

3.4.2 The technical/methodological solution

The initial purpose of the 7 thematic capacity building actions was to create activities that support integrative planning and coordination across the municipal borders and to benefit from the large expertise of gathering CCA professionals in one project. C1-C7 thus provide specific activities related to technical challenges related to sea and fjords (C1), rivers (C2), groundwater (C3) and rainwater (C4). The activities include workshops, seminars and courses where technical questions are discussed, experiences are exchanged and experts are brought in to contribute with defining possible solutions. The three non-technical crosscutting capacity building actions (C5-C7) are established to further support implementation of the CCA plans. The 7 thematic crosscutting capacity building actions are demonstrated in the 17 demonstration actions C8-C24 that are run and managed by the C2C CC partners. Each of the 17 actions involve more than one of the 7 thematic actions and illustrates nicely the complexity of water running naturally as one hydrological system, but are administratively divided into sectors.

3.4.3 Expected results and climate action related benefits

The expected results at the beginning of the IP is related to the objectives, that is creating a climate resilient region through cross-sectorial collaboration in concrete projects supported by capacity building actions and by formulating a common strategy. The benefits are related to

[4] DMI (2014) finds that: observed precipitation has increased the latest 150 years with 100 mm, and is expected to further increase with 4,6-6,1 % in year 2100; observed sea level rise since year 1900 has increased 1,7-2,2 mm/year, and is expected to further increase with 0,34-0,61 m.

sustainability and added value, whereas the CCA solutions implemented have synergies to other functions in urban planning or in open land e.g. recreational value, biodiversity, habitats, agriculture and health.

3.4.4 Overview of complementary actions

The expected sum of complementary projects for the entire IP was approximately 200 mill. Euros and involved the following:

1. *"WaterCoG"*. [Funded by InterregVB].
2. *Citizen awareness.*[Funded by Regional Development Funds].
3. *"TOPSOIL"*[Funded by InterregVB].
4. *Watercourse restauration*. [Funded by the Danish AgriFish Agency under the EAFRD 2014-2020]
5. *Municipal and Water Utility CCA projects.* [Financed through taxes and water fees].
6. *CCA in coastal urban areas.* [Funded by Realdania].
7. *City Innovation – Water and sustainable buildings*. [To be funded by ERDF via Growth Forum CDR].

3.4.5 Stakeholders

The IP is characterised by thorough stakeholder involvement on which the project consortium is based. The following are the primary stakeholders of the IP:

- *National governmental bodies:* Danish Emergency Management Agency, The Danish Coastal Authority and The Danish Nature Agency.
- *Municipalities*: Ikast-Brande Municipality, Odder Municipality and Ringkøbing-Skjern Municipality.
- *Associations:* Concito, Danish Export Association, Danish Industry (DI), The Danish Insurance Association (DIA) and SEGES.
- *Research institutions:* Danish Technical University (DTU), GEUS and Danish Technological Institute.
- *Networks and centres:* The Freshwater Centre (FwC), Vand i byer (Innovation network for Water in Urban Areas) and KLIKOVAND.

3.5 Expected longer term results (anticipated at the start of the project)

It is the purpose of C2C CC to aid the municipalities in enhancing their capacity to deal with CCA through setting up a framework that can handle climate changes now and if/when they aggravate in the future. Not only will CCA actions be implemented, but also BAT will be used, and newest knowledge in order to add value to the many great investments and solutions implemented in the years to come will be taken up. C2C CC is about water management in a strict sense, but it is to a large degree about CCA as a development and growth path for a more resilient society. Other core values of Life will be furthered as a consequence of the IP such as the marine strategy, biodiversity, water quality.

4. Administrative part

4.1 The project management process

The project organization was well prepared before project start. The staff were pointed out and already employed in CDR. A new job was posted in spring 2017, as we sought a person with both professional and administrative experience. We did not get any applicants that we wanted to hire, why we instead made an agreement with the special resource person who originally helped to write the application. By using this person as an external consultant, we got a resource that was entirely within the project's academic content, basic thinking and has important experience in operating EU-funded projects. The employee has an additional valuable network so that work could be started immediately. This cooperation is continued until we have reached the limit for when this task is to be offered. This solution has been extremely satisfactory.

In the late summer 2017 two jobs was posted and the result is, that we hired two very well-qualified competencies in November 2017. In addition, there have been regular adjustments as a result of a promotion in the organization, a longer-term leave and a couple of retirements. This mentioned leave means that an other job is posted in January 2019, and later in Phase 2 we find out which competences we need to replace the mentioned resource person.

The part of CDR, that are involved in C2C CC, called Regional Development has been under major organizational changes due to the fact, that it by law was decided, that the regions cannot work with business development after 1st of January 2019. This was known from late summer 2018 and it meant a significant number of layoffs and several voluntary resignations why the organization today has changed a lot compared to the starting point. The network inside the organization is nearly not existing. That network was important and revitalization the organization will take some time. It has meant that the project's financial manager suddenly had to stop work in September 2018. It has led to insecurity and that it has been difficult to finalize the required reports in time for EASME. The secretariat has had great help from the monitors, and EASME has shown understanding and provided deadline extension.

The secretariat's task is to create the frames for the project partners and the 24 sub actions to implement the described project smoothly and efficiently. The secretariat has a particular focus on the synergies that shows across the partnership, which is why there is ongoing close contact between the secretariat and the partners and on an ongoing basis. Events that support competence building and cross-sectoral cooperation are offered. The events are very diverse in nature, including excursion, lectures, network meetings, webinars, study tours, master classes etc. The type of event is determined by what the secretariat estimates will have the best impact in the situation. At least two annual meetings are held for the entire partnership, including one of two days' duration. We stress the importance of all partners participating in the partnership meetings, and this is achieved largely. In the other events, larger or smaller parts of the partnership participate. In several cases, it makes good sense also to invite participants outside the partnership, for example advisors, as the innovation and the mindset and holistic and cross-cutting cooperation are spread to wider circles. Several events and courses have been arranged in corporation with others, for example the innovation network Water in Urban Areas. Hereby we reach broader without additional costs.

The academic inputs during the events can partly come from the partners and complementary projects, knowledge institutions (contacts are often made by the Knowledge Committee) and the authorities. But the arrangements are much more than academic input, as networking is in focus. Therefore, interdisciplinary collaborations are facilitated internally in their own organization and across the partnership. The main challenge is that the partners note that they need a lot of time for events. It is time they experience going from their own project. In several of the sub-projects, we hear that budgeting is for a few hours. On the other hand, we also hear that most people choose to participate anyway, as the events are so rewarding.

We have not yet systematically mapped the added value that has been created in C2C CC. But we try to get a picture by sending out evaluation forms to the participants after each event, just as at least once a year we take a discussion with the project managers about the sub-project's progress, evaluation, wishes and needs. We receive a very positive and constructive response and often experience that new ideas arise in the cross-cutting meetings. The partners have expanded their network in their own organization and across, and they use each other for inspiration, sparring and concrete collaborations under the auspices of C2C CC and in new complementary projects.

But unfortunately, we also find that the holistic cross-cutting cooperation is not fully implemented in all organizations/partners. For example, in the landscape we can be surprised that one of the utilities performs totally traditional "one-dimensional" solutions with no added value when they want to control the surface water in a city. But C2C CC has also only completed Phase 1. We hope that we will not get similar experiences after 2022.

One particular challenge is that we find that the sub-projects / partners have insufficient attention to the entire partnership, and forget to acknowledge their value, but in press releases, articles etc. mention only their own capabilities. It is a subject that has been a great focus on, but we have not jet achieved the goal of understanding that we need each other, and dare to tell it. To get enough attention to the community, the challenge is discussed on different occasions, including at partnership meetings. "Signature stories" have also been developed, which describe the right contexts. These stories can be used freely by partners, etc. It is our expectation that before project completion we have achieved the insight we want, far beyond the limits of the partnership.

We have not had any significant deviations from the approved project description. But since we have not followed the descriptions to the letter, but to a greater extent been guided by experienced needs and desires, there are small deviations.

The C2C CC secretariat is supplemented by competences at Central Denmark EU-Office (CDEU), based in Brussels. CDEU shows its expertise in strategic considerations and has the responsibility for dissemination of C2C CC within the EU and across the EU-system. The staff of the C2C CC secretariat is officially employed at the project through additions/amendments to their employment contracts.

Communication and dissemination support, such as journalistic and graphic tasks, is delivered by the Communication Department of CDR, which is settled by the hour and reported through time sheets. A year into the project period, the project management evaluates that the dissemination effort does not comply with Grant Agreement. A contract is therefore signed with an external communication advisor; the expenses are within the budget.

5.1.1 The administrative setup

In the IP application, the budget for the administrative setup was underestimated and delayed the preparatory actions. This is an experience, we recommend is disseminated to future applicants.

The following was completed:

- The individuals involved in the application process was organized as the Secretariat. Roles of PM was desided and implemented.
- The Steering Group was appointed by CDR. The selection criteria were: broad representation of relevant institutions and businesses, individuals with professional engagement and representing different geographies within the region. A Terms of Reference has been prepared and agreed by the group. One seat in the steering group was replaced, when a member was employed by the C2C CC Secretariat. The seat in the Steering Group was replaced by a new member representing the same type of business. At the same time the Steering Group was extended with the Director of CDEU. The Group meets twice a year and supplement with written hearings. The organizational structure is just as described in the application.
- The Advisory Board was settled through dialogue with the involved knowledge institutions. Three individuals were appointed a seat in the Advisory Board representing each knowledge institution. A Terms of Reference has been prepared and a set-up for industrial PhD's was developed. Unfortunately, one seat is currently empty due to a long term sick leave.
- A common IT platform for communication, project documentation and file sharing, named MidtRum, was established. Documents containing sensitive information are exempt. They are placed in CDR's electronic document management system. The establishment of the platform itself and implementation at all partners has taken longer time than anticipated.
- A project management web-based tool to maintain overview of actions has been developed by the IT department of CDR, as no tool was available from either LIFE or to be purchased at the market. The first year of the project, a self developed word template was used, which was inefficient. The tool still needs to be improved. A tool to manage reporting of the project actions should be supplied by LIFE for all LIFE projects in order to save expensive resources and to obtain efficiency.
- A common communication strategy is developed for the partnership, which has been discussed over a couple of workshops. The strategy has been revised according to clarification of responsibility, target groups and communication channels.
- Project logo and webpage were developed prior project start. The webpage is updated regularly; however, the English version still can be improved.
- The project has its own LinkedIn profile with app. 200 followers and high activity.
- A Twitter profile was established by the end of Phase 1.
- Descriptions of procedures and documentation requirements for accountants have been formulated. We have chosen to centralize the responsibility of the accounts to secure efficiency – as far as possible. We are, however, often met a lack of understanding among the partners of the EU documentation requirements. We often succeed in explaining, just questions about different "Spend Time" issues last like the need for saving documentation of the activities has to be repeated often.

4.1.2 Project management

The Project Manager (PM) is responsible of the project progress and reports to the Project Owner and meetings about project status and progress are held frequently. Questions of

principal matters and discussions on selection of information broad to the management of Regional Development and the politicians at the Regional Board are also on the agenda. An example is the contribution of C2C CC to the development of the Regional Development Strategy, where climate adaptation is expected to have a larger prioritization. As emphasized in the Grant Agreement, the regional bodies have no formal authority within climate adaptation in Denmark. CDR has assessed that the regions can have a role and is one of the reasons of initiating C2C CC. Furthermore, an analysis from 2017 carried out by the think tank Concito finds:
"There are very large regional differences, and the municipalities of the Capital Region and the Central Denmark Region are very clear as the most" cooperating "regions. Accordingly, there seems to be a very large correlation between the municipalities that cooperate with the region and the municipalities, which cooperates with other municipalities. It probably emphasizes the important role that the regions play - and can play - in lifting the overall climate adaptation efforts in the municipalities. Something also suggests that municipalities that have collaborated with the region have been earlier to get started implementing climate change plans."
(Concito, 2017, p. 167). (Link to report:
https://concito.dk/files/dokuments/artikler/klimatilpasningsrapport_endelig_040917rev.pdf).

It is central for the Project Management to link C2C CC to the Regional Development Strategy to emphasize the potential role of the regions. This is also relevant for other Danish regions and for the remaining EU. In this regard, three vision seminars have been held; an internal for the C2C CC secretariat and CDEU March 31st 2017, one for the C2C CC partnership together with the innovation network Water in Urban Areas January 24th 2018, and a separate vision workshop for the partnership February 27th 2018. Furthermore, the C2C CC secretariat has held two meetings with the innovation network INNO MT on future collaboration. This cross-organizational work is especially important to support that the CCA community moves in the same direction and have attention on the same challenges. This will also support that C2C CC has an After LIFE. This work continues in Action C5: Governance in both Phase 1 and 2.

The Project Management coordinates and manages reporting from the partners quarterly. The Project Management works indirectly with action C8-C24 while C1-C7 to a large extent facilitates collaboration and knowledge sharing across the sub-action. During the winter of 2017-2018 the Project Management visited all sub-actions. The same agenda was applied to all meetings creating an arena similar to a semi-structured interview with the purpose to create a systematic overview of the progress, challenges, needs and wishes to common events (workshops, trainings, excursions etc.). These meetings also contributed the PM with the ability to recommend further collaboration and knowledge sharing among the partners for example regarding future complementary projects. The results were presented at the partner meeting February 27th 2018. A list of future events is available at www.c2ccc.eu in a calendar at the very front page. It is planned to carry out visits to each sub-action yearly.

An experienced challenge is to maintain the attention of the partners/sub-actions on the overall purpose of C2C CC. There is a tendency to focus on the sub-action(s) and the related local scope and is often also reflected in the media coverage of the partners. This has been brought up by the Project Management at partner meetings, and the external communication advisor is contributing to profiling the shared story line of C2C CC, such as the added value and the innovative collaborative mechanisms of the partnership, which are not disseminated widely enough to day.

Selected quotes related to the added value of C2C CC

- *"The different departments and teams within the municipal organization meet through C2C CC. It provides opportunities to formulate a more resilient planning and unforeseen challenges are limited"* - said at a meeting at Skanderborg Municipality
- *"It has occurred with C2C CC that municipality and utility cooperate. As a prominent example, it is newly discovered that the utility to a large degrees can contribute to business promotion locally, regionally and nationally"* – Lars Holmegaard, Lemvig Utility
- *"The challenges of water have with C2C CC been changed from an insoluble challenge to a large possibility for local and regional development"* – Lars Holmegaard, Lemvig Utility
- *"As something new, the municipalities and utilities see the possibilities in direct collaboration with the universities"* – Kurt Nielsen, Aarhus University
- *"It is surprising that Aarhus University have such a direct interest in cooperating with the utility and that it apparently is in our interest too"* – Kurt Nielsen, Aarhus University
- *"It is very rewarding to hear about the experiences (X) has with implementing tendering. We can apply the experiences directly"* – Lis Sørensen, Lemvig Kommune
- *"It is exciting to find that following the initiation of C2C CC we have incorporated the holistic, cross-sectoral and co-creative mindset, that we are trained in throughout our profession"* – Niels Rauff, Hedensted Municipality

Selected observations:

- The C2C secretariat was aware that the municipalities of Hedensted and Randers had the same considerations and was therefore able to recommend a joint discussion to scope and focus their activities.
- Lemvig Municipality had completed a tendering process on an integrative water balance model, the contract was however not signed since the results of the model would be too complicated for the municipality to run without an external consultant. A municipal official knew about a model developed by a Dutch university and company that potentially could fulfill their demands. The C2C CC secretariat supported this initiative and gathered the interested partners in a joint visit to The Netherlands for an introduction to the model 3Di. This model is fully competitive to the Danish DHI models and a joint development cooperation have been made.
- C2C CC had a session at ECCA2017 in Glasgow with several partners. Two partners Lemvig Utility and VIA have since developed several complementary projects, and together with a Danish construction company and the Danish consulate in New Zealand, the partners are to export C22 called The Climate Road to New Zealand, amongst other countries.
- Hedensted Municipality has completed a process across municipal departments and teams with involvement of local opinion leaders on co-creation and added value in CCA planning. The process is completed together with the Advisory Board and is followed by a training seminar for the partners, participation for payment for external parties.

4.1.3. Deviations in the project management

We have no major deviations from the approved description of the project - not at all in terms of project management. But we need to mention the adjustment made in the division of tasks

between the state, the regions and the municipalities in Denmark. In the spring of 2018, it was clear that by law, the regions would be deprived of the opportunity to work with business development. CDR started the adjustment in the summer of 2018 even though the law only came into force on January 1, 2019. It has resulted in significant staff turnover in CDR and that the organization around C2C CC in CDR changed the character. Partly, many of the competencies that the secretariat has been able to draw on in its own organization are no longer there, and partly the Action C7 has to rethink so that it both meets GA and partly corresponds with the rest of the work CDR is part of. The changes have provided some uncertainty in the partnership. It is our hope that security is now restored.

The changes have meant that staff changes occur and it costs on efficiency.

Here, where we stand at the phase transition between Phases 1 and 2, the situation is that we must have supplemented staff for financial assistance, must have a new project secretary and have reached the limit for the cooperation with the particular resource person we have had attached to. There must be a permanent solution. It is experienced as major changes in such a small secretariat. But we find the solutions without exceeding the budget.

4.1.4 Work method

The project was born in a co-creation process and is carried out in a co-creation process. There is a strong ownership among the partners which is a pre-requisite for progress. In this regard, however, it is also a challenge for the Secretariat to collect the threads into a whole in which all partners can identify.

It is mentioned in the approved project description that we work with co-creation as illustrated by the dialogue triangle. We already had experience with this, and have been confirmed that the method works. During the study trip to Holland in May 2018, we heard more about the described working method; Mutual Gain Approach. The partnership welcomed what they experienced and learned in the Netherlands and sought to learn more and gain practical experience. There is no doubt that the attention to cross-sectoral cooperation has been greatly strengthened in the partnership - also further into several of the partner organizations, so the method works and is well received. Further work is underway on implementing such methods in Phase 1 and 2.

There are good professional and project management competencies in the secretariat, which the partners draw on regularly. In addition to the subprojects thereby being assisted, where they faced challenging challenges, this scheme contributes to the Secretariat having important knowledge about the individual projects.

As described in the approved application, the secretariat has the responsibility for the PI coordination, monitoring and reporting. The primary tasks of the PM are:

- Quality control and risk management incl. contingency planning
- Develop draft partnership agreement
- Process preparatory actions (A actions), concrete actions (C1-C7), monitoring actions (D-actions) and E-actions.
- Coordinate between concrete actions (C8-C24) and complementary projects
- Coordinate and support public C2C CC tenders and affect them in a green and sustainable direction, as a minimum through CDR's green procurement standards
- The C2C CC project manager is the link between the steering group and C2C CC.
- The manager will also provide a link with the advisory committee

- Reporting to LIFE administration incl. general LIFE reporting, finance reporting, audit, next phase preparation and 'after LIFE' plan.
- Prepare the next phase in coordination with C1-C24
- Coordinate the implementation of D and E actions

All these tasks are done as described, though it early was clear, that the need related to tenders was a little different, that we thought, when the application was formulated. Therefore, fewer joint tenders have been made than expected, but more resources have been used to inspire high-quality innovation-promoting supply decentralized.

Initially, we would have imagined that "Clearing House" would be a permanent organization, but it has not. PM and CDEU co-ordinate and take action when project ideas arise, and actively contribute to project development and assistance to make applications. This solution has been satisfactorily flexible and efficient.

Project groups are not established as described, but are created ad hoc, as the secretariat convenes and facilities such project-developing and coordinating activities. This solution has been satisfactorily flexible and efficient.

4.2 Stakeholder involvement

We do not work so much with stakeholder involvement, but more with co-creation in C2C CC - both in the secretariat in relation to the partnership and in the sub-projects in relation to citizents and other stakeholders. The major advantage of co-creation over stakeholder involvement is that broader ownership of the solution is created. This is a important result of this LIFE IP.

C2C CC is as stakeholder involved in several contexts, for example:

- In Vand i Byer (the innovation network Water in Urban Areas) we are represented in the Steering Committee. We here have an important network for both the secretariat and the partners. Some activities for the partners in C2C CC is arranged in corporation with Vand i Byer, which means, that the partnership get inspiration from relevant stakeholders, also complementary projects, and C2C CC partners works as stakeholders in a wider context in order to develop the approach on climate adaptation in Denmark.
- Concito is a highly estimated Danish think tank in the green conversion. Here C2C CC is involved in their work as a important stakeholder.

We have not experienced any problems with stakeholder involvement, perhaps because we have a large experience in that kind of work. We se, that the partners also get good experiences and increasingly works with both stakeholder involvement and co-creation and make added value due to the working method. In Phase 2 we plan to arrange actual teaching and practical training with follow-up research and article writing for the collection and dissemination of experiences.

4.3 Communication with DG ENV/EASME and Monitoring team

We have been very satisfied with the monitors their support and guidance. It works well with two annual monitoring meetings, where we have time to review both financial and technical

issues. However, it has created some insecurity that we could risk changing the monitor after Phase 1. Here we could have wished for better information from EASME. It has been a great advantage that the main monitor, Katja Lähdesmaki could speak and understand Danish.

It also works well that we have direct and daily contact with the monitors. However, we sometimes find that response time is long if a question needs to be clarified in EASME. We wish closer contact to EASME, and believe that it could be beneficial for both parties.

One thing has been unfortunate, namely that we received a message from the monitors at the monitoring meeting in September that procedures and reporting during the phase transition would be adjusted with the promise that we would receive written notification directly from EASME. We received the written message indirectly (via the monitors) and so late that we had already involved the partners in providing contributions to both evaluation and Phase 2 description. It has caused some troubles and questions from the partners and extra work at a time, were we were very busy.

4.4 Changes in relation to the last interim report

Not relevant.

6. Technical part

Technical progress, per Action in the LIFE IP.

6.1 Preparatory Actions – A Actions

6.1.1 Action A1: Legal barriers to integrated CCA, current CCA integration and policy recommendations

Beneficiary responsible for implementation: CDR

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/03/2017 ***Actual (or anticipated) end date:*** 31/10/2017

Expected results:
The expected results are a comprehensive understanding of the legal framework on CCA, the water sector and relevant practices of other EU countries' legal systems, and capacity building of C2C CC partners on how to navigate national legislation on CCA.

Achieved:
The understanding is achieved by desk analysis of the legislation and interviews of several professionals about their experiences. It is finalized in a draft version, which was printed in 100 copies and accessible at www.c2ccc.eu (link to the report (Appendix A1.a)). This action overlaps with A4, see A4 for more details on the methodology related to the interviews. A presentation was prepared and presented for the Steering Committee first. After the presentation, a workshop was held in which the members discussed and offered suggestions on how to overcome the perceived legal barriers. The presentation was updated before a solutions based workshop took place at the following meeting in the partnership. (Link to the presentation at the www.c2ccc.eu, Appendix A1.b)

We have taken this opportunity to make those responsible for the legal barriers aware of the barriers experienced. This applies to both EU legislation and Danish legislation. Especially in the EU, there has been interest in the project's experiences and recommendations. For more details, please have at look at section 6.7.

A1 is then finalized, but in the meantime legislation has changed, and we consider following up. We follow up regularly and expect a final report in Phase 3.

Evaluation:
The delay is due to staff shortages in the secretariat and bustle with the administrative setup of the C2C CC project.

Very useful report and valuable discussions with both partners and Steering Comity.

Discussion about the legal barriers at the partnership meeting 3th of November 2017

Action and budget modifications: No change from Grant Agreement.

Target and goals for Phase 2: This action is finalized in Phase 1, however, considered to follow up in Phase 3 on legal barriers for CCA.

6.1.2 A2. Analyse state-of-the-art of current mainstreaming of CCA into local planning and possibilities for cross-sector cooperation

Beneficiary responsible for implementation: CDR

Phase 1 reporting:

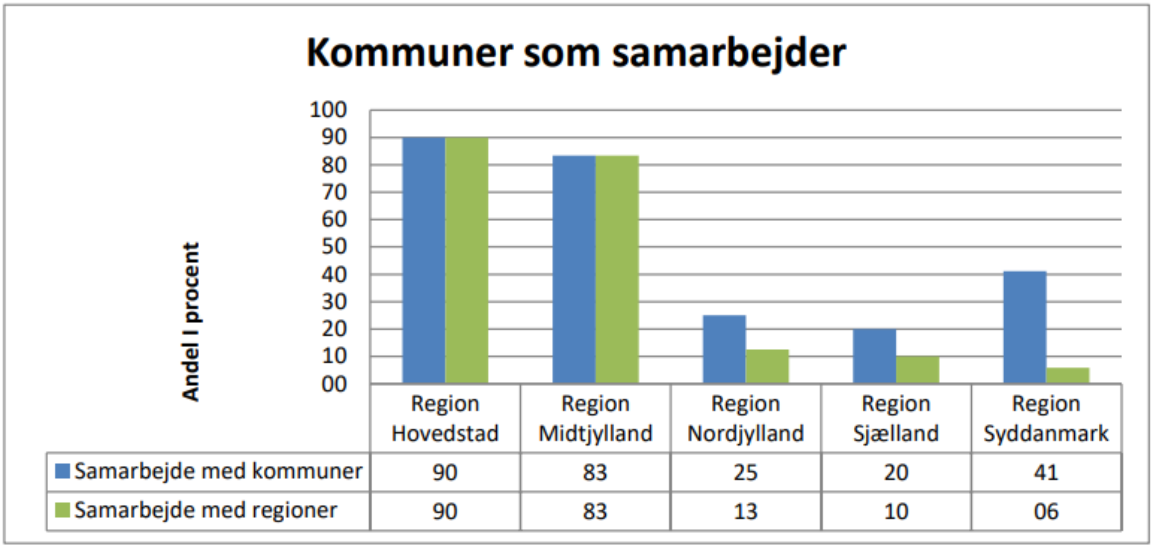
Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2017 ***Actual (or anticipated) end date:*** 31/12/2018

Expected results:
The results are a comprehensive understanding of what successful CCA mainstreaming entails and how to incorporate cross-sector cooperation. Capacity building of CCA partners and stakeholders on how they mainstream their CCA actions into other planning.

Achieved results:
The PM is keeping informed on the current knowledge on CCA mainstreaming on the European level. A member of the PM is contributing to a European research study in local CCA plans in EU-28.

PM has in articles, at partnership meetings and the study trip to the Netherlands emphasized the importance of cross-cutting cooperation on climate adaptation with added value. PM has based itself on eg research from Aalborg University and Concito.

Evaluation:
This action was somehow overtaken by the fact that new law amendments and new policy discourses has moved onto the political agenda at national level. The law amendments involve that CCA are being mainstreamed into existing legislation. A law amendment is implemented into the Danish (Kystbeskyttelselsesloven) to ease the procedures for implementing coastal protection projects. Another law amendment is made to the Danish Planning Act on flooding involving all sources to flooding incl. intensive rain events, flooding from water courses, rising groundwater levels and storm surges. The Planning Act states that development and construction in flood risk zones only can take place when flood protection measures are implemented. The Planning Act is followed with a guidance and influence the Municipal Spatial Plan and local zoning plans. A third law amendment related to the Danish Watercourse Act is under development with the purpose to mainstream CCA into the management of the watercourses. An ongoing discourse, especially among the most progressive utility companies, is that the whole water cycle is managed by the utilities, this is inspired by the Dutch Water Board system. Particularly, rising groundwater levels due to more rain is pushing this discourse forward. To day the near terrain groundwater is related to either the Water Course Act (the municipalities) or the Building Regulation (private landowners). C2C CC and the project management follow this development and are actively working on influencing the amendments, currently the PM is especially influencing the amendment of the Watercourse Act. Working across sectors is an ongoing challenge in CCA, cf. stated in various research literature and also in national level evaluations of the CCA plan e.g. made by Concito.



Figur 12.2: Andelen af kommuner, fordelt på Regioner, som angiver at samarbejde med henholdsvis andre kommuner (blå) og med deres respektive Region (grøn).

Above a tabel from Concitos report about municipal coporation. In the report "Robustness in municipal climate adaptation plans", from september 2017. (link) In the report it is concluded, that in areas, where municipalities corporate across borders on climate adaptation, the are more robust.

A2.2. is thus taken forward under Action C5 in Phase 2 and 3.

Action and budget modifications: A2.2. is taken forward under Action C5 in Phase 2 and 3. No budget change from Grant Agreement.

After Life: C2C CC and the project management follow the discourse and debate regarding regulatory amendments and work actively for influencing national policy development.

Target and goals for Phase 2: This action ends after Phase 1.

6.1.3 Action A3: Collect existing data analyses and reports about the region as basis for integrative CCA planning and combine data in a common database

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/07/2017 ***Actual (or anticipated) end date:*** 15/01/2019

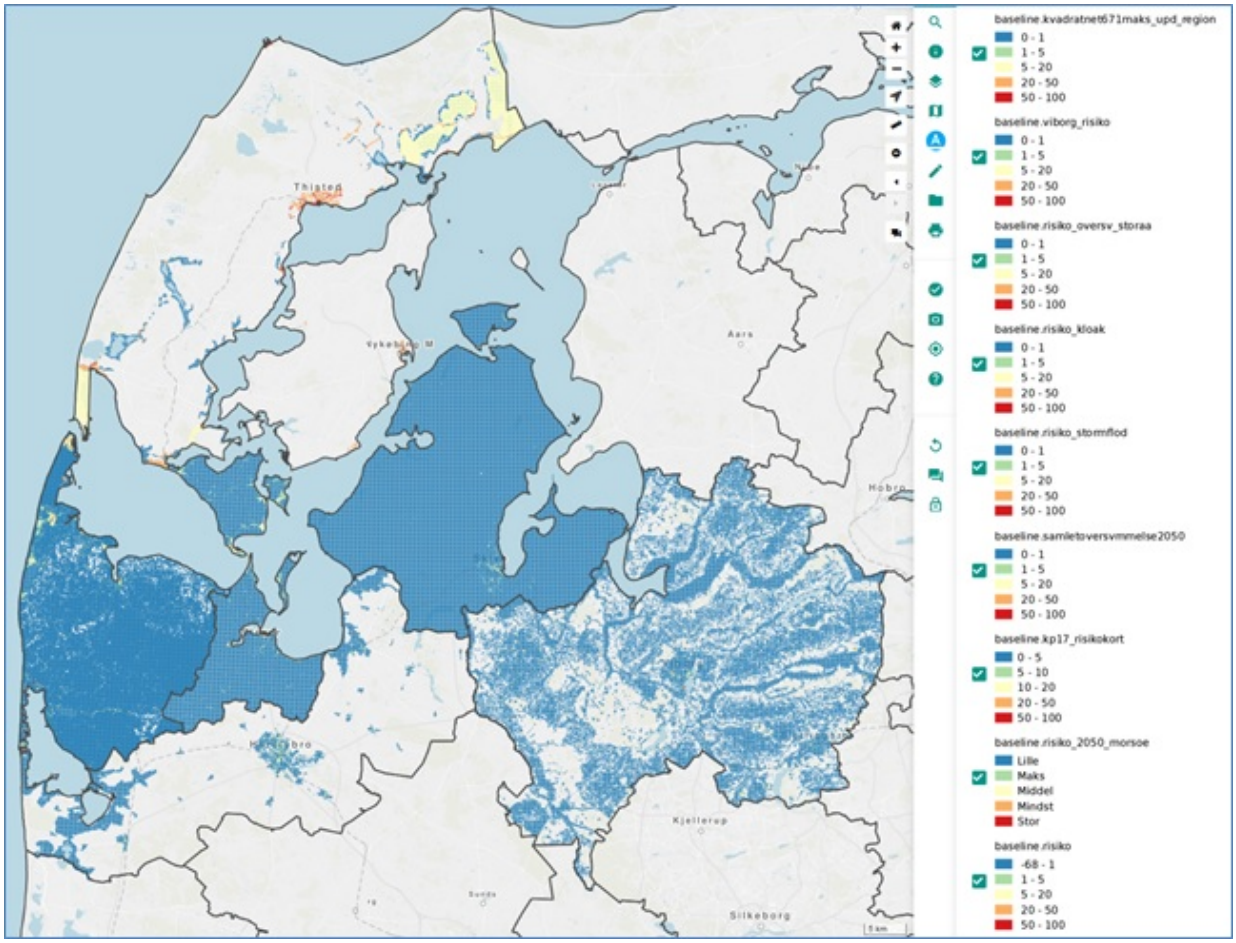
Expected results:
Comprehensive data analyses and reports that together with regional and municipal officials' opinions and experiences with CCA planning provide basis for integrative planning in the region.

Achieved results:
An overview of all relevant EU directives, policies and strategies are made – an overview at the webpage (Appendix A3.a).

The GIS data is available here: https://rm-vidi.mapcentia.com/app/c2ccc/baseline. A baseline report is available at the webside (Appendix A3.b)

Evaluation:
The delay is due to the fact that it was difficult to get the municipal data into a single tool in a way that they could be read and make sense. And that the necessary staff were not available to the secretariat at the beginning of 2017.

This background knowledge will help provide an indication on how to enable new planning and governance in the region, and it will provide best practices from other countries, e.g. the Rivers Trust project from the UK (an approved LIFE IP from 2014) and on relevant topics such as water areas/themes in connection with the River Basin Management Plans. Furthermore, a thorough understanding of all relevant EU directives, policies and strategies need to be obtained by the C2C Secretariat, so it understands the context in which the project operates. All cross-cutting capacity building actions and demonstration projects will need access to this information in an easy and accessible way and the accumulated information is therefore made available in a database on the online platform (cf. E2.1), which can be accessed from the project's website via the intranet for the project partners. This action feeds into C5.1.1 (New paradigm and a common regional strategy integrating municipal CCA plans) and it is important to ensure that all the sub-projects/demonstration projects have access to up-to-date knowledge in the area.



View of baseline data.

Action and budget modifications: Action A3.1 is continued via Action D2. No changes in budget.

Target and goals for Phase 2: This action is finalized in Phase 1.

6.1.4 Action A4: Interview municipal and utility officials

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/04/2017 ***Actual start date:*** 01/04/2017
Foreseen end date: 31/05/2018 ***Actual (or anticipated) end date:*** 03/11/2017

Expected results:
Quantitative and qualitative insight and overview of municipal and water utility officials' way of working and experiences with CCA integration, and presented to C2C CC as background information of current practice.

Achieved results:
An interview guide was formulated and applied in all interviews. Both the guide, the interviews and a overview (excel sheet) of interviews is available in MidtRum (link) (Appendix A4.a). Not available at the webpage due to sensitive information.

Evaluation:
This action overlaps with A1. A total of 14 interviews were carried out using a semi-structured interview form. An interview guide was applied and distributed to the interviewees on beforehand, and the interviews were carried out as phone interviews. The interviewees represented the municipalities, utilities and CDR. Of the 14 interviews, 1 interview incl. 2 participants, and 1 interview represented a gathered response from all partners in C12. The partners of C12 had all received the interview guide and provided written comments to the interviewee. Of the 14 interviews, 10 interviewees came from municipalities, 2 from utilities, 1 from CDR and 1 consultant. The interviews represent the actions C1-C19 and C21-C22, C20 and C23-C24 are not represented in the results. The results were presented at a C2C steering group meeting 30th October 2017, which led to a lively discussion of the perceived legal barriers, especially the Danish Nature Agency, which is one of the central legal authorities in CCA, had several remarks.

Action and budget modifications: No change from Grant Agreement.

Target and goals for Phase 2: This action ends after Phase 1.

6.1.5 Action A5: Start dialogue with Local Government Denmark (LGDK) and relevant ministries and agencies

***Beneficiary responsible for implementation*:** CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/03/2017 ***Actual (or anticipated) end date:*** 31/08/2018

Expected results:
The results of preparatory actions are an insight and overview of the legislative and practical barriers and challenges for CCA implementation. Officials within LGDK and relevant national ministries and agencies are pinpointed and a line of dialogue is established to ease implementation of CCA. Capacity building of C2C CC partners and stakeholder on how to navigate legislation and praxis.

Achieved results:
C2C CC was represented in an national expert panel under the preparation of a forthcoming law amendment to the Danish Water Course Act on holistic water management incl. CCA. Out of this we made a memo (link) (Appendix A5.a) about what the regions provides. This was the point of departure of meetings with LGDK the 15th June 2018. After this meeting a proposal (link) (Appendix A5.b) was made for a joint administrative input to the Government on holistic cooperation on water between regions and the Municipalities Association. Unfortunately, the proposal did not receive support at the level of the Executive Board of LGDK.

In the association of Danish regions, a joint regional input has been drawn up to what role the regions can have in future in climate adaptation in Denmark (link) (Appendix A5.c). C2C CC has contributed to this work and is one of the selected concrete examples of how transversal collaborations can be created successfully.

April 26, 2018, the Secretariat met with the Environment and Food Ministry. The meeting is referred to in Appendix A5.d, which is not available.

Especially at the IWA conference in Tokyo, we had the opportunity to discuss setup for holistic work with climate adaptation with the national level, as we got the Minister for the Environment in speech. Subsequently, his accompanying officials took hold of us to hear more. However, no concrete results are experienced.

Jacob Ellemann, the Danish Minister of Environment, (with the yellow flower in his jacket) is listening at IWA 2018

We also had less productive meetings with the Danish Ministry of Food and Environment in April 2018 and Agency of Food and Agriculture.

Environmental Protection Agency and the Coastal Agency is represented in the Steering Committee, which gives good opportunities for future discussions.

Evaluation:
This action will be continued in Action C5 as dialogue with LGDK and the Danish Ministry of Environment and Food and other governmental representatives.

The work with Action A5 has been somewhat burdened by the fact that there have been legislative changes that have greatly reduced the regions' opportunities to work with regional development. It has so far culminated in a concrete proposal from the Government to close down the regions and thus the possibilities for cross-cutting coordination. The current status (April 2019) is, that the government has made a settlement to close down the regions, but they do not have enough time to adopt it finally before there is a parliamentary election. In the Secretariat we expects confidently, as we expect government change and, consequently, that the regions are maintained and perhaps even given a formal role in relation til climate adaptation.

Action and budget modifications: No change from Grant Agreement.

After Life: C2C CC and the project management follow the discourse and debate regarding regulatory amendments and work actively for influencing national policy development.

Target and goals for Phase 2: This action will be continued in Action C5.

6.2 Concrete Implementation Actions – C Actions

This section reports on Action C1-C24.

6.2.1 Action C1: Sea and Fjords

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
The results of C1 provides insight in the needs of the partners in regard to knowledge, analyses and tools on coastal issues. Capacity building of at least 25 professionals on national and international best practice on coastal protection. One study trip with at least 25 professional to the Netherlands and Germany to increase the inspiration on best practice. Development of common tenders.

Achieved results:
C1.1.1 The CCA plans were thoroughly reviewed when writing the application to C2C CC and it was clear early that the legislation would be changed and the municipalities would be responsibility for the coastal challenges. Therefore, the action has focused on networking and exchange of experience as well as the acquisition of knowledge about new roles.
In addition several meetings were held to get a precise picture of needs in the partnership. Partnership meetings, thematic meetings and bilateral meetings are the creation of cross-partnership networks that enable the coastal challenges and solutions to inspire and develop each other. Common issues have been addressed at cross-cutting meetings, and inspiration has been gathered from Denmark and abroad e.g. an 'action progress tour' by the Secretariat during the winter 2017/18 identified knowledge gabs and was followed by a seminar for politicians and senior officials the 4th of May 2018 focusing on coastal challenges. These activities provided a clear picture of what C2C CC should focus on in future activities. Inspiration from C2C CC on coastal challenges is disseminated internationally through the conferences ECCA2017 in Glasgow and IWA 2018 in Tokyo.

C1.1.2: There was no interest / need for common tendering, as the schedules and methods of the projects did not make up for it. Instead, a couple of workshops were held on tender and procurement processes in order to raise the level of innovation in the work on coastal challenges.

C1.1.3: The study trip was by plane and had 50 participants from the partnership, Steering Committee and Advisory group. The tour was completed by the end of May 2018 over four days with the following themes: Corporation/Co Creation, Rivers and Lakes, Coastal Issues and dealing with groundwater and rain.

C1.1.4: Knowledge sharing happens continuously at meetings in the partnership, meetings between the projects, other events and daily contact, e.g. HEDKOM experienced not to have the necessary skills to complete C18.2, However, a meeting with Lemvig Municipality and the study trip aid their process. Close interaction with the innovation network Water in Urban Areas and partners in C2C CC are invited to relevant events, and two events are organized

jointly with C2C CC. There is thus a nationwide network on climate change adaptation during establishment. C1.2: The secretariat visited all projects to identify needs and interests in further work. It has inspired an update of the Workshop Plan for the rest of Phase 1 and the beginning of Phase 2. Evaluations surveys are send out to each participant following every workshop or study trip, the results can be found in MidtRum. The evaluations are not available at the website.

C1.2.1. Experiences are drawn from the project 'Water from the country side' (Vandet fra landet), since the secretariat has close ties to the people who carried out the project. We have especially collected process experience, which are used and mediated at meetings in the partnership. Also the Dutch project "Room for the river Waal" project we have gained experience and inspiration from. We visited the project during the study trip and received a day of teaching in the negotiation and collaboration method, Mutual Gain Approach, during the study trip. We were also introduced to the sand motor at the coast in front of Den Haag and the dike performed as a parking garage at Katwijk aan Zee – two very inspiring examples of coastal protection made after holistic thinking and with multifunctional solutions.

From The River Waal

Evaluation:
The chosen approach has given good inspiration and efforts are being made to create innovative solutions in collaboration with all relevant stakeholders.

Some changes in legislation increases the needs for capacity building in the municipalities. Particularly in Phase 2, the focus is on this upgrading in cooperation with the coastal authority.

When the partners expressed not to have interest in joint procurement and procurement, the Secretariat's assessment was that it was best to hold the two workshops to give the partners relevant competences to raise the innovation high and ensure good prices.

By facilitating the study trip and knowledge sharing meetings an important network has been created between the stakeholders (municipalities, utilities, consultant companies etc.).

Programs, presentations, pictures, evaluations etc. from workshops and partnership meetings are available in MidtRum.

Action and budget modifications: *C1.1 The CCA challenges of the coastlines:*
Two additional workshops are added to Phase 2; one on the UN Sustainable Development Goals as an instrument for a more sustainable solution, and one on climate scenarios to discuss and define a common scenario for future CCA planning. *C1.2 Interaction between rivers and coastline* An additional activity has been added to Phase 2 on establishment of a partnership between C2C CC, Realdania, the Danish Environmental Agency and international actors for strategic cooperation. No budget modifications.

After Life: Not yet relevant.

Target and goals for Phase 2:

Milestones

C1.1	One Workshop on sustainable approaches to coastal protections	01062019
C1.1	One Workshop on new governance and involvement models	01062020
C1.2	One Workshop on results	01102020

6.2.2 Action C2: Rivers and lakes

Beneficiary responsible for implementation: CDR

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C2.1. Three workshops on knowledge sharing and capacity building on integrative modelling of water courses between the partners of action C10, C11, C12, C13, C14 and C16 (Involving 120 professionals). An interactive 3D decision support tool on the water flow in catchment areas across municipal borders (same as action C6.2), used by 10 municipalities. Common tendering material to be used in the individual catchments.

C2.2. Push for new CCA solutions to retain water upstream cities. Dialogue with two ministries initiated.

Achieved results:
C2.1 Regarding common tendering, that is a mentioned action, a workshop was held between selected partners and an external consultant in May 2017. However, the relevance was limited due to different needs in time and content (also foreseen as a risk in the Grant Agreement). Instead, it was decided to follow up with inspiration for procurement processes. In the period from November 2017 to February 2018, the Secretariat visited all project partners and asked about needs related to hydraulic modeling. The Secretariat became aware that a tender had been suspended by Lemvig Municipality as it did not fully meet the requirements for self-management, and instead showed interest in the Dutch tool, 3Di, developed by Nelen & Schuurmans. Therefore, in marts 2018 the Secretariat joined the partnership for a focused study tour to preview 3Di in Utrecht, NL. Subsequently two workshops were held in Denmark for C10 and C8.

C2.2. The push for new CCA solutions takes place partly by getting them presented from complementary project projects and partly by submitting to partnership meetings and, for example, by getting inspiration from the Netherlands etc. about nature-based solutions.
As described under Action A5 the dialogue with ministries has started and will continue.

The activities concerning warning systems is postponed to Phase 2, and take place for the first time at the workshop marathon at the 25th of April 2019.

Evaluation:
It is satisfying that the secretariat can be agile and can adapt the activities according to the needs and wishes of the partnership, as has been the case in relation to joint tenders. It is the secretariat's opinion that the partners have offered and worked more innovatively than it had been without the workshops held. The introduction of the 3Di tool has indeed bin a success.

The push for new CCA solutions has led to the fact that more work is being done on holistic and multifunctional solutions than before. From external partners, we are told that it is clear that the facilitation of the cross-cutting cooperation in CDR promotes the holistic approach in CDR.

Action and budget modifications: *C2.2 Warning system* and *C2.3 The role of land use management and wetland restoration in CCA* are both postponed to Phase 2.
Two workshop topics are postponed from Phase 1 to Phase 2 in action C2.3 and C2.4.

- C2.3 no. 3: Develop business models incorporating city safety and compensation of farmers based on experiences from actions in C2C CC and other projects
- C2.4 no. 3: 1 partner workshop on the topic 'Impacts of CCA on freshwater ecology' and SDGs.

No budget change from Grant Agreement.

Target and goals for Phase 2:

Milestones:

Three different business models investigated and developed	31/12/2019
Four workshops will be arranged. 160 participants (Average 40 participants at each workshop)	01/07/2019 31/12/2019 01/07/2020 13/21/2020
Forecast model developed	31/12/2020
Report on description of effects on fresh water ecology	31/12/2019

6.2.3 Action C3: Groundwater

Beneficiary responsible for implementation: CDR

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

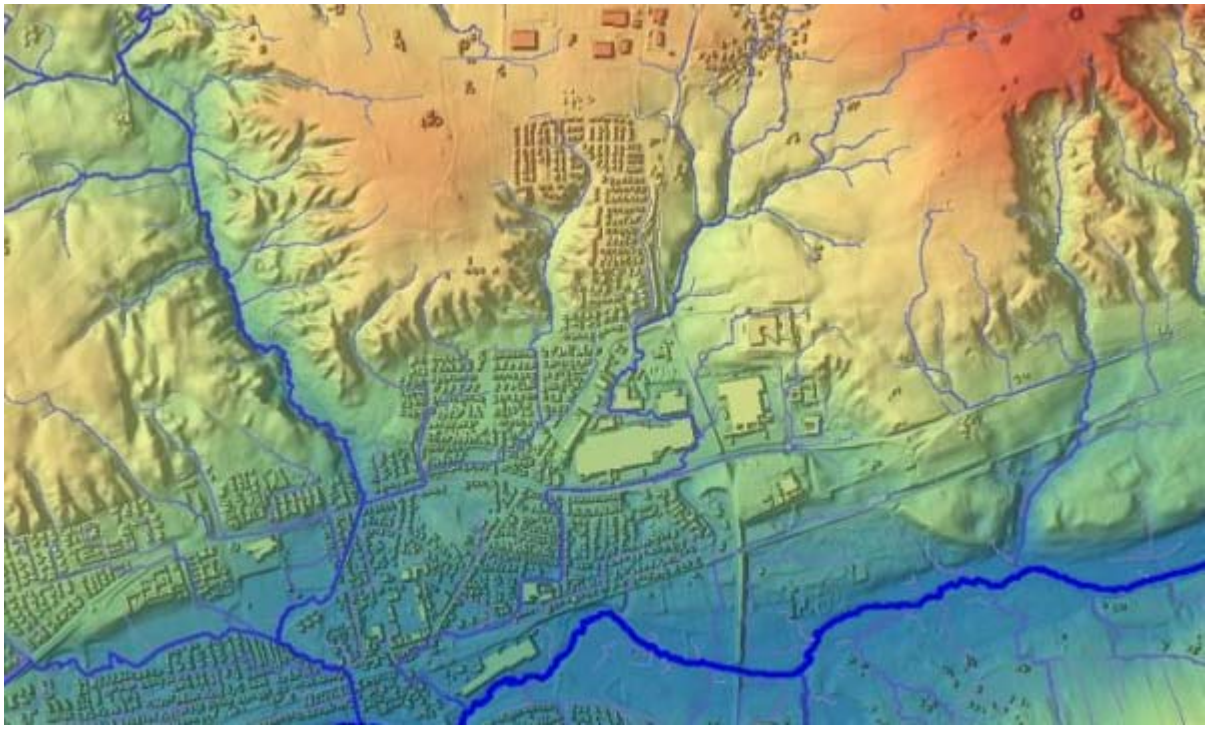
Expected results:

C3.1. Knowledge on the requests and needs on regional groundwater modeling of the municipalities. Tender specifications on local needs to be implemented in the tool C6.1.

C3.2. Identification of relevant tools to use when mapping groundwater levels locally.

Achieved results:

An advisory group representing the partnership has followed the development of the tool including several meetings and workshops to discuss needs and functionality. It was a clear conclusion from the workshops that the geological setting of the area of Central Denmark region is to complex with many local aquifers, to be resolved by the Danish National Water Resource Model with its grid size of 500x500 meters, - even if it was given a better resolution of 100x100 m (as described in the application). It was therefor decided to make a new setup for the tools in C3 and C6. Instead of using the Danish National Water Resource Model we decided to integrate the developing of the groundwater/surface water model in an existent product from SCALGO, which is already been used by many municipalities/utilities and it also content a 3D modeling tool for use in Activity C6.2. The groundwater/surface water model will consist of to parts – a groundwater/surface water model, where it is possible for the partners to see the level of the shallow groundwater in the hole region (now and in the future) and developing of the existent cloudburst map, which shows were the rainwater gathered on the terrain in different situations of rain.



The SCALGO tool

Tendering, pre-qualification for the groundwater/surface water model and selection of consultancy team were carried out successfully. Dialogue with SCALGO was initiated to link the tool to their product and to negotiate a special price for the partnership. The screening of tools (action C3.2) resulted in awareness on the Dutch tool 3Di, a more intuitive and user friendly tool than an alternative to the Danish MIKE models. The screening was followed by a study tour to Utrecht in The Netherlands and two training workshops.

The marked for hydraulic tools have bin examined together with Lemvig Municipality. The 3DI tool was found very useful. Report about the quality of the 3Di model compared to the MIKE products (link) (Appendix C3.a) and notes about the two workshops (link) (Appendix C3.b)

Evaluation:
Through the discussions among the partners, that had interest in a new tool it was clear that the municipality's really needed the tools in their project planning and therefore the development should be accelerated. The public tender was accelerated because the partners really needed the tool in their project planning.

The evaluation of the hydraulic products has given the partners an overview over the possibilities and they are now able to chose the right tool for there projects.

The partnership is really looking forward to implement the tool. There is also great interest outside the partnership, so the secretariat will work on making the tool available nationwide.

Action and budget modifications: No change from Grant Agreement.

After Life: Not relevant at this time of reporting.

Target and goals for Phase 2: Deliverables such as minutes, presentations and workshop material are accessible on MidtRum. The tool will be available as a software product for all partners.

Milestones:

Actions	Quantifiable milestones	Date by end of
C3.1- C3.3	One mapping workshop, 25 participants	01/03/2019
	Outline of groundwater flood prone areas on a regional basis	31/12/2019
	One regional workshop, 25 participants	31/12/2019
	Training material developed for use on groundwater levels	31/12/2019
	Report on local use of excess groundwater	31/12/2019
	Report on conflicts with existing tax system and legislation	31/12/2020
	Workshop on conflicts with existing tax system and legislation, 50 participants	31/12/2020

6.2.4 Action C4: Rainwater

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C4.1. Overview on state of the art on dealing with water in urban areas related to water quantity and SUDS. Capacity building and knowledge sharing of app. 50 officials from local authorities.

C4.2. Overview of experiences and state of the art with SUDS in relation to water quality and the need for more knowledge. Capacity building and knowledge sharing via overview on the challenges and experiences on maintenance of SUDS systems on workshop with 50 professionals attending.

C4.3. Capacity and knowledge sharing via Danish learnings on involvement of stakeholders in work on separation of sewer systems. Citizens learning across boundaries in CDR.

Achieved results:
The scope of C4.1 has not been on the municipal agenda (or the agenda of the utilities), the professional discussions (and the related needs of CCA practice related to rainwater) have moved to water quality from SUDS discharge (cf. C4.2). C4.1 might (already) be an outdated theme in Danish CCA. The secretariat started corporation with the Technological Institute, which are professionals in the tech side of SUDS. In this alliance several meetings and courses have been completed in order to build up capacity in the municipalities, utilities, advisors and sewers, etc. Further, it is stated that Technological Institute has prepared several of the reports described in GA. We saw no reason to do the same in C2C CC, and have therefore ensured that reports etc. are distributed in the partnership. A website contains the mentioned knowledge: www.laridanmark.dk, and the English version: http://www.wsud-denmark.com/

Action C4.2 has been worked out in collaboration with "Urban Water", as C2C CC together with the Danish Technological Institute has offered a series of courses "Quality of rain flow from A to the River" - water quality in connection with rainwater management". The course was completed in phase 1 in two modules (2nd of March 2018 and 8th of May 2018) and continues in Phase 2. Description of the initiative: link (appendix C4.a). The programs are available on the website (http://www.c2ccc.eu/nyheder/workshops-om-vandkvalitet-i-regnvandsafstromning/).

In relation to C4.3, Birgitte Hoffmann, Aalborg University and part of the Advisory Committee, has contributed the process in Hedensted Municipality on a CCA process and citizen involvement. 2 workshops out of 3 planned have been held and knowledge sharing on this process is planned to be distributed to the C2C partnership. Description of the process (link) (appendix C4.3.a). However, the process has been delayed cf. Section F regarding the revitalization of the Advisory Board.

It is also in corporation with 'Urban Water' development of different material for capacity building in the citizens is developed. This work is intensified in Phase 2.

Evaluation:
As the list of capacity building activities reveals, far more than planned has participated in capacity-building activities in the rainwater area. The fact that focus has changed from SUDS discharge to act more on water quality is a proof of the fact, that C2C CC meets society's needs.

Workshop – water quality (A-Åén)

Action and budget modifications: A workshop related to C4.1. involving businesses and producers is replaced with a workshop about SDGs as instrument for choosing a sustainable solution. A one day course on citizen and stakeholder involvement is planned and invitations outside the partnership is considered (external participants would pay for attendance). Furthermore, an additional workshop on applying the SDGs in co-creation with citizens is added. No budget modifications.

After Life: Not relevant at this time of reporting.

Target and goals for Phase 2:
In regard to C4.1-C4.2, there is a change from the Grant Agreement as focus has changed in DK, and the action is no longer relevant. Instead Phase 2 will result in capacity building of the partners on the newest knowledge within SUDS and on the SDGs as a tool to increase the added value and sustainability of CCA measures. C4.3 result in capacity building of local authorities and utilities on how to deal with involvement of stakeholders in a sustainable way (Involving 75 professionals).

Action	*Quantifiable milestones:*	*Date by end of*
C4.1- C4.3	Phase 2: Report on overview on relevant SUDS as tools for water retention Involvement, engagement and delivery of knowledge gaps and needs to producers and manufacturers of SUDS , 30 participants Training and inspirational material for authorities and utilities on how to involve local land owners in implementing SUDS, 75 participants	 01/06/2019 01/06/2019 31/12/2020

6.2.5 Action C5: Governance

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C5.1. Awareness on the importance of integrative planning and motivation for working with multifunctional, sustainable and holistic solutions. Capacity building on international and national experiences with network governance. Participation of at least 100 partners and stakeholders at C2C CC workshops in at least two workshops/networking arrangements.

C5.2. Networking and knowledge-sharing of at least 200 persons (4 persons from each partner and an additional number of stakeholders) in an annual workshop through phase 1 and phase 2.

C5.3. The Advisory Committee build capacity among C2C CC partners on how to manage processes with many actors and stakeholders. Improved network governance processes specifically in actions C9, C10, C11, C12, C13 and C14. At least 300 participants from C8-C24 participates in 6 initial workshops between the Advisory Committee and the actions. Call service used twice a month, where the partners can call the Advisory Committee for advice, 1 half day seminar with expert presentations on theoretical aspects and partner presentation with initial experiences.

C5.4. The capacity building development programme will ensure that the officials improve their ability to work holistically with CCA and in close collaboration with relevant actors and stakeholders.

Achieved results:
In general Action C5 seriously are worked with in Phase 3. In the first two phases we prepare the detailed work, why most of the resources will be used in later phases.

The work on a common strategy (C5.1) for CCA in the area of CDR was initiated in March 2017, where the secretariat had an intensive seminar with CDEU, led by a consulting firm, Smith Innovation. Later, a common strategy was discussed at a workshop on the 24th of January 2018 at a seminar arranged in collaboration with the Danish innovation network. We had 98 participants. Especially at the two political events in May and June 2018, held at the two storefronts Climatorium and AquaGlobe (both arrangements had around 70 participants), as well as during the study trip to the Netherlands (50 participants) at the end of May 2018, holistic or integrative planning is discussed as necessary. We have supplemented with writing articles, doing interviews etc., and we experience, that the political interest of climate adaptation is rising.

Lots of participants at the meeting for politicians 4th of May 2018 at Climatorium

We have not yet completed an interview with the Ministry of the Environment, but a dialogue is initiated on collaboration on evaluation and development of new governance approaches. We have on going dialogues with relevant staff from the office, but not a formal interview. We also have the office represented in the Steering Committee by Mikkel Hall..

Networking and knowledge sharing (C5.2) is a backbone of the partnership; see also section E and appendix in MidtRum for quantitative progress results.

In regard to the Advisory Committee (C5.3), the committee members are engaged in some of the actions. A call service is established, but only limited used by the partner, whereas the Secretariat has initiated an evaluation talk in order to revitalize the Advisory Committee in autumn of 2018. With the Advisory Committee a lot of activities are developed and planned to complete in Phase 2.

There have been no individual workshops between the committee and the designated actions, but knowledge persons recommended by the committee are used in the workshops, etc. arranged for the actions. This is very useful and will continue in Phase 2.

The secretariat has by the end of 2018 begun the development of the capacity development program (C5.4), with bilateral meetings being conducted with all lead partners of the actions, in order to get an impression of wishes and needs.

We have no major problems in Action C5.

Action and budget modifications: Sustainability is the context of the C2C CC matrix, and the SDGs will be applied in the formulation of the common CCA strategy in C2C CC. An introduction to and training in the SDGs is added in Phase 2 (C5.1). In relation to C5.4, a big interest in Mutual Gain Approach, introduced during the study trip to NL, among the partners, the Secretariat will further build capacity of officials and water professionals to engage with stakeholders. No budget change needed.

After Life:
Outline the perspectives for continuing the action after the end of the project, as far as relevant at the time of reporting.

Target and goals for Phase 2:

Milestones for Phase 2:

C5.1	Training course in integrative planning processes and network governance, 200 participants	31/12/2019
	Training course on SDG's (45 participants)	31/12/2019
C5.1	6 catchment based workshops with C2C CC partners to define cross-cutting issues and activities and to decide on a common framework for integrative planning (all six workshops)	01/07/2019
C5.2	Four annual workshops, 200 participants each	31/12/2019 31/12/2020
C5.3	Six workshops (all six workshops), 200 participants total	31/12/2020
C5.3	2 times six workshops (six workshops every two years), 400 participants Total	31/12/2020
C5.3	One half day seminar every two years	31/12/2020
C5.4	Tree training courses, 150 participants all together	31/12/2022
C5.4	Evaluation workshop organized every two years, 60 participants	31/12/2020
	A survey among all municipalities to asses and describe the valuation creation A Masterclass on value creation One article in a Danish Publication for professionals	31/12/2020 31/12/2020 31/12/2020
C5.4	Master class, 50 participants	31/12/2022
	Teaching material	31/12/2020

6.2.6 Action C6 Tools

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C6.1. A model is developed, 2 municipalities have applied the tool and use the results in decision making and spatial planning.

C6.2. A screening tool is developed and tested.

Expected results linked to expected complementary actions:
WaterCoG will demonstrate new tools to improve flood resilience and water governance. TOPSOIL's results support C3 and C6.1 on the interlink ages between climate change and groundwater and brings in European experiences.

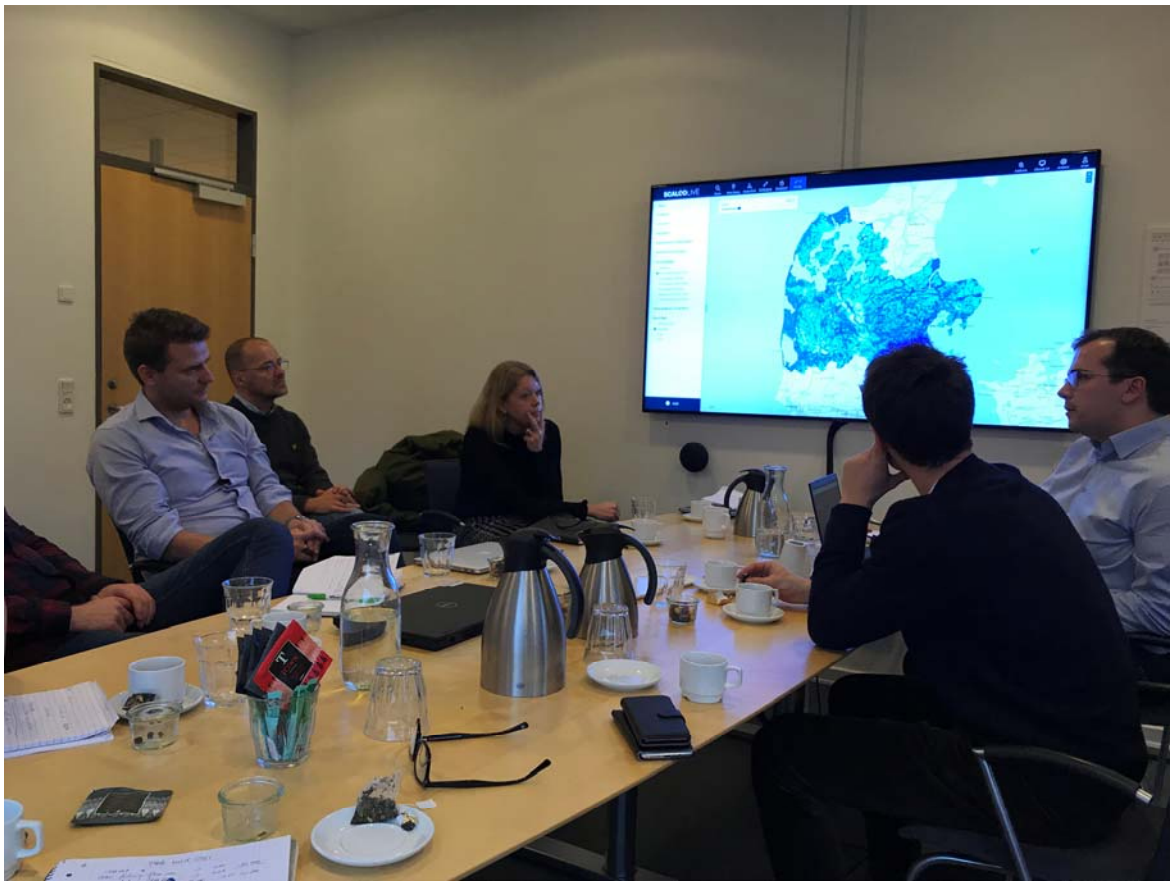
Achieved results:
To focus the development of the tool for both ground water, surface water and screening assessment tool of flood risk, two workshops with all interested partners were held in the autumn of 2017. User experience and demands were formulated and an advisory group was established. The decision about chancing the setup for the groundwater/surface tool (C6.1) and the 3D hydraulic tool (C6.2) is described under C3.

The tendering process was an open EU tender involving suggestions on the development and functions of the tool as a requirement for pre-qualification and within a fixed price of approx. 200.000 EUR (1,5 mill. DKr). The tender was released the 21th January 2018 (link to Appendix C6.a) 8 consulting firms committed bids. Three firms were selected for further idea for development. The advisory group evaluated the proposals and selected a consortium of COWI/GEUS as winner. The methodology is based on data-driven models ("machine learning") incl. data on geology, groundwater table and support information from water table of rivers etc.. Link to Appendix C6.b – Description and documentation of the tool. The performance of the tool will be tested against detailed models for local areas established in other projects as TOPSOIL, KIMONO, FODS 4.1 or CLIWAT. The tool also includes a climate scenario.

Evaluation:
The workshop with the coming users of the tool and the interaction with the advisory led to a very good and open tender process bringing in new ideas. The shift in tool to a new methods is believed to be a major result of many partners "lifting together" in the C2CCC project.

SCALGO Live, a hydrological surface tool, is chosen interface of C6.1 and C6.2. SCALGO stands out as very intuitive, user-friendly and popular among the partners. By combining the existing surface tool with the groundwater tool, the partners get a complete tool for assessing the climate challenge now and in the future. This expansion provides a more realistic picture of flash floods and its duration.

The interest in the new tool is very large, so the expectations that it can get a national breakthrough are great.



Work and progress meeting. The participants were SCALGO, COWI, GEUS, VIA University College, Viborg and Ikast-Brande municipality and Central Denmark Region.

Action and budget modifications: "C6.2 Regional screening assessment tool of flood risk from rivers and the sea" is combined with the groundwater/surface water model (C6.1), and the budgets for the external costs are in that term merged. The total budget for developing the tool are 390.000 € including 107.000 € to SCALGO to develop the tool in their product (license).

After Life: The tool will continue to exist in the After LIFE.

Target and goals for Phase 2:

Milestones

C6.1	Testing of the combined 2-3 sub projects	01/04/2019
C6.1	All CDR municipalities have applied the tool and use the results in decision making and spatial planning	01/04/2019
C6.2	All CDR municipalities have tested the tool and use results in decision making and spatial planning	01/04/2019

6.2.7. Action C7: Innovation.

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C7.1. At least three innovation projects arise on the basis of triple helix approach.

C7.2. 6 Workshops on best practice and/or topical issues. Advising 10 companies on EU funding, following 4 applications submitted for EU funding.

C7.3. Contact to 10 potential stakeholders with an interest in ecosystem services, at least 2 applications for funding (EU or national) submitted, Interviews of 30 clean-tech water companies.

C7.4. Increase exports within Danish BAT within water in Central Denmark Region by at least 25% by 2022.

Achieved results:
Unfortunately, it was not until November 2017 that we got qualified staff to carry out this task. Therefore some deliverables are delayed.

Already at the kick off conference at the end of March 2017 we invited water related companies, universities and utilities to participate with exhibition stands, as speakers from the stage and in the network behind C2C CC. The interest was enormous, and we had more that 350 participants at the conference and approx. 30 exhibition stands – mostly from companies (Action C7.1).

Collaboration is made with 'Urban Water' by referring to each other in newsletters and inviting to each other's activities and talking at each other's events. We find that 'Urban Water' is the Zealand network and C2C CC is the Jutland network.

In February 2018, Dansk Industri (The trade association the Confederation of Danish Industries) published a report on the global market for Danish water companies. The report was not very precise on the potential for climate adaptation, and therefore we have initiated an internal report on mapping the regional companies having the potential to work with climate adaptation in the future. It covers companies from landscape gardeners and sewer contractors to consulting organization and manufacturing companies. We found +1,000 companies. At the same time, we have initiated a voluntary collaboration with associate professor Martin Lehmann from Aalborg University on conducting a qualitative report based on interviews with companies that have the potential to work on climate adaptation solutions in future. In the beginning of 2018, we held an initiating meeting with the trade association CLEAN that sees the Central Denmark Region as a market they will pursue in the near future regarding climate adaptation. We have held a big event at CDR in April 2018, involving external stakeholders in the strategy process for business development. At this occasion, we held a workshop to strengthen the collaboration and coordination between the Danish water sector stakeholders.

We had planned initial meetings with companies like Kamstrup, Siemens, AVK etc. but had to cancel due to changes in the political landscape, influencing the C2C CC goals. In May 2018, a new national act was launched from the government, saying that the 5 administrative regions can no longer conduct business development as per 1 January 2019. Due to the external unforeseen circumstances, we have to make changes in C7. The meetings and the cooperation with the companies mentioned take place without the participation of the secretariat, but the CDEU, Climatorium and AquaGlobe ensure contact.

These activities feed into Action C7.4, that also involve running a shared process between C20 AquaGlobe and C21 Climatorium on revising their strategy and tasks to take care of business network on water and export opportunities.

The first master class was held on Tokyo's climate adaptation challenges in October 2018. We are preparing further masterclasses by consulting different events to get an idea of which stakeholders would be the most useful to describe challenges and which companies would be the most useful to work with the challenges. Hereby we tell that it is our assessment, that we prefer professionals to deal with the challenges. And they are interested. C7.1 in Phase 2 and 3 in a manner that is consistent with the new legislation for the regions' work on business promotion.

C7.2 is managed by CDEU, who hired a consultant to advice SME's, and they have a team of experts, that can give advice to municipalities, utilities and companies respectively, on the issue. CDEU had meetings with 8 companies individually to provide advice on possible EU projects (Eurostars, SME Instrument and Horizon 2020 as well as EIB), and a number of companies participating in workshops. One application has been forwarded (but not granted). Two applications were considered during Autumn 2018.

C7.3 is already initiated in Phase 1 in collaboration with the Technological Institute with the planning of three trainings taking place twice in October 2018 and once in January 2019. Due to the change in the legislation that exclude the regions from working with business development, we could either leave out the task, or change it to training of interested stakeholders on "Assessing ecosystems and their services in LIFE projects – A guide for beneficiaries". We could prepare ourselves to the task by sharing knowledge with the Environment Agency in the UK as they have initial experience in valuation of ecosystem services. Anyway, we are preparing a study tour to exchange experiences with the EU Life project Natural Course in the UK in June 2019.

Evaluation:
We have really succeeded in strengthening collaboration in the Danish water sector and disseminate knowledge about triple and quadruple helix by offering and participating in work shops, master classes etc. The corporation with 'Urban Water' and the Danish Technological Institute has developed all three of us and have build up capacity level at companies, municipalities and utilities.

Action and budget modifications: The actions have changed focus a bit because the regions cannot anymore work with business development in Denmark, however, the two beacons C20 and C21, and CDEU will progress on supporting business development. The Secretariat will in stead work with information about Eco System Services and co-creation methods in triple and quadruple helix as described here after.

After Life: Not relevant at this time of reporting.

Target and goals for Phase 2:

Milestones for Phase 2:

C7.1	Annual reports on six workshops on best practice and/or topical issues	31/12/2019 31/12/2020
C7.2	10 companies have received advice	31/12/2020
C7.2	Annual status reports	31/12/2019 31/12/2020
C7.3	Interviews of 30 clean-tech water companies performed	31/12/2018
C7.3	A application for EU funding submitted	31/12/2020

6.2.8 Action C8: Håb til Håb - Development of the Coastal land between Glud Håb and Håbet

Beneficiary responsible for implementation: HEDKOM

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C8.1. Thorough awareness among stakeholders in the project area (and beyond) of the consequences of climate change – on nature, biodiversity, tourism and landowner interests; Knowledge on the climate history of the area.

C8.2: Thorough knowledge among stakeholders on how CCA is handled in similar areas. Discussion among stakeholders on appropriate – and eventual – solutions to the challenges. 2,000-3,000 stakeholders involved in the process.

Achieved results:
A local focus group of stakeholders were established, and the group has advised HEDKOM in the project development. The members of the focus group represent the community; a farmer, a summerhouse owner, a manager of an international company, a landowner, a local council representative, and a local citizen. Parallel to the focus group meetings, HEDKOM has run a series of internal cross-sectoral workshops in collaboration with Aalborg University with the purpose to discuss and map core elements of added value of CCA. Furthermore, the process of moving from citizen 'involvement' to 'engagement' has been essential. A key learning outcome is to make CCA relevant locally. This process has caused a reassessment and adjustment of the C8 activities: Two local museums were brought into the C8 planning of activities related to local cultural history and contributed with specific contacts and knowledge in regard to field trips; also participating in walk and talks in the area. Furthermore, adjustments were made for the scenarios to focus specifically on 10-15 areas, instead of the entire area. In addition to this, the focus group has contributed to the definition of the areas so they reflect the perceived affiliation of the citizen.

C8.1: AU, two local museums, a ranger and a team of media people were involved in producing information material incl. place bound scenarios of climate change prior to the C8.2 activities. Several folders on local climate challenge were produced prior to the C8.2 trips and tours.
The focus group wish to strengthen recreational values as a development parameter. That was the result of the group's discussions with point of departure of the complementary project on carbon capture in a wetland in the area.

C8.2: The stakeholder involvement expanded to include mini-workshops, knowledge collection of local values and input to scenario development. Three walk and talks supplemented with mini-workshops, two bus tours and two larger workshops focused on cultural history, values, challenges and co-creation of possible solution were held at the end of Phase 1. The tool 3Di was applied partly by the use of consultancies in an interactive process with the citizens at the workshops. The interactive tool 3Di provides modeling of scenarios and visualizes flooding. The tool support and qualify the political discussion far better than traditional means. The events have contributed to greater local understanding of the local

areas, the climate-related challenges and the opportunities to protect values and change the landscape. The workshop group recommends, that HEDKOM continue to refine and develop solutions in order to strengthen the recreational opportunities through climate adaptation.

C8.3: The involvement of stakeholders were assessed as more important than the political level at this point and is therefore prioritized in Phase 1. The political process is postponed to Phase 2.

Evaluation:
The descriptive scenarios were developed in co-creation with citizens' assessment of local values in two workshops.

A complementary project in the pipeline on carbon capture in a wetlands were a good starting point for discussions in the focus group.

The 3Di tool support and qualify the political discussion far better than traditional means. The basis for political decision making is improved.

Action and budget modifications: Report on recommendations on the area's development for the City Council is postponed to Phase 2. Report from citizen-politician workshop on descriptive scenarios, and Minutes on decision from City Council meeting are postponed to Phase 2. The budget for the C8 project in phase 3 is reduced, and budget funds are transferred to C18. HEDKOM expects that the purchase and use of the model tool "3Di" will reduce the total costs of the C8 project.

After Life: By the end of Phase 3 it is expected to have formulated actual CCA projects to be implemented after LIFE.

Field trip at As Vig with local citizens, ranger and museum people. HEDKOM is the host.

Workshop on scenarios

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by end of
C8.1	1-3 concrete scenarios for the area's development finalised Visualisation of examples of projects from at least three project ready	31/12/2020 31/12/2020
C.8.2.	Report on stakeholder analysis and stakeholder mapping ready	31/12/2019
C 8.3.	Citizen-politician workshop	31/12/2020

6.2.9 Action C9: Thyborøn Kanal og Vestlige Limfjord.

Beneficiary responsible for implementation: Lemvig Municipality.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
9.1. The major stakeholders are investigated as a basis for future action. Insight in significant secondary effects of a regional CCA solution by Thyborøn Channel. The socio-economic review aids decision-making for a political decision on which CCA solution to be worked on with.

9.2. An analysis of the optimal, permanent protection for submission to policymakers and stakeholders. Strengthening of the professional and the civilian capacity to handle storm surge events, and a cross-border emergency and contingency plan for handling storm surge events significantly increase resilience.

C9.3. One or more financial models will support that the optimal CCA project is to be implemented.

Achieved results:
The tender incl. analyses of significant impacts, stakeholder involvement and modeling. The tender was won by Rambøll. A thorough analysis of significant impacts related to narrowing the channel of Thyborøn is carried out by Rambøll. Stakeholders have been identified and involved through a series of workshops to QA that all significant impacts have been assessed. Analyze of the stakeholders were finalized ultimo December 2017 – link (Appendix C9.a).

The modeling provides results of primary and secondary impacts of the extension as basis for decision making. The primary effect of the herd extension is the reduction in the height of the storm water around the Western Limfjord. The secondary effects are reduction in water exchange and derived effects on the water environment, reduction in the width of the entry and derived effects on navigation conditions etc.

The C9 partners have decided to invest in further modeling to incl. results on the extensions effect in the Top-10 experienced storm surge situations in a future climate scenario. These results are expected in the spring of 2019, whereas only one seminar for decision makers is held in Phase 1. Politicians are busy, so the seminars are to be well prepared and addressed in good time.

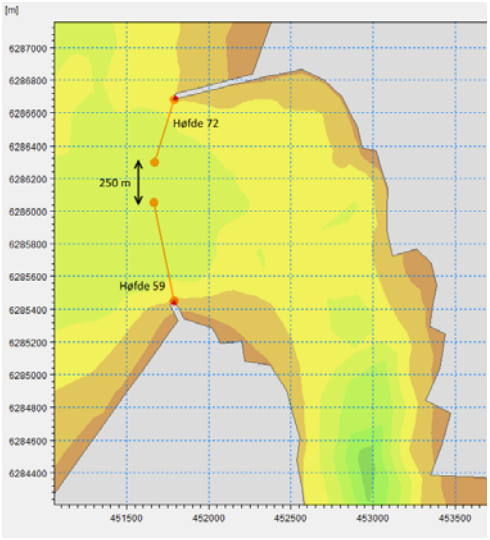
Preparatory steps in establishing a project group based on existing cooperation between Lemvig Municipality and the fire department of northwest Jutland.

Evaluation:
Stakeholder involvement, analyzes of impacts and the results was satisfying. But the socio-economic analyses were a learning process with several challenges, though it was necessary to model additional storm surge scenarios to get a thorough understanding of the solutions effect.

The project group members shows mutual interest in collaboration.

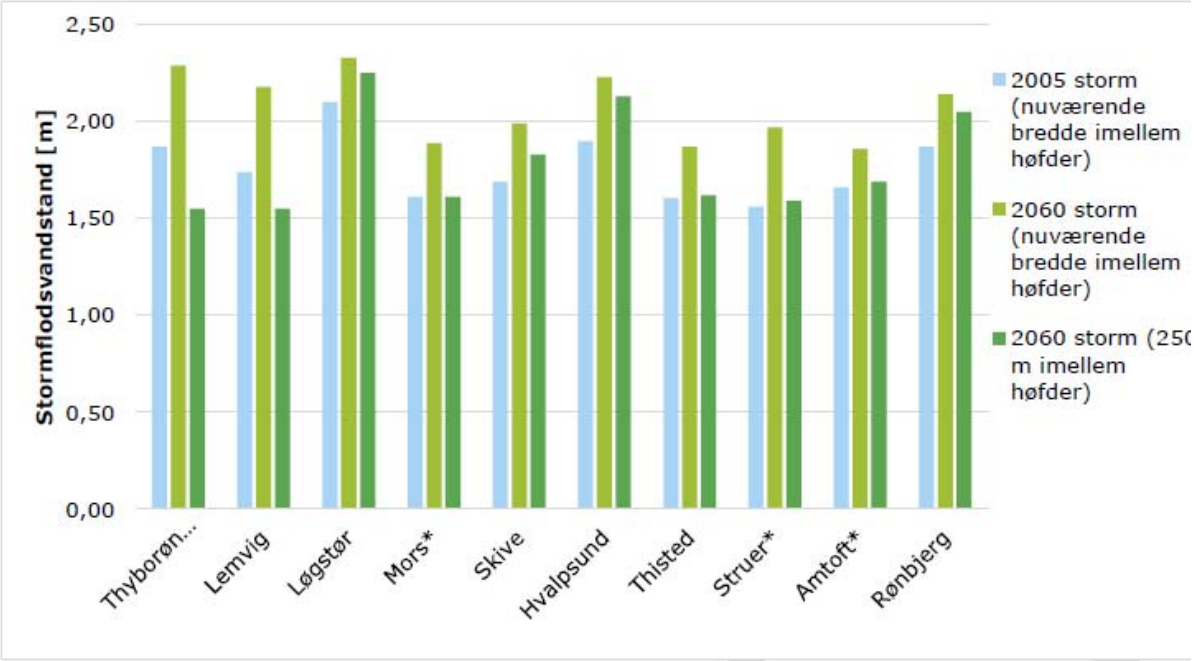
Action and budget modifications: Additional 37,000 EUR has been used in Phase 1 for the socioeconomic analysis. The C9 partnership found it necessary to invest in further storm surge modeling. Financial means are transferred from C9.2 to C9.1, as the modeling in C9.1 has shown to be more costly than expected. The tasks in C9.2 are expected to be solved within the partnership of C9. Cost estimations for Phase 2 are not effected.

After Life: The close cooperation of the members of the partnership – 7 municipalities and 7 utility companies on the coastline of Western Limfjord – is establishing a solid foundation for realizing the project. Decision-makers are dedicated to promote a common, regional solution to future climate challenges.



Lokalitet	Antal timer over 2005 maksimal-vandstand (0-alternativ) [timer]	Antal timer over 2005 maksimal-vandstand (250 m høfdeudvidelse) [timer]
Thyborøn Havn	11	0
Lemvig	15	0
Løgstør	9	2
Mors	23	0
Skive	24	3
Hvalpsund	10	2
Thisted	20	2
Rønbjerg	25	3
Amtoft	27	1
Struer	20	1

Calculations based on the 2005 storm surge indicate that a reduction of Thyborøn Canal to 250 metres has huge effect on the storm surge water levels in Western Limfjord. But the effect is very different around the Western Limfjord.



Calculations based on the 2005 storm surge indicate that a reduction of Thyborøn Canal to 250 metres lead to a significant reduction in the time span of critical water level in the harbours of Western Limfjord.

Target and goals for Phase 2:

C.9.2.	One agreement with an Advisor on the preparation of analysis of the optimal, permanent protection level for submission to policymakers and stakeholders. One agreement with an Advisor on the assistance for building professional and civil capacity to deal with the storm events at the Western Limfjord One agreement with an Advisor on assistance for the preparation of a cross-border emergency preparedness for handling of storm surge events Analysis of the optimal level of protection available. 2nd Seminar for the relevant decision-makers. A review of the strengthening of the professional and the civilian capacity to deal with the storm events are available. 3rd Seminar for relevant decision makers. A cross-border emergency management for handling of storm surge events.	31/05/2019 31/05/2019 30/09/2019 31/12/2019 31/12/2019 31/03/2020 30/06/2020.
C.9.3.	The establishment of the project team with the participation of insurance companies' association Conclusion of Advisor agreement on assistance with the preparation of proposals for financing models A number of proposals for funding are available. 31. March 2021. 5th Seminar for relevant decision makers.	31/03/2019 30/06/2020 31/12/2020
C9.4	Conclusion of Advisor Agreement for assistance with preparation of requirement specifications for climate solution by Thyborøn Channel.	30/09/2020

6.2.10 Action C 10: The River Grenaa Catchment.

Beneficiary responsible for implementation: NDK

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C10.1. Knowledge and a common understanding of the CCA challenges linked to the Grenaa Catchment and the Kolindsund. Total number of hectares screened: 470.

C10.2: Public awareness and public discussion on CCA and the challenges linked to the Grenaa Catchment and the Kolindsund. Number of citizens reached: around 500.

Achieved results:
The project progresses according to timetable. A stakeholder workshop has been held, data collection is started, tendering material has been prepared and a webpage with dialogue forum is launched. Link to report on added value due to vertical land movement in Kolindsund, Appendix C10.a. However, the action was affected during the municipal election in NDK in autumn of 2017, which delayed the process and most activities have been carried out in 2018. All activities except data collection have caught up with lost time. Funds for data collection in Phase 1 are transferred to Phase 2.

A stakeholder meeting has been held to introduce the project, and data collection has been discussed. A field trip for relevant politicians in the two municipalities was completed to provide insight and commitment at the political level. The two events provided a sound basis for the project's progress. Data collection is continued in Phase 2 as data over a longer time span contributes to a more precise model. A PhD student based as an employee in the two municipalities is planned to carry out the modeling, instead of an external consultant, as it generates knowledge within the municipalities.

The dialogue portal is established, however, not yet used, since the stakeholders seem to prefer a direct dialogue.

Evaluation:
Different stakeholders marked their take on the project and opinions. A common acceptance for the project, the work ahead and their place and responsibility in the project were achieved. The stakeholder meeting was a success, and more will follow.

Data collection is started, and an overview of exiting data, needed data, and data to collected is achieved. Data collection is delayed due to unforeseen circumstances, but future progress is expected to run without further delay.

Tendering for a PhD is prepared, and contract conclusion is ready, when the right candidate is found. There is a contract ready for PhD and the university (GEUS). The setup with a PhD achieves more knowledge in-house.

The webpage https://www.grenaaensopland.dk/ ensures openness and visibility about the project. It will be updated continuously during the project



Photos from the field trip with politicians from Norddjurs and Syddjurs Municipalities June 11. 2018.

Action and budget modifications: Unused means from the delayed data-collection are transferred from Phase 1 to 2.

After Life: After the project ends in 2022, the project will continue as a political instrument for future decision making for climate adaptation across municipalities. The catchment area must be climate adapted, and the project outline possible solutions, but the decision is political across municipalities. The field trip for all relevant politicians in Syddjurs and Norddjurs Municipality June 11. 2018 came first step for common ground and understanding for individual problems in the municipalities combined in the catchment area of Grenaa. An understanding of common problems and solutions are necessary, and became the common understanding on the field trip. After the project ends, the Municipalities together need to find common ground on with solutions they implement today and in the future to adapt to climate change.

Target and goals for Phase 2: A model set up to run scenarios as basis for decision making on CCA in the area. The results are related to a strategic environmental assessment of the expected impacts of CCA.

Action	***Quantifiable milestones***	***Date by end of***
C10.1	Phase 2 and beyond:	
	Screening and qualifying options incl. risk assessment done	31/12/2022
	Assessment on environment, nature and recreational values done	31/12/2022
	Impact assessment of chosen scenarios and prioritization (2021-2022)	31/12/2022
	Solutions for political decision-making identified	31/12/2022

6.2.11 Action C11: Randers Fjord

Beneficiary responsible for implementation: NDK.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C11.1.A Fjord Model and scenarios for future CCA of the project area, and a complete list of possible solution scenarios and their cost-benefit analyses make it possible to suggest concrete solutions. 11,000 hectares screened.

C11.2. An independent assessment of the scenario of a sluice solution in relation to CCA of the project area will show whether it is feasible.

C11.3. Will result in a future and long term strategy and approach for the project area.

Achieved results:
The project has overall developed according to the timetable. We have a close dialogue with The Danish Coastal Authority on a joint hydrological model for Randers Fjord action C11.1.4, furthermore a homepage with a dialogue forum is launched, www.fjordensvand.dk and work on a CBA of the area is ongoing carried out by Sweco, which in action C11.3 will be combined with the hydrologic scenarios and models for flooding and climate adaptation C11.1.4.

Technical and biological pre investigation around Udbyhøj – link, Appendix C11.a
Sustainability investigation on a sluice close to Udbyhøj – link, Appendix C11.b

The tendering material for modeling and scenarios was carried out with the help from an external adviser and won by COWI, they will work with the result from and further on with C11.4 and C11.2.1. The modeling will begin primo in Phase 2. The planned stakeholder meeting in Phase 1 was postponed as it was found necessary to wait for newer data. C11.1.1 and C11.1.2 are completed, however, for C11.1.1 coordination related to data and the national modeling will be ongoing. C11.1.2 contributed with analysis of relevant storm surge levels and was incorporated into the tendering. C11.2 will be postponed until the modeling results are completed.

Data collection for a Fjord model is completed, and the preparation of this model done. The analyses of different scenarios for further climate adaption is completed. Reporting for the possibility of a sluice solution is postponed to Phase 2.

There have been set levels of water, therefore we are able to make adaption scenarios and CBA at the same time. It is relevant to look at levels of water rather than statistical foreseen storm scenarios, when they can change and be up scaled at all time.

Action C11.2.2 is postponed to Phase 2.

Evaluation:

There have been located a good foundation of data incl. CBA and modeling scenarios for climate adaptation.

We cannot evaluate finally if the process in action C11.1.3 of working with set storm levels and water level. Rather than IPC statistical storm foreseen events. The action will be evaluated in connection with the final masterplan for adaption of the area.

Action and budget modifications: Action C11.2 is postponed to Phase 2. The making of the model and calculating solution for climate adaption has been postponed due to delay at The Danish Coastal Authority, who is calculation the model. There will not be a huge transfer of unused money from phase 1 to 2 due to risk adaption of the project, and the modelling has always been expected to cover both phase 1 and 2.

After Life: After the project is done in 2022, there will be an outline of action possible for climate adaption of Randers Fjord cross municipalities. There will afterwards be an ongoing political process and involvement of citizens for climate adaption in phases similar according to the risk assessment and development of risk of flooding.

Target and goals for Phase 2:

Activity	Quantifiable milestones	Date by end of
C11.1	Report assessing the possibility of a sluice solution finalised	31/12/2020
C11.3		

6.2.12 Action C 12: The River Gudenaa.

Beneficiary responsible for implementation: *SIK.*

Foreseen start date: 01/11/2016 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 01/04/2022

Expected results:
C12.1: Common knowledge on the CCA challenges and the prerequisites for CCA solutions among the River Gudenå municipalities with the objective of formulating a common understanding and eventually a common vision on CCA solutions.

A common tool for shedding light at a variety of scenarios. The tool will be available in the specific actions to be decided in C.12.2. Furthermore, it will be available for future scenario analyzes and compensating actions. The objective is to create a 'common reference' / 'common language' used by the municipalities of the River Gudenå when making decisions that affect water flow across the basin. The tool designates the effects acts in the hinterland will give the water quantity, quality and costs.

Analyses will be described in a report. Number of hectares to be screened: 2.643 km² (catchment area).

C12.2: Thorough involvement of stakeholders and development of the vision and goals will secure that CCA implementation is practically feasible. A number of workshops held by the Gudenaa municipalities looking towards specific initiatives and actions that can be implemented will concretize solution possibilities. Insights on secondary impacts on biodiversity, environmental effects / nitrogen removal /, CO_2, economy-cost benefit, legal aspects will aid decision making for holistic solutions.

The development of a series of targeted information for landowners throughout the River Gudenå system will inform them on the following issues: How can I protect myself against water from the river? What does the course of the river mean for the runoff? Why is the river not just being expanded and deepened? Can the drainage system help to keep the water?

A web portal is created for data and for citizens to share ideas and finding good advice on flooding and create community resilience through bottom up means.

Achieved results:
In spring 2017, time was spent initially defining the task and preparing a tender document. In parallel, an overview of existing data was obtained from all C12 partners and data was collected in a database. Following clarification of the procurement rules, a market survey was conducted among five advisory firms, three of which were selected as qualified to describe how they would perform the task within a predetermined financial framework. One of the discontinued companies in this phase was assigned as client advisor. After two consultants were given the opportunity to present proposals for assignment, DHI was chosen for a contract negotiation. The final contract was concluded in March 2018. Initially, the consultant works to build the hydraulic model in cooperation with the C12 partners. Status at the end of 2018, the model is calibrated and nearly constructed. In addition, in cooperation with the C12

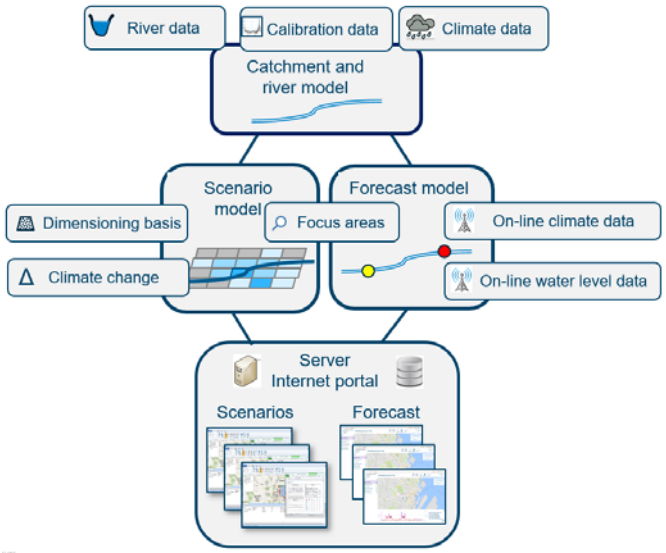
partners, initial scenarios will be developed and used to describe the effects of these. In the autumn of 2018, a prototype of the warning model and prototype of a web portal will be built up.

The promised reports is expected finalized medio 2019:
- One report on data analysis for the model
- Report on the establishment of a model and calibration of the model
- Three scenarios developed

Evaluation:
Due to the long phase of clarification of the procurement rules and contract negotiations, the completion of the model work has been deferred until the end of March 2019. Development of hydrologic model is done as planned. But development of tools for upstream water management and reporting is only partly achieved within the schedule. The task will be finalized in the first quarter of 2019.

When it comes to the web portal with warning model and forum for knowledge sharing, a prototype is developed. The site will be working before the end of March 2019.
Similar is C12.1.4 – C12.1.8. delayed one quarter.

Silkeborg Municpiality had in Phase 1 the responsibility for project management. This passed at the transition to Phase 2 to Randers Municipality.



The diagram of the projects components inclusive the web portal.

Action and budget modifications: Due to the transfer of a number of items from Phase 1 to Phase 2, the cost estimations are adjusted, see the Phase 2 budget.

After Life: Not relevant at the time of reporting.

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by the end of

C.12.1.	Stakeholder Involvement meeting held Political process initiated. Minutes of municipal board meetings Selection of projects done	31/12/2020 31/12/2020 31/12/2020

6.2.13 Action C 13: The River Storaa.

Beneficiary responsible for implementation: Herning Municipality.

Foreseen start date: 01/04/2017 ***Actual start date:*** 01/04/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
This project will demonstrate that water can be delayed where it falls, thereby reducing flooding in cities. The project is a pilot, which will demonstrate solutions in the long term at the field level in the open countryside. On its own, water retention in one field will not solve the problem of flooding, but combined with other measures, and with more delaying fields, it can be a long-term way to maintain the effectiveness of other CCA efforts by minimizing increased pressure caused by increasing climate challenges in the future and thus extend the durability of local CCA initiatives. Specifically, this project will realize a dialogue with farmers in the River Storaa catchment area, who are prepared to test techniques that can delay the run-off of water in the open countryside. The project will contain a monitoring measure to cover the consequences to cultivation reliability, biodiversity and improvement in the natural countryside. It involves 3-5 farmers, 2 NGOs and 3-5 stakeholders/landowners, 1-2 representatives from NGOs, 6 municipal professionals, 3 utility professionals, 2-3 knowledge persons.

Achieved results:
Two concrete areas in a smaller catchment area have been designated through dialogue with stakeholders and negotiation with the farmers. The following issues have been clarified: drainage mapping and drainage conditions. Furthermore, soil conditions, potential dissolved-iron areas and historical flooding have been investigated together with mapping of nature areas, amphibian mapping and mapping of habitats and invasive species. In-house biologists and the external consultants from EnviDan have done this. The choice of company was based on an assessment of their expertise. In project area 1 there is a possibility of finding the northern birch mouse (*Sicista Betulina*). This will be investigated in 2019.

The possibilities of temporary flooding with simple methods of raising the stream bottom have failed because the calculations did show just a minimal detention of water under heavy rain. The next step is to investigate a more complicated solution decreasing the water flow and thereby flooding the areas near the stream.

A study trip to the UK with stakeholders to study solutions is postponed to Phase 2.

Evaluation:
We have had several meetings with the local stakeholders and dialogue with 2 interested stakeholders in HK. The reactions are very positive in attending the project. Data collection and analyses and carrying out the pilot and monitoring is postponed to Phase 2.

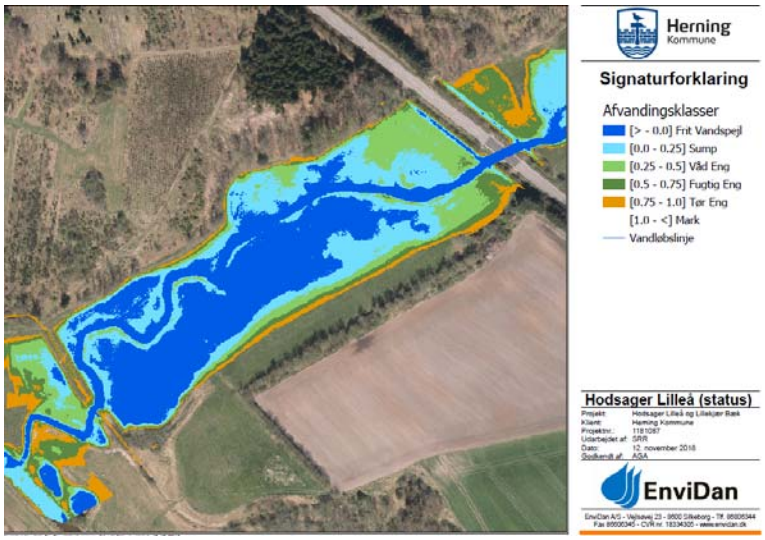
Our original plan for raising the bottom with rock was not possible after Envidan's report. The purpose of the reports was to show the amount of water we could retain in the two river valleys using simple actions in the rivers. The conclusion of the report was that the actions only would give us a small retention of water.

Our nature colleague has also designated some "minus areas" that must not be flooded intentionally - and here we fall into a very current discussion about the use of river valleys as a treatment plant. However we have found areas with low nature quality where it is possible to create flooding. The calculations are under preparation with a valuable help from the new possibilities in the programme Scalgo Live – a programme provided to the partners of the C2C CC project.

The project did not reach the number of involved stakeholders yet. But believe it will be reached in Phase 2.

Action and budget modifications: There are no expected changes of the budget at this time.

After Life:
This project will demonstrate that water can be delayed where it falls, thereby reducing flooding both in cities and in the open land. Specifically, this project will realize a dialogue with farmers in the River Storaa catchment area, who are prepared to test techniques that can delay the run-off of water in the open countryside. We hope that the project will show the consequences to cultivation reliability, biodiversity and improvement in the natural countryside in order to remove some skepticism about the possibilities.



Flooding area in Hodsager Lilleaa (Project Area 1)


Field investigation of valuable nature


Project Area 1

Target and goals for Phase 2:

Action	**Quantifiable milestones**	
C.13.1	Presentation to webpage done	31/12/2020

	Presentation at thematic meetings done Presentation to other networks done	31/12/2020 31/12/2020
C.13.2.	Agreements with farmers Development, establishment and demonstration of solutions Suitable areas designated	31/12/2020 31/12/2020 31/12/2020
C.13.3.	Description of specific retention solutions, disconnection of drainage, dividers, dikes, wetlands, done. Knowledge transferred of the project's progress and results on the internet, Two thematic meetings held Two field study tours with land associations held	31/12/2020 31/12/2020 31/12/2020 31/12/2020

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6.2.14 Action C14: Flood-proofing Horsens Town Centre

Beneficiary responsible for implementation: Horsens Municipality

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/04/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
The action will result in basis for decision making on which outlined solution possibilities will be worked further and clarify which additional matters that need to be clarified, whereas it is possible to define long-term solutions for protecting Horsens town center from flooding that meet the politically adopted level of protection for the municipality (stated in the CCA plan).

The following will be defined: Designated local sites and solutions for retaining water in the catchment area in one or several locations. Designated most suitable positioning of dike reinforcements that protect Horsens town center. Calculated filling times for any reservoirs, and calculated dimensioning of pumps and sluices with different scenarios in the current and future climate. A smart pump and sluice control system. Solutions for water flow and for the catchment area that promote biodiversity as much as possible improve water quality and provide recreational options for local residents. With Nordhavnen under redevelopment, solutions shall be provided for traffic connections to the port area and the central neighborhood. Dikes, sluices and pumps are designed to be visually inspiring and to provide recreational urban spaces, and integrated into the urban life of Horsens town.

Achieved results:
C14.1: It was expected that a main consultant should perform both model adjustments, climate scenarios, and subsequent work on innovative water management. However, during Q1 2018 it was decided to apply the utility company's model for calculations. Documents have been prepared by lawyer regarding procurement rules and for cross-border interest. The tender for C14 main consultant, focusing on determining the most suitable solutions in Horsens City and Bygholm Lake is expected completed in Q1-2 of 2019 (Phase 2). Cost benefit and innovative considerations will be included in the work. C14.2: Data collection and status note is completed. The model adjustments to focus on climate scenarios have taken longer than anticipated.

Project work on Status 2018 scenarios, together with advisor and Samn Water Supply Company

This work is still going on. Initial impact assessment of nature is done by the municipality's Nature Team. The modeling concludes that Bygholm Lake is most appropriate for water retention upstream Horsens town. Water from the hinterland and the future high water level in Horsens Fjord is the main challenge.

C14.3: Is finalized in Phase 1.

C14.4: Presentation of the C14 project at a politician summit in AquaGlobe. The steering committee was gathered at 3 meetings. Thematic meeting with politicians has been held. Two bus trips through Horsens Town, introduced to climate challenges in the town, one with local politicians, and one with politicians from other municipalities in Denmark. Two lectures at local high schools was given, and one excursion for students from Via University has been held. Interviews were given to a local paper in connection with flooding events in Horsens Town. In that connection C2C CC was high lighted. No further actions are carried out on stakeholder involvement.

Evaluation:
Tender for main consultant is postponed to Phase 2. It is not a delay. Technical analysis and climate scenarios are carried out in corporation with the utility company and consultant.

The steering group is established and meetings held. We experience good support and understanding towards the project.

SAMN Utility sat up the dynamic model, and several adjustments are made. The model is highly detailed and quality dynamic model towards sewer system and flooding is obtained.

An online portal with connection to the portal of C2C CC. It is a informative and useful portal.

Scenarios are calculated successful for the present and future climate. Carried out for utility company's service level up to 5 year event.

Technical analysis and scenarios are more comprehensive than expected – the analyses are on going.

Acc. C14.3.2 the flooding risk in Horsens City will not be significantly minimized retaining water in the C15 area. This was discussed at a meeting the 5. July 2018 between C14 and C15 – we identify synergies.

Action and budget modifications:
Phase 2 begins with a steering committee meeting, where the recommendation from action C14.3.1, C14.3.2 is presented. In Phase 2, a tender is still made. When the application was written, the intention was to prepare a tender including a master plan for climate adaptation as a final, run a tender for detailed technical specifications and design of the necessary climate adaptation. It is recognized during phase 1 that this is not possible. The focus of the tender is now the establishment of principles, and an more overall plan for CCA in Horsens By in the long term, including high water solutions and cloudbursts with other urban planning activities (eg traffic plan, "the river back to the city center", port plans, urban transformation, etc.). In the plan special focus towards solution will be given to key locations in the lower part of Horsens Town. The plan must be able to be used in the city's physical planning, together with

the municipal plan, waste water plan, local plans and discharge permits. If possible a construction programme will be prepared.

Notice that external assistance cost 28.310 Euro is transmitted from Phase 1 to Phase 2. Overall in phase 1 and 2 - no changes for cost estimations is expected.

After Life: The C14 results are used as a basis for decisions in the Horsens plan and environmental committees as well as in the City Council. The results will directly be incorporated into infrastructure plans and climatic adaptation needs, and are mainly expected to be realized in connection with infrastructure projects and city developments.

Target and goals for Phase 2:

Action	**Quantifiable milestones**	**Date by end of**
C14.1 and C14.2	Possible locations identified for retaining water in the Bygholm Å catchment area	March 2019
C14.3	Possible locations identified for retaining water in the urban areas. Specific solutions proposed for water retention, dikes, pumps and if required, barriers in the fjord	December 2019 June 2020
C14.4	Construction programme, and cost estimations for construction solutions finalized, part of tender in prime 2019 Final political approval of the described solutions done.	31/12/2019 June 2020
C14.5	Preparation of a conceptual design and disposal project for the needed solutions.	2020

6.2.15 Action C15: CCA in Hedensted and Tørring

Beneficiary responsible for implementation: HEDKOM

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C15.1: Through economic models as a basis for prioritizing focus areas, efforts, and means an added value barometer is developed to prioritize CCA solutions in Hedensted town. The prioritization involves results based on risk analysis from an asset perspective. The results from the stakeholder survey contributes aspects of added value. At least one project is ready for execution by the end of the action.

C15.2: This sub-action provides knowledge on CCA, watercourses and cultivated soils and results in definitions of which initiatives are most suitable for optimizing cultivation under new climate conditions involving the design of a watercourse in regard to agricultural drainage systems. The survey provides qualitative knowledge on the experienced impacts of climate change on agriculture. The scenario analysis results in options of crops, drainage, discharge, catchment, recipient, flow capacity under different climate scenarios. At least one project is ready for execution by the end of the action.

C15.3: The results of 15.1. and 15.2 is applied in this sub-action and provides recommendations about the reliability of cultivation and water systems for Tørring town. The added value barometer is also applied in involvement of several citizen groups. The result is definition of local goals and options for solving climate challenges as a group. This process results in recommendations on how climate proofing and goals can be executed through local organizing. A local climate proofing plan formulated by citizens.

Achieved results:
A local focus group of stakeholders is established and the group advise HEDKOM in the project development. The members of the focus group represent the community; eg. a farmer, a business owner, and local citizens. Parallel to the focus group meetings, HEDKOM has run two internal cross-sectoral workshops in collaboration with AAU with the purpose to discuss and map core elements of the added value of CCA. Furthermore, the process of moving from citizen 'involvement' to 'engagement' has been essential. A key learning outcome is to make CCA relevant locally.

C15.1: Working with added value at a basic level has proved to be inappropriate. It is necessary to link possible value-added solutions to specific places with concrete climate challenges and other issues. HEDKOM has therefore adjusted the work from an overall and principled approach to a site-based and concrete approach. The work with added-value is temporarily suspended. We expect to redefine working with added-value in interactive workshops in phase 2; and the result is intended to be a catalog of added values related to concrete sites, climate challenges and land use. HEDKOM purchased a model tool for visualization of hotspots and solutions (3Di) and external consultancy for e.g. setting up the model. The mapping of values and risks has supported discussions in the actor group, and contributed to the designation of special focus areas within the project area. The stakeholder survey shows e.g. that different landowners' associations have different and often very complex interests.

C15.2: In the last half of Phase 1, HEDKOM participated in discussions and one cross-cutting meeting between the C2C partners in order to create a broader collaboration on the sub-project. Furthermore, the very hot and dry summer has given rise to reflections on redefining the sub-project, so that it relates to "too much water", and to "too little water" - sustainable water management. The sub-project is redefined to Phase 2. The discussions with other C2C partners and external stakeholders continue in phase 2.

C15.3: In 2017/18, the Development Council for Tørring worked on a development plan for Tørring City. HEDKOM has given the council insight into the climate challenges of the Development Council's visions and plans for concrete places in the city. The council took good note of the orientation, and incorporates climate challenges and adaptation in the further development of visions and plans. The issues at the confluence of Slårup Å, Gudenåen and Melhede Bæk are also included as a focus area in the C2C C12 project.

Report of registration of drainage close to Gesager Å, Appendix C15.a - link

Evaluation:
According C15.1.1 the project area is defined in cooperation with the stakeholder group. Special focus areas have been designated within the project area.

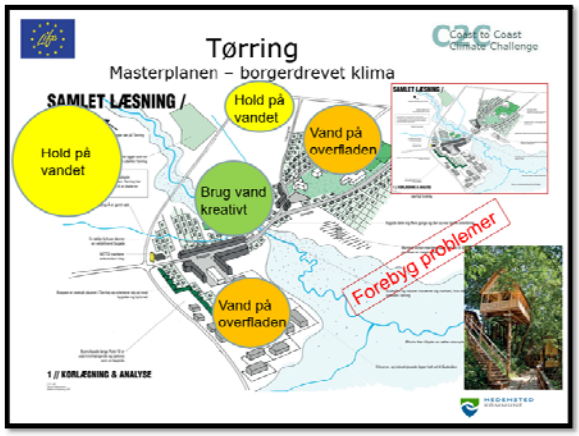
The mapping of values and risks has supported the discussions in the actor group and contributed to the designation of special focus areas within the project area. The stakeholder survey shows e.g. mutual interests for different landowners' associations.

Working with added value at a basic level has proved to be inappropriate. The work with added value has been suspended. It will be conducted in Phase 2.

The stakeholder analysis is absolutely necessary when planning the further work.

Related to C15.2 we can tell that we have considerations for redefining the sub-project in to "sustainable water management".

HEDKOM meets the stakeholder group 2017



HEDKOM contribute with climate challenges to the Development Council's visions and plans in 2018

Action and budget modifications: C15.1: The experience from C15.1 has led to the sub-project being adjusted. From having an overall and principle approach, we now work with a site-based and concrete approach. That means e.g. that the use of economic models in C15.1.2

as a basis for prioritizing focus areas, efforts and instruments being downplayed. Instead, more emphasis is on the "place's" challenges, opportunities and citizens 'joint assessments of what gives them value in their particular place, as well as citizens' wishes for how their area should evolve. In addition, the value-added barometer in phase 2 is rethought based on the interactive processes, and adjusted to a catalog of added values related to specific sites, climate challenges and land use.

After Life: Not relevant at this time of reporting.

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by end of
C.15.1	Added value catalog done Stakeholder integration done Local plans finalized	31/12/2019 31/12/2019 31/12/2020
C.15.2.	workshop on combined urban / open country solutions to common climate challenges bullet 4)	31/07/2020
C.15.3.	Risk and value mapping done Stakeholder mapping done More value catalog done	31/12/2020 31/12/2020 31/12/2020

6.2.16 Action C16: Climate Ribbon.

Beneficiary responsible for implementation: RK

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31.12.2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
If Randers city is flooded, the total damage amounts to about 5-6 billion DKK. A large part is financed by insurance companies, increasingly reducing the possibilities for full coverage of buildings, etc. in areas with a high risk of flooding by storm surge. In the context of urban development, the 'City to the water' project intends to enhance avoidance of costly damage by conditioning the construction of new buildings on the new CCA guidelines - including direct contact with the water and the nature rather than the construction of new houses on elevated pedestals behind walls, dykes and embankments. Therefore, the expected result of the project is that the municipality in cooperation with citizens, stakeholders, investors and property owners can reduce the risk of negative consequences for human health, the environment, cultural heritage and economic activity in case of extreme flooding. A total number of 50,000 visitors are expected to visit the Climate Ribbon showroom.

Achieved results:
The tendering for the Climate Ribbon was very successful. C16.1: The production of a report of best practice projects guided the formulation of the tender programme (available in MidtRum). RK completed workshops with relevant experts and the utility company to develop the climate ribbon and excursions to other urban areas such as Horsens. RK involved approx. 30 college students, and they presented their ideas for the climate ribbon.

- Report on the local conditions in the project area, Appendix C16.a - link
- Catalog with reference projects, Appendix C16.b - link
- Technical back ground report, Appendix C16.c - link

C16.2: RK completed the tender as a parallel assignment with two teams including 4 workshops with the two teams and relevant key members of Randers Municipality. A group of 4 university students was involved throughout the process to evaluate the innovativeness of the process. A summary report will be published ultimo 2018.

- Program for parallel command, Appendix C16.d - link
- Tender ad - invitation, Appendix C16.e - link

C16.3: The first action in the showroom was a series of public events between 14th and 18th of August 2018, in which RK published the Climate Ribbon ideas. RK has tested new methods for public participation incl. use of a digital application. More than 300 people have listened and participated.


Pictures of "Havneboksen"

Examples from the results of the Parallel Assignment

Evaluation:
The gathering of inspiration has worked very well. The project team has gained significant knowledge on similar practices in other areas, documented by the report, but also visible in other materials such as the tender program, which builds upon the knowledge gathered.

An international competition on the Climate Ribbon underlining the holistic approach, resulting in innovative and visionary CCA solutions as exemplary projects for other port and coastal cities of the EU - The competition took place in 2018 and the best CCA solution will be selected by a jury of professional judges, local politicians etc. The tender worked very well, and the results exceed the expectations of Randers Municipality. The teams have responded to the four overall themes very well: 1. Climate adaptation techniques, 2.Green connections, 3. Communication of CCA, and 4. Potentials for realization. A thorough evaluation report will be undertaken during fall 2018.

Action and budget modifications: RK has initiated the actions in C16.3, planned for Phase 3, during autumn 2018 and will continue into Phase 2. C16.3 focuses on communicating and branding the Climate Ribbon's vision for innovative solutions, and the showroom Havnegadeboksen (The harbor street box) consists of visualizations of the ideas, models of the possible solutions, a digital communication in the form of a movie showing one team's suggestions, and a web-based application allowing citizens to participate in urban development and integrated CCA solutions. The box will be open to the public at regular intervals. Educational institutions are invited to participate. The objective is to show what a

storm surge means for the city as it looks today without CCA, but also what the city *wins* by making the right solutions. For C16.4, an initial financial model will be developed during Phase 2 showing how the budget is expected to be divided amongst potential contributors. Moreover, the legal requirements and opportunities for co-financing CCA solutions will be thoroughly investigated. The sub-action includes

- a memo describing the opportunities for different financial models for urban CCA in Randers
- an initial expected financial model for the Climate Ribbon
- a budget for realizing the Climate Ribbon in a light- and a full version, as well as an analysis of the added value gained for each version, and a strategy for the staged development of the Climate Ribbon, showing which stages may be executed first.

After Life: The Climate Ribbon will continuously be developed and communicated as part of The City to the Water. The showroom will stay open for several years.

Target and goals for Phase 2:

Action	**Quantifiable milestones**	**Date by end of**
C16.1	Brief evaluation from study trip published Summary of meeting on implementation of CCA measures	31/12 2020 31/12 2020
C16.2	Publication of summary report "Climate Band Competition" Website online and updated	01/01/2019 15/07/2019
C16.3	Evaluation of the collaboration with schools and college students	31/12 2019
C16.4	A masterplan for The City to the Water with CCA integrated into urban development An overall and long-term strategy for the CCA of Randers City and Randers Fjord Investigation of expected model for financing the Climate Ribbon and related CCA measures	31/12/2019 31/12 2020 31/12 2020

6.2.17 Action C 17: Thyborøn City and Habour

Beneficiary responsible for implementation: Lemvig Municipality

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
C17.1. A detailed investigation and/or surveillance program for monitoring groundwater levels, pollution and land subsidence in Thyborøn and Harboøre Tange provides and essential insight in the actual development.

C17.2 Creates broad support from the public and from businesses for the project and climate protection of Thyborøn general.

C17.3 Results in development of a flexible pipeline, which has a long life expectancy in a sub-terrain influenced by local land subsidence.

C17.4 Provides additional funding and financing possibilities for CCA.

Achieved results:
In Phase 1, a detailed mapping of the terrain-near groundwater level (GWL) and rates of ground subsidence is completed.

- Report historical old factory, Appendix C17.a - link
- Report historical Rønland, Appendix C17.b - link

GWL is monitored via 10 strategically located GWL wells, and the subsidence is based on land surveyor measurements for every third year since 2006. The subsidence rate is mapped in collaboration with SDFE by satellite data under the Copernicus Programme, 3 reflectors have been established in Thyborøn as fix points for the satellites. The rates are measured every 6 days. The GWL monitoring programme is assessed as sufficient; however, it has been necessary to re-calibrate the wells in Thyborøn for data collection to 3Di modeling of the town.

A tendering process was run on the development of a simple integrated dynamic hydrological model incl. a monitoring programme, however, none of the Danish companies was able to deliver a simple and user friendly model, whereas the C17 partners decided to collaborate with the Dutch consortium 3Di Waterbeheer. Furthermore, a public meeting and two meetings with local stakeholders was held in Thyborøn, and an outline proposal was presented for Reladania's Regn & Byer [Rain & Cities]. A comprehensive and systematic document review of soil contamination at Cheminova is completed and the documents are gathered in a digital database.

A satellite reflector used to collect data on land subsidence. 3 reflectors are strategically positioned in Thyborøn and data are continuously collected.

Effects of a cloudburst in Thyborøn illustrated in the complementary project "Regn & Byer".

Evaluation:
We had in C17.1.1 no significant challenges. The task was found best solved internally.

In C17.1.2 about establishing a detailed monitoring programme of GWL and subsidence in Thyborøn, we see, that no further GWL logging of wells is necessary. Calibration of 3Di to measurement results from wells is necessary.

A overview of existing data of contaminated soil at Cheminova is completed, and a database with search function is developed.

Meetings and workshops with decision makers, stakeholders and citizens is initiated. The stakeholder involvement progresses as planned.

Action and budget modifications:
In Phase 2 model development in collaboration with 3Di continues. Knowledge sharing with C18, on the interaction between high tide and rising groundwater level. Initiation of C17.3, an innovation action in collaboration with knowledge institutions and private actors on development of methods to expand the life span of pipes in risk areas of land subsidence. C17.3 is linked with the complementary project SASLO (Satellite Data used for Strategic Surveillance of Pipelines) with Lemvig Utility as lead partner. The focus of C17.3 on flexible pipes in the Grant Agreement is altered to development of methods to expand the life span of pipes in risk areas of land subsidence. The flood risk analyses is applied as background information for the municipality to aid mobilization of stakeholder groups incl. citizens for defining common solution with a fair distribution of costs.

10,000 Euros are moved from external consultants to other costs in Phase 2. The C17 partnership is dependent of 3Di software license for the remaining project period, the costs are 5000 euro/year, thus the estimated expenses for external consultants are reduced with this amount.

After Life: The partnership is in close contact with local stakeholders during the entire project making sure that a common solution to climate challenges will be realized and operated in the future.

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by end of
C17.1	Reporting on dynamic CCA model delivered, incl. modelling on contaminated areas at Harboøre Tange	31/10/2019
C17.2.	2nd large citizens meeting done 2nd workshop for stakeholders and decision-makers done 3rd large citizens meeting done	30/06/2019 31/12/2019 31/12/2020
C17.3.	Reporting on development of methods	31/10/2020
C17.4	Counsellor contracted for assistance with preparation of material for architectural competition	30/11/2020

6.2.18 Action C18: Citizen-driven CCA in Juelsminde

Beneficiary responsible for implementation: HEDKOM.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
The data loggers and the ongoing monitoring will result in data and insight in the actual interaction between the sea and the groundwater in Juelsminde and between Juelsminde and Glud Håb. 500-600 hectares of land screened.

The local organising in Juelsminde will result in increased social resilience through establishment of a new dike association and the creation of a shared understanding locally of the challenges and mobilizing local front runners. 5000 citizens involved. The Advisory Committee contributes with best practice knowledge on citizen involvement and recommendations and the methods applied are communicated.

Achieved results:
C18.1: An initial analysis of the most appropriate placement of measuring sites and sensors for monitoring the risk of rising groundwater after high tides area was carried out. The analysis included geological, property and legal issues. Permits from land owners and from the national coastal directorate were obtained in the preliminary phase. Soon thereafter data loggers were purchased.

C18.2: The project was presented to representatives of local cottage associations in March 2017, and an initial analysis for establishing a dike association in Juelsminde was completed. The new dike association will include app. 1150 properties. A short filmstrip presenting the project area was made, and presented at the kick off meeting the 30th of March 2017. In order to ensure local commitment to climate adaptation in the town of Juelsminde, the preliminary work focussed on ensuring the reliability of the Municipality of Hedensted as a partner. A collaboration between the Fire Brigade of South-east Jutland and HEDKOM was set up to establish a preliminary protection of Juelsminde to a level of 1,8 metres above sea level prior to the coming fall season of storms and high tide. E.g. a mobile coastal protection system was bought, and tested by the end of 2017. Juelsminde is now secure up to 1.80 above sea level, and the basis for local commitment to further climate adaptation provided. Based on experience meeting with the Coastal Directorate, HEDKOM estimated that HEDKOM does not have the necessary skills for the successful completion of C18.2. The process for establishing a new dike association was put on hold. Consideration for reorganizing C18.2 was carried out. Inspirations taken in Lemvig and in Holland during the study trip have enabled HEDKOM to decide on a reorganization of C18.2. The process for establishing a new dike association were resumed by the end of 2018,Appendix C18.a - link. By the end of 1st phase, HEDKOM produced / required a time and process plan approved by the political committee for leisure and community, and a draft proposal for protection of Juelsminde was delivered. The draft proposal is necessary to start the process due to applicable legislation. A process description for establishing a new dike association was developed by the end of 1st phase. A local steering committee expected established in the very start of 2nd phase. A communication plan expected developed shortly after, and the new dike society still expected established by the end of 2019. As the first part of dissemination for C18 HEDCOM has

mediated experiences and C2C C18 considerations about coastal protection, establishing of dikes and dike associations at conference held by The Danish Coastal Authority in fall 2018.

Evaluation:
C18.1. The loggers are established in two areas by the Juelsminde coast, and the loggers are up and running. We had a few breakdowns of data loggers, and a few loggers are flooded at high tide. Nevertheless we see a clear affect from tide on the ground water level at this time. The monitoring is not complete; caused by the break down and the flooding. The technical reports on data collection and data processing are therefore postponed to Phase 2.
A clear affect from tide on the ground water level is already observed.

More data needed before for the technical report will be made.

The basis for local commitment to further climate adaptation is provided. Consideration for reorganizing C18.2 was carried out. The process for establishing a new dike association were resumed by the end of 2018.

Establishing a new dike association is planned for phase 2.

Action and budget modifications:
Resources are moved from C8 in Phase 1 and 2, respectively. It was assessed that external assistance was needed for development of a conceptual design of the solution and communication with stakeholders prior the process of establishing a dike association. Furthermore, more resources was needed to capacity build on cross-sectoral competences internally in the project group.

After Life: HEDKOM expects that the new dike association after the Life project will be responsible for planning, designing and construct the future flood protection of Juelsminde. HEDCOM expects to have a role as a dialogue partner, and to contribute with advice and guidance.

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by end of
C18.1	Continued monitoring and verification of hydrological model for C18.1 done Midway evaluation. First tool for local use is prepared.	31/07/2019 31/07/2019
C18.2	Dike association created Evaluation done of local organisation for climate change adaptation and development in Juelsminde related to the three main challenges	31/12/2019 31/12/2020

Drillings made and data loggers established

6.2.19 Action C 19: Sustainable Urban Drainage Systems

Beneficiary responsible for implementation: SAK

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
Hydrologic modelling with different scenarios: zero-alternative, coupled events between heavy rains and storm surge, and climate scenarios provides background knowledge for the demands of the SUDS' design. Engagement of local stakeholders benefit with knowledge on locals' use of the area and aspects that benefit added value for the local community. Furthermore, conceptual designs for: SUDS at Tranebjerg, the area around Samsø Golf Course and Besser Made, rainwater retention and coupled events at Ballen will be made. This results in a truly holistic CCA project combining usage of town and hinterland in an integrated solution, that also make nature restoration possible.

Achieved results:
A video (https://youtu.be/9MDLHL4EBOk) that presents C19 was produced and presented at the kick off conference on the 30th of March 2017.

Already in the early stages of the project, there was an interest in moving one of the deliverables "Report of conceptual design for the area around Samsø Golf Course and Besser Made", from Phase 2 to Phase1. The process has however progressed in a way where political focus has shifted which has been defining for the momentum. The elected politicians still have a significant interest for the activities within C19, but the prior mentioned activities won't be finished within phase 1 as anticipated. At the same time a positive momentum has occurred amongst landowners in the area and they are also interested in the project. In the Q2 of 2017, the hydraulic analysis was initiated for the upstream area to Besser Made.

Furthermore, an AP graduate in Agro Business and Landscape Management worked with a conceptual design documented in a report. The report provides as basis for further discussions on, whether the creation of drainage branch of Sørenden and further into a watercourse on Samsø Golf Course, associated with an artificial wetland, is an option and if so how the course and wetland should be placed.

In regard to dissemination, the project manager attended the ECCA 2017 in Glasgow with a presentation of C19. The inspiration and learnings from the conference influenced on the development of the C19 activities.

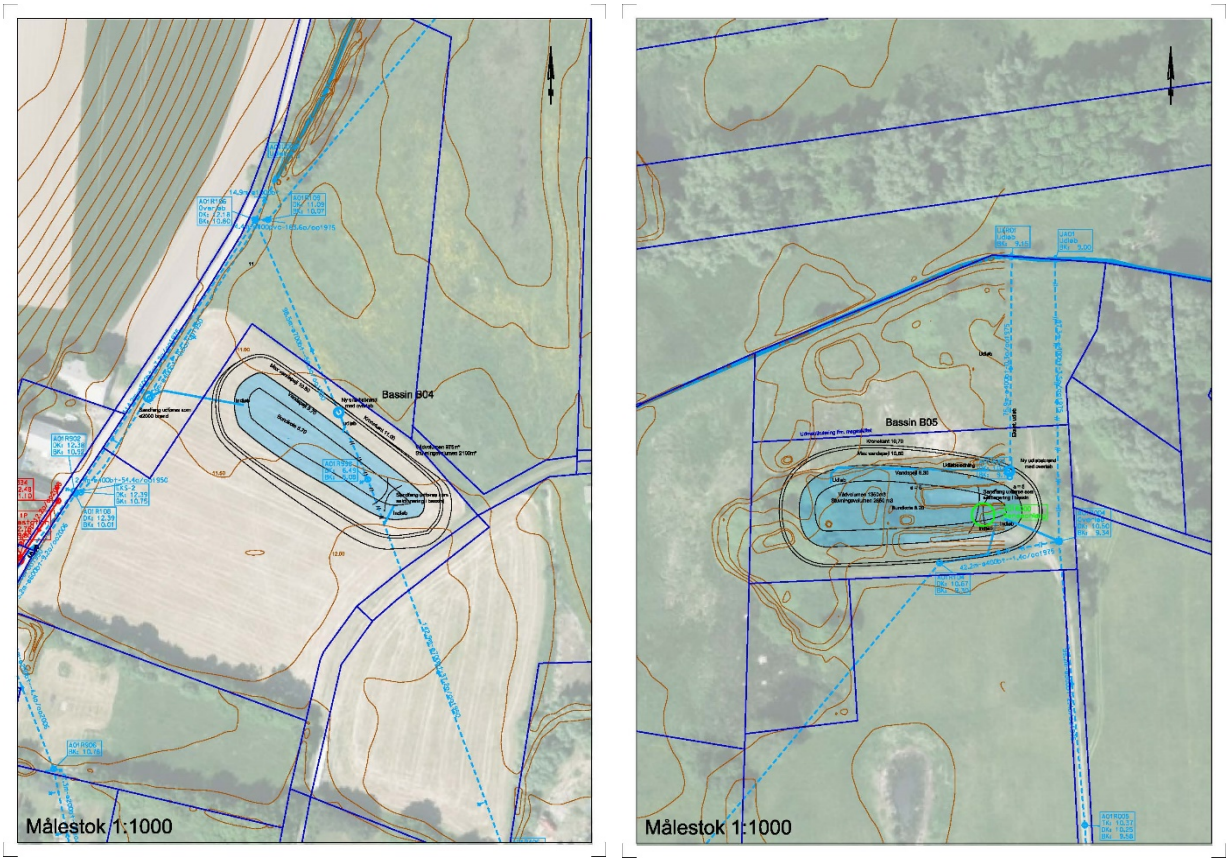
The hydrologic analysis was completed summer 2017 (link, Appendix C19.a) with a hydraulic model as a premise for initiating Phase 2. In addition a geographical screening for site location of SUDS at Tranebjerg was completed prior to a stakeholder analysis.

Stakeholders were invited to a workshop in November 2017 (link, memo in Appendix C19.b), where four SUDS projects were identified and attention points were notified by stakeholders. A tool to solving this puzzle could be a plan that uses the hydraulic model on one project and then use that scenario when concluding on consequences to the other projects. The best use of such a plan is to make a scenario for each project. Then analyze and compare data in the different scenarios in order to have the best foundation when making a decision of which

project to realize first. Another focus has been the network methodology to use in the process with the stakeholders.

In the late fall of 2018 the municipality has been producing the proper documents for the purpose of inviting consultancies to a competitive bidding regarding the work on a hydraulic masterplan based on the above mentioned hydraulic analysis.

In September 2018 the partnership of C2C CC had a partnership meeting at Samsø. Then all the partners and the monitors had the opportunity to see and hear more about the work on the island regarding C19.



The two planned retention ponds in Tranebjerg Mose.

Evaluation:
Action C19.1 was completed ultimo 2018 as planned. These adjustments have been discussed and approved by the project management.

Action and budget modifications: Actions 2 and 3 are moved to Phase 2. Action 4 has been moved to Phase 1 but yet to be concluded.
At Samsø Municipality, the calculated budget for Phase 1 was too low. Therefore, the estimates for Phase 2 has been corrected and adjusted due to the progress of C19 in Phase 1.

After Life: The actions above will be contributing to a significant foundation for the further process of raising the funds to realize the individual subprojects.

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by end of

C19	Preliminary investigations and initial stakeholder involvement done Technical background report for modelling finalized Hydraulic modelling for Ballen incl. zero-alternative, coupled events and climate scenarios done. Conceptual Design for Ballen finalized. Tender material finalized.	30/06/2019 30/06/2019 30/06/2020 31/12/2020 31/12/2020

6.2.20 Action C20: Aqua Globe

Beneficiary responsible for implementation: Skanderborg Utility a/s (SFV)

Foreseen start date: 01.01.2017 ***Actual start date:*** 01.01.2017
Foreseen end date: 31.12.2018 ***Actual (or anticipated) end date:*** 31.12.2018

Expected results:
Establishment and opening of AquaGlobe.Hot spots park is established and open for visitors incl. the 'water school'. Knowledge sharing, networking and innovative initiatives between business and research stakeholders.

Achieved results:
Aqua Globe established, open and generally in good progress. The vision is strong and attracts commercial players, education and research institutions, associations, local, regional and public authorities and opinion formers. A concrete manifestation of this is the success of attracting partners, in form of 15 partnership agreements (no goal for amount of agreements in the project application). Another manifestation is the hosting of a wide range of water related visits and other events to Aqua Globe, in form of 77 visits/events (no goal for amount of visits/events in the project application) with a total of 5.024 visitors/participants (goal for amount of visitors/participants in the project application: 1.000). (Link, Appendix C20.a)

Deliverables:

- Online and off line teaching material, link Appendix C20.c
- Summer school – Advanced Water Cycle Management Course, link, Appendix C20.d
- Innovation Camp, link, Appendix C20.e
- Description – AquaGlobe as Water School, link, Appendix C20.f
- Description – AquaGlobe as Water Academy, link, Appendix C20.g

Evaluation:
Aqua Globe is a potential magnet of water technology co-working. The use of Aqua Globe by other C2C CC projects is so far limited. The reason for this is primarily no push from other projects to use AquaGlobe, secondarily limited pull from AquaGlobe to attract other projects.

Phase 1 has led to successful on-boarding of partners, individually and as a collective. Partner-utility concrete collaboration is paramount in the near future, to establish quantitative/qualitative results of partnerships giving increased ownership.

Funding has been more difficult than expected, as a result of lack of success with formulating application with partners and other stakeholders and the prioritization of other more critical tasks.

Local municipality ownership is essential. AquaGlobe has not succeeded in establishing this by the end of Phase 1. Efforts will continue beyond Phase 1, on municipality top-level, followed by fundraising of external funding (self-financing is found).

Concept description elaborated based on concrete school visits and dialogue. Strong experiences from relevant other concepts are very useful. Beyond Phase 1, a trial-and-error approach will be implemented in school visits combined with fundraising of external funding with the help of AquaGlobe partner (VIA University College).

Higher education institutions and partners are both equally relevant. Beyond Phase 1, a trial-and-error approach will be implemented, and the completion of first Master Class initiated by Aqua Globe partner (AVK) will be followed very closely.

Concept for Innovation Camp is elaborated based on pilot project evaluation. Expectations are high for payoff. A more adequate business model is implemented in the months following the ending of Phase 1.

Visitor concept is elaborated in close collaboration with partners and based on numerous partner visits. Water Visits are strongly associated with the sub-action Demonstration System and implementation of partner agreements. Water Visits by especially one AquaGlobe partner (Kamstrup) has been very successful and will be extended to other partners beyond Phase 1.

Demonstration System concept is elaborated. Demonstration System is strongly associated with the sub-action Water Visits and implementation of partner agreements. Pilot projects is being completed with two AquaGlobe projects (Stjernholm and Suez) and will be extended to other partners beyond Phase 1.

Test and Prototyping concept is elaborated. Test and Prototyping is a second wave implementation of partner agreements, following Demonstration System and Water Visits. Further actions awaits progress on these two areas.

The opening ceremony of AquaGlobe, here Mads Nipper from Grundfos gives a talk.

The public opening outside AquaGlobe

Action and budget modifications: In Grant Agreement, there are no activities planned for Phase 2.

After Life: Further activity of AquaGlobe in the C2C CC after Phase 1 depends on availability of external funding to and internal resources of Skanderborg Utility a/s, combined with overlap of goals of the utility and the C2C CC. AquaGlobe senses a clear positive interest in the C2C CC to continue joint activities on this background.

Nonetheless the future role of the AquaGlobe – C2C CC colaboration, AquaGlobe understood as a partnership with 15 stakeholder/partners, will continue, expand and strengthen its activities in the coming years, beyond Phase 2/3, given the good start and the expected positive results in the following months and years.

Target and goals for Phase 2: No eligible activities in Phase 2 and 3.

6.2.21 Action C21 – Climatorium

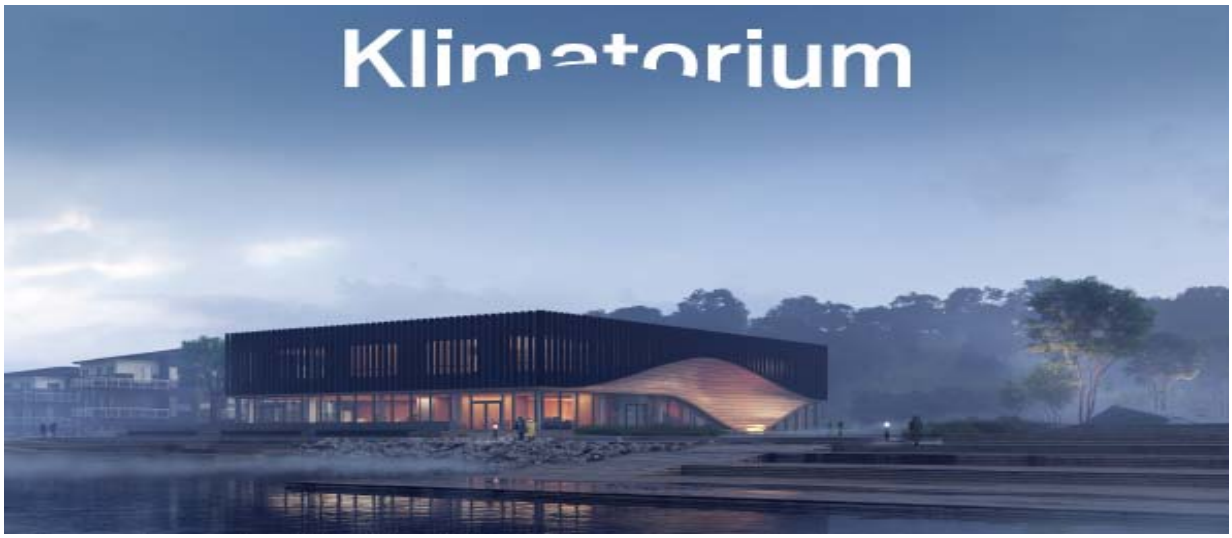
Beneficiary responsible for implementation: Lemvig Utility

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12-2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
The Climatorium expects to facilitate a minimum of 10 companies and organizations situated in the house. The activities of the house and the companies businesses will create 50 new jobs. All companies and organizations have a product, event or a process to present and exhibit for awareness raising and attraction of corporate tourism. That at least 3 new CCA products or methods are produced by the companies in the Climatorium by December 2020. At least 6 new CCA products or methods are produced by December 2022. The Climatorium attracts 10.000 climate tourists per year.

Achieved results:
During 2017 a tender was run on client consultancy, which was won by Niras. Niras in cooperation with LVS carried out a feasibility study, involving companies, educational environments, citizens and other stakeholders. On the basis of the feasibility study, the tender documents were prepared, and an architectural competition was run during the spring of 2018 on total consultancy. 20 proposals were submitted, whereas 3XN together with Orbicon won.

In the autumn of 2018 and beyond in Phase 2, work is being done on detailed design of the building and its contents. Already now, the following research projects have been launched; Geophysics in Filters, Bachelor's project on optimization of water distribution networks, ground subsidence, PhD thesis "Coastal Floods - Assessment Climate Impacts to Provide for Long-Term Planning and Adaptation", internship collaboration with AAU Master's degree student in techno-anthropology, VUDP and SASLO projects on strategic satellite monitoring, collaboration with New Zealand on climate adaptation solutions.



Architectural illustration of Climatorium

Evaluation:
The project is progressing according to schedule.

A feasibility study of tourism documented in a report as planned. Appendix C21.a - Preliminary Analysis.

The list of potential companies and knowledge institutions are dynamic, and the C21.2 action continues.

A conducting report with feedback from interviewees on their interest in the Climatorium and a list of potential companies which have expressed interest as tenants is initiated and will be completed in Phase 2 as planned.

The design criteria for the purpose of the house and conseptional design is documented in reports finalized in august 2018. (link to Design Criteria, Appendix C21.b and Presentation of Climatorium, Appendix C21.c.

Preparation of design criteria of the innovation house incl. tenants' commitments, knowledge sharing measures and climate features has started and is ongoing and further developed during the design and construction phase as planned.

Preparation of conceptual design incl. climate features, design and construction costs is under development and continues throughout the design phase.

Action and budget modifications: No changes

After Life:

- The Climatorium expects to facilitate a minimum of 10 companies and organisations situated in the house. The activities of the house and the companies' businesses is expected to create 50 new jobs. All companies and organisations have a product, event or a process to present and exhibit for awareness raising and attraction of corporate tourism. That at least 3 new CCA products or methods are produced by the companies in the Climatorium by December 2020. At least 6 new CCA products or methods are produced by December 2022. The Climatorium attracts 10.000 climate tourists per year. Climatorium will, as an international R&D hub create the physical create a physical arena for Danish and international projects and the knowledge development within water and climate that operates in a network related to water and climate projects in Central Denmark Region, the EU and the rest of the world.
- As an R&D hub, Climatorium is an international research and development center, that is part of several networks that collect, develop and exhibit knowledge. A main goal with the project is to increase the innovation power through interdisciplinary interaction across organizations and across generations. This for the purpose to create jobs and develop solutions for water and climate challenges. The project will create a cooperative and development hub for several actors with different approaches to development within water and climate. The idea is that synergy between business, research and education adds value to both local and global climate-related projects and challenges.

Actions and goals in Phase 2

The above mentioned tasks will be finalized before the building are erected in Phase 2.
The building will be erected and operational, without the support of the LIFE program.

6.2.22 Action C22: Infiltration of surface water through permeable coating

Beneficiary responsible for implementation: HEDKOM.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Espected results:
C22.1: The workshops ensures that BAT is used for the establishment of the climate road. The climate road is constructed and in function. Infiltration test and purification tests provide detailed knowledge on the effectiveness of the road as a SUDS. Possibilities for geothermal/cooling potential is investigated.

C22.2 Results in awareness raising among politicians on climate change and CCA solutions in dense urban areas, recommendations for authorities and broader communication. This is coordinated with the C2C CC PM unit. The results will also benefit with applications for complementary projects.

Achieved results:
The climate road was established during 2017 and was officially opened in March 2018. In Q2 2017, the tender for the climate road was finished and HM Entreprenør won with a fair price within the C2C-CC budget. In Q3, 2017 the construction of the climate road started. A total of 50 m of road were built using 2 different permeable surfaces. 25 m with permeable asphalt and 25 m with normal asphalt but with special draining along the sides of the road. In the roadbed a geothermal heating/cooling system is installed with a total length of 800 m that heats up the nearby kindergarten, Børnehuset Lille Dalby. The surface water is drained to a nearby basin. In order to monitor the contamination, two wells were established incl. 2 flowmeters to monitor differences between the two different types of climate roads, see figure 1. At the kindergarten a Davies Weather station is established to achieve continues local climate. In Q1, 2018 the permeable asphalt was tested and found unsuitable and new asphalt was added. Hereafter the permeable asphalt performs well with respect to infiltration.

The infiltration capacity of the roads was tested 5 times and a good baseline is established. The road performs very good geothermally providing 80 % of all the kindergartens energy consumption from March to October, 2018. The purification tests are not yet initiated partly due to a delay in the construction of the wells and partly due to a very low amount of rain which affects the validity of the results. Thus the baseline for the purification tests will be started in Q1, 2019.

To date, more continuously data is needed before any conclusions can been drawn.

In Q2, 2018 a workshop was held at Hedensted Municipality in which the results and knowledge from this project was shared. Furthermore, C22 has been presented internally at the C2C-CC project as well as externally at national and international conferences.

Evaluation:
The road is established according to schedule. Q1, 2018 the permeable asphalt was tested and found unsuitable and new asphalt was added. Hereafter the permeable asphalt performs well with respect to infiltration.

Monitoring was initiated in Q4, 2017 incl. infiltration tests, purification tests and the performance of the geothermal system. More work is needed – rescheduled to Phase 2.

The results from the monitoring programme are continuously evaluated with respect to the roads infiltration capacity and the performance of the geothermal system. More work is needed – rescheduled to Phase 2.

A workshop with stakeholders and knowledge institutions is completed according to time schedule.

There is widespread interest in the solution. It replicates several places in Denmark and outside the country's borders, eg in New Zealand. A large group of New Zealanders visiting Denmark for a week to hear more about the work on climate adaptation and the ordinary Climate and Climate Road. a visit report, Appendix C22.a - link has been prepared.

Furthermore, the climate road has been described in newspapers, articles and television. The presentations are uploaded in MidtRum. Dissemination in public media: TV-Syd, TV2News, TV2, DR1, Vores vejr, P4, Horsens Folkeblad, and in professional media: Teknik og Miljø, Beton, Licitationen, ProfViden. In addition C22 was selected as one of the 100 best climate solutions in Denmark.

In Phase 2 a PhD study starts concerning cleaning of the surface water.

Action and budget modifications: C22.1.3-5 and C22.2 continues in Phase 2.

C22.1 will have expenses for external expert consultation in connection with the establishment of the climate road. Expenses for data monitoring and analysis are expected to be DKK 75,000 based on inquiries. HEDKOM and VIA will contribute by providing advice, holding workshops and if required, help with C2C CC actions related to C4, consulting and guidance in connection with the construction phase, monitoring, data processing and the interpretation of data. VIA University College will contribute with 2,000 hours. Person hours are calculated on the basis of actual payroll + pensions, etc. The transfers in the budget from Phase 1 to Phase 2 is as follows: C22.1.1: 6800 and 9975 euro is transferred from Phase 1 to 2 from F1 Staff and F4c prototype, respectively due to the delay in establishing a baseline for the purification tests. The 9975 euro will cover expenses to water analysis and the ongoing monitoring of the geothermal- and infiltration potential. C22.1.2: 5000 euro is transferred from Phase 1 to 2 from F1 Staff to continue monitoring. 20000 euro is transferred from Phase 1 to 2 from F1 Staff to make an overall report on climate roads together with multiple collaborates e.g. the private sector. Regarding C22.2, it is expected that Hedensted Municipality and VIA University College will contribute by providing information, reporting and meeting activity in collaboration with politicians and stakeholders. VIA University College will contribute by providing information, preparation of complementary projects, reporting, planning of workshops and the final conference. As the project and the stakeholders involvement has been more time consuming for Hedensted Municipality than believed, the budget from Phase 2 and 3 is transferred to other C2C-CCs projects Hedensted Municipality is involved in.

After Life:
A Ph.D. project working on the purification evaluation of climate roads will be started in Q1, 2019 together with other C2C-CC partners.

Hedensted Municipality and VIA University College is writing on a research project concerning climate roads and their use where the knowledge and results from C22 directly is used. The project is hopefully running from Q2, 2019 to 2022. The goal of the project is to create a climate- and energy resilient residential area using the principles of the climate road.



Photos of the Climate Road

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by end of
C22.1.1 C22.1.2	Report on recommendations prepared in connection with the establishment of the climate road Third season monitoring results are evaluated and reported.	31/12/2019
C22.1	Guidelines and recommendations are finalized – moved to phase 3. No need to stop monitoring before it is necessary Results presented on two workshops and one conference Report on recommendations prepared in connection with the establishment of the climate road	31/12/2020 31/12/2020 31/12/2020 31/12/2020
C22.2	Recommendations to the municipalities and stakeholders prepared in report	31/12/2020

6.2.23: Action C23: Potentials for increased infiltration in new urban areas

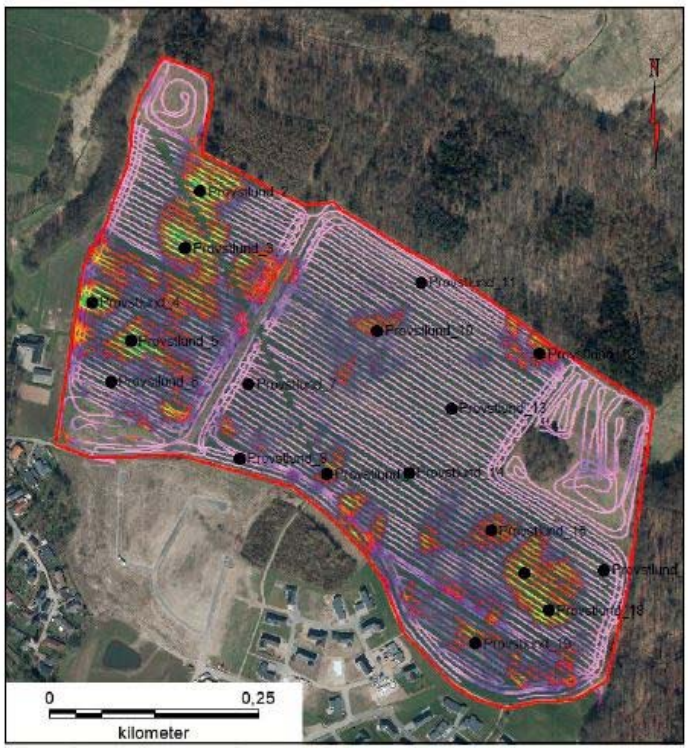
Beneficiary responsible for implementation: Horsens Municipality

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
Defined methodology on the correlation between soil type and infiltration potential to be replicated in Denmark and Northern EU. App. 320 infiltrations tests. App. 250 hectares geophysical mapping. App. 100 hand drillings and soil samples descriptions. Full overview of infiltration potentials in Horsens municipality. Integrated municipal plan in Horsens on how to use infiltration for future urban development.

Achieved results:
In Q1 and Q2, 2017 a total of 80 Ha was mapped with high-precision geophysics. This was followed up with 100 drilling and infiltration tests in Q3 and Q4, 2017. In Q1, 2018 all lab work with the soil samples from mapping campaign was finished. In Q2, 2018 the tender for the next fieldwork (170 Ha) was won by NIRAS.

Evaluation:
Due to bad weather conditions no fieldwork has been conducted in Q4, 2018. Infiltration tests and drillings for the remaining 170 Ha. follow in Q4 2018 and Q1 2019. The lab work for the remaining drillings are conducted in Q2 and Q3, 2019 (Phase 2). Hence, all the reports from C23.1 are postponed to Phase 2 when the field- and lab work is finished. More work is needed – rescheduled to Phase 2



Resistivity map showing the interval 0.5 to 1m b.t.

Pictures from field work related to infiltration tests (left) and soil samples (right).

Action and budget modifications:
Remaining lab work and reporting from C23.1 is finalized in Phase 2. C23.2 and C23.3 are initiated as planned in the beginning of Phase 2.

C23.1 will have expenses for external expert consultation with respect to geophysical mapping as well as for the lab work. Expenses for external consultation with respect to geophysical mapping as well as for the lab work are expected to be 11,000 and 12,100 euro in total. Horsens Municipality and VIA will contribute by providing advice, holding workshops and if required, help with C2C CC actions related to C4 and C6, consulting and guidance in connection with the construction phase, monitoring, data processing and the interpretation of data. VIA University College will contribute with 600 hours and Horsens Municipality with 50 hours. Person hours are calculated on the basis of actual payroll + pensions, etc. The transfers in the budget from Phase 1 to Phase 2 is as follows: C23.1: It is expected that Horsens Municipality and VIA will contribute with advice, execution of drillings, data processing and the interpretation of data. HORKOM will contribute with 80 hours and VIA 420 hours. The lab work for the remaining drillings will be conducted in Q1 and Q2, 2019 (Phase2). Hence, all the reports from C23.1 are postponed to Phase 2 when the field- and lab work is finished. Hence, 31800 euro is transferred from phase 1 to Phase 2 from F1 Staff due to the delay. Furthermore, 2000 euro is transferred from Phase 1 to Phase 2 from F2 Travel, and also due to the delay 7,710 euro and 12,100 euro are transferred from Phase 1 to Phase 2 from F3. All the transfers from Phase 1 to Phase 2 will cover the missing deliverables from C23.1, Phase 1. For Horsens Municipality transferred from Phase 1 to Phase 2: 1,682 euro is transferred from F1 Staff, 429 euro is transferred from F2 Travel and subsidience cost, and 1000 Euro is transferred from External assistance cost. For C23.2 HORKOM and VIA provides information, reporting and meeting activity in collaboration with stakeholders. For C23.3 HORKOM and VIA further provides planning of workshops and the final conference.

After Life: Not relevant at this time of reporting.

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by end of
C23.1,1 C23.1.2	Report on quantitative clarification of the individual deposit's infiltration capabilities finalized.	31/12/2019
	Report on quantitative correlation between the geological descriptions from the drillings and the deposits' infiltration capabilities finalized	31/12/2019
	Report on quantitative correlation between the deposits' electrical resistivity and	31/12/2019

	infiltration capabilities done. Infiltration potential map for the urban development areas done. Full overview of infiltration potentials in Horsens municipality finalised. Integrated municipal plan in Horsens on how to use infiltration for future urban development drafted	 31/12/2020 31/12/2020 31/12/2020
C23.2	Meetings with 200 stakeholders done One field trip to selected sites done Stakeholder integration of 200 stakeholders done Workshops held and working groups met. Recommendations prepared for stakeholders	31/12/2020 31/12/2020 31/12/2020 31/12/2020 31/12/2020

6.2.24 Action C 24: Climate history | Culture history

Beneficiary responsible for implementation: Aarhus University (AU)

Foreseen start date: 01/01/2017
Foreseen end date: 31/12/2022
Actual start date: 01/01/2017
Actual (or anticipated) end date: 31/12/2022

Expected results:
In Phase 1 elements from all three sub-actions were carried out: C24.1 Landscape use and settlement patterns in the early Holocene in Central Jutland, C24.2 Storm surges and tsunamis along the Central Jutland coasts in historical, landscape- and geo-archaeological perspective, and C24.3 Citizen-near storytelling and marketing of coupled culture and climate history

Achieved results:
Work is ongoing in all three sub-actions; the exact timing of the sub-action activities have been subject to contingent changes but are overall in time. We are currently in the data-review period, and most of our deliverables are scheduled for Phase 2. We are, however, already working on a number of the dissemination actions. In contrast, the digitization of historical maps has proven more difficult than expected. Some constraints have been experiences during Phase 1. Firstly, we have not been able to establish a cooperation with historiskatlas.dk, as we had hoped. This means that a bigger part of our public outreach will shift to Danmarkshistorien.dk. Secondly, the order of our actions within C24 has been altered. At the time of writing, we are further along with the exhibition and dissemination than we had planned: The first deliverable (via danmarkshistorien.dk) is published and the exhibition in the AquaGlobe (C20) is scheduled to open in early 2019. (Link to article at danmarkshistorien.dk)

There has been less focus on climate tourism in Phase 1. Note also that exhibition planning at the Climatorium (C21) is incipient as this is not scheduled to open before 2020. Additionally, we may experience a potential workload bottleneck when the currently employed C24 staff contract ends in the autumn of 2019. This bottleneck could affect the scheduled exhibition at the Climatorium. It has been agreed that, if necessary, the C2C CC secretariat must help get the exhibition ready. An alternative solution is a exhibition at AquaGlobe.

Evaluation:
Employment of research assistant for the project is achieved with a small delay on November 1st 2017. The delay had no effect on the overall timeline of the project.

Exhibition on climate|culture history and rainfall patterns in Central Denmark Region and workshops relation to content of exhibition is under development, Planned to take place in Q2 2019 at AquaGlobe C20.

The first article published on Danmarkshistorien.dk. Strong interest in the subject leading to more upcoming articles on climate history on popular science platforms, in a continuously developing theme on Danmarkshistorien.dk.

We are experiencing strong interest in the subject leading to more upcoming articles on climate history on popular science platforms, in a continuously developing theme on Danmarkshistorien.dk.

The data review is going to plan and following the planned schedule.

The four field walking sessions have been conducted during the autumn of 2018. Håb til Håb, C8 are carrying out workshops and setting up working groups with participating from the tours. First workshop conducted. The field walking sessions were well-attended by local and engaged citizens. The subsequent workshop was also well attended.

C22 has provided several international dissemination activities for example, in connection with IWA2018 in Tokyo and on visits from New Zealand.

Action and budget modifications: There has been one change to the budget. The salary allocated to the VA in phase 3 has been moved to salary in phase 2. Other than that, no change from Grant Agreement.

After Life: The two deliverables on a climate tourism brochure and the teaching materials for high schools could be continually used and developed after the end of the project.
The exhibition on environmental history could potentially go to other interested museums in CDR and beyond.

Target and goals for Phase 2:
The C24.2 Milestone 1.II has been cancelled because we were not been able to establish a cooperation with historiskatlas.dk. Instead we are upscaling our publication efforts on Danmarkshistorien.dk

Action	**Quantifiable milestones**	**Date by end of**
C24.1	Milestone 1.II – data review complete (30/6/2019)	30/6/2019
C24.3	Milestone 1.II – Workshop 1: Coupling of cultural and natural history in the Region	1/6/2019

6.3 Monitoring Actions – D Actions

In this section we report on Action D1-D4.

6.3.1 Action D1: Monitoring the project's contribution to the implementation of the CCA plans

Beneficiary responsible for implementation: CDR

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
This action contributes to the IP objectives to demonstrate and document effective and well-coordinated implementation of an action plan. The expected results of the sub-actions are stated below. Action D1.1 and D1.3 contributes to document the effect of the IP's impact on catalysing the process towards full implementation of the CCA plans.

The PM unit will follow the implementation of C2C CC actions and the implementation of the municipal CCA plans. The monitoring actions of D1.2 will verify the novelty and replication potential of the pilot projects C13 and C22. In relation to the C2C CC conferences it is expected that at least 25 % of the participants will hand in a questionnaire, and for the C2C CC workshops that 50 % of the participants will hand in a questionnaire. It is further expected that the monitoring of the developed tools C6 and C22 will be used by at least 50% of the municipalities.

Achieved results:
Over all we can observe that already at the end of phase 1:

- Cross-cutting cooperation provides more and better climate adaptation
- In Central Jutland work is done:
    - more holistic
    - more with multifunctional solutions
    - to a lesser extent with sub-optimization / local solutions
- The project's focus on climate adaptation creates a higher level of activity
- Uniform tools provide:
    - interaction on coherent scenario work
    - common high quality preparedness
- Connection to the SDGs
- Great interest in learning:
    - to arrange and apply cross-collaborative collaborations
    - to learn Mutual Gains Approach
- Very positive experiences and widespread use of young people in climate adaptation

Municipal and regional politicians dare to speak more about climate adaptation and see the potentials.
We have that knowledge from partners and stakeholders that we meet during dissemination and networking activities.

The legal set up has changed, recently, by an amendment to the national Planning Act. Flood risk and risk of erosion has been implemented in the Planning Act and a national guidance

was in public hearing in August 2018. The guidance recommends the municipalities to use the CCA plans, but it is not a requirement. The guidance also recommends applying the new climate scenarios, whereas most flood risk assessments of the CCA plans are based on the A1B scenario. The Danish Meteorological Institute has informed that new climate factors to be used in local modeling will be released in 3rd Q of 2019. Monitoring according to the implementation of the CCA plans will be difficult, as we must expect the CCA plans to be integrated into the municipal plans and therefore no longer exist as independent plans.. We instead will monitor in regard to the progress of the actions C1-C24.

Monitoring of C22 is initiated with the following data collection:

- Weather data (temperature, precipitation, etc.) is measured with a Davis weather station with built-in logger. Data is transferred to a PC in the kindergarten's technical room once an hour and reflected in an Onedrive folder every morning at 6:00. Data is in monthly files in Davis' own format as wlk files.
- Heat data is collected by the municipality's supplier (Keepfocus). It is not possible that we can extract data ourselves, an agreement has been made with Niels Abildsteen from Hedensted municipality that he delivers heat production in csv files per email once per month. Data can be delivered to the EU monitors on request.
- A Danfoss ECL 310 collects: ground temperature in the road, input and output temperature in the brine circuit in the road and temperature of domestic water supplied from the heat pump. No online access, Niels Abildsteen pulls data in an Excel sheet every month. Data can be delivered to the EU monitors on request.
- Flow of rainwater discharged from the road is measured with two Kamstrup flow meters, which store data in csv files on PC in the kindergarten's technical room. They are mirrored to Onedrive every morning at 6 am. Access to the folder can be provided on request.
- Hydraulic capabilities have been measured since marts 2018, however, construction work along the road have had the consequence to clog the permeability of the road. It is thus considered to change the coating of the road.

The following monitoring of C22 is initiated in 2019: Discharge concentrations, physical and chemical soil, organic content, and concentration of heavy metals and salt are carried out in collaboration with a Phd. student. The last equipment for monitoring the water balance is set up and is ready to monitor. Properties and porosity is evaluated on two types of asphalt later in the project, and will include collaboration with TI on the writing of recommendations on climate roads.

D1.3: Monitoring of the impact of C1-C7 and C20-C24 on C8-C19 is carried out with questionnaires after all meetings in the partnership. The secretariat has on going contact with the sub projects, and at least once a year, the different PM's are asked if they observe a need for capacity building among their teams.

A list of capacity building and dissemination activities is in Annex 3.

The interest for participating in network meetings and partnership meetings has been high, and is rising. This can also be seen at the annex 3.

A report on this issue is not made in the end of Phase 1, but in short terms it can be concluded, that the PM unit has hired two persons in Phase 1. Both the additional and the non additional

staff has had training and courses in order to build up capacities both in climate change related issues and administrative issues. The picture is similar in the sub projects.

It also can be concluded, that the disseminations activities has been much more, than the PM unit expected when we wrote the application. The interest of the project has been enormous both in Denmark and especially outside the country

Evaluation:
Indicators for added value is postponed to Phase 2 in collaboration with Aalborg University under C5.

Pilot of C13 is not yet implemented, and monitoring is not relevant till Phase 2 or 3.

Monitoring of C22 is already initiated, see reporting for C22.

Questioners are developed and phase 1 monitoring is ongoing. Evaluations contributes to the format of the partner seminars.

Action and budget modifications: Defining indicators for added value is postponed to Phase 2. Baseline is established, however, monitoring related to D1.1 is changed due to the above described law amendment, and will instead focus on the progress of C1-C24. No significant change in D1.2 and D1.3. No related budget modifications.

After Life: Not relevant at this time of reporting.

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by end of
D1.1	Indicators for added value defined	31/07/2019
D1.2	Data from beneficiaries received (Phase 2)	31/6/2021

6.3.2 Action D2: Monitoring of the project's impact on climate objectives

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
The monitoring of D2 will results in documentation of reduced flood risk and carbon emissions by the end of the IP.

Achieved results:
D2.1: To set up the baseline, it has been necessary to contact all the municipalities' GIS departments for them to provide the GIS files behind their CCA plans. It has taken much longer than anticipated. The data collection is completed and is gathered in one WebGIS system: https://rm-vidi.mapcentia.com/app/c2ccc/baseline

A report on baseline data is finalized as appendix D2.a – link.

The data collection shows that the municipalities use different baseline years, different units for damage of value, and not all use the same climate scenario. Some base their maps on hydrological models others on topographical maps, which make it difficult to compare flood events across municipal borders. This underlines the necessity for coordinating flood maps across municipalities. During 2018 new law amendments have been put into force. The authority of the coastline is now a municipal task, and the Danish Planning Act requires implementation of mitigating measures if development is placed in flood risk areas. It is therefore expected that new flood risk maps will be conducted in many municipalities. Furthermore, new climate scenarios have been presented by the IPCC. The Secretariat therefore considers applying other measures for monitoring flood risk than the CCA plans. Furthermore, the Danish Meteorological Institute has invited C2C CC to bring in knowledge as member of a focus group into the development of a national Climate Atlas, a tool being developed to support the municipalities in producing risk maps.

D2.2: In the Grant Agreement, data for carbon emissions in 2015 is provided. Updated data for 2016 and 2017 was ready in January 2019. CDR has collected data from CDR as a geographical area based on a production and consumption perspective, respectively, for every second year since 2007.

Furthermore, the direct impact of C2C CC on carbon emissions is expected to be especially relevant in C10, C12 and C13, which we will follow in Phase 2 3.

Carbon Footprint CO_2 Ton per inhabitant			
Municipality	**2013**	**2015**	**2017**
Favrskov	7,6	7	6
Hedensted	10,2	7,9	8,3
Herning	5,3	4,2	4,3
Holstebro	7,7	6,2	5,2
Horsens	8	7	6,3
Ikast-Brande	8,4	6,9	6,8
Lemvig	2,9	1,9	2,7
Norddjurs	7,1	5,7	6,9
Odder	6,4	6	4,6
Randers	3,6	3,1	3,3
Ringkøbing-Skjern	-1,4	2,8	2,8
Samsø	8,5	-1	0,1
Silkeborg	6,8	8,7	8,8
Skanderborg	5,7	6,2	5
Skive	3,1	4,2	4
Struer	7,2	2,8	3,6
Syddjurs	8,6	6,3	5,8
Viborg	6,6	7,5	6,8
Aarhus	6,7	6,2	4,3

Source: CDR

Evaluation:
The data collection has taken more time than anticipated, however finalized in Phase 1. The municipalities use different baseline years and the maps are difficult to compare across municipal borders.

Action and budget modifications: No budget modifications needed.

After Life: Not relevant at this time of reporting. But it is our intension to continue collecting data in order to keep focus on common goals and development in every municipality.

Target and goals for Phase 2:

No milestones in Phase 2, but we continue collecting relevant data.

6.2.3 Action D3: Monitoring of the project's socio-economic impact (incl. ecosystem functions)

Beneficiary responsible for implementation: CDR

Foreseen start date: 01/01/2021
Foreseen end date: 31/12/2022 and beyond
Actual start date: 01/01/2018
Actual (or anticipated) end date: 31/12/2022 and beyond

Expected results:
D3.1: Employment growth, D3.2: Ecosystem functions/services, D3.3: Media activities and participation levels.

Achieved results:
D3.1 The project management will gather data on employment growth and growth within the tourism sector from existing and acknowledge statistical databases. Baseline is 2017. Reporting will take place by the end of the IP (2022) and after the IP. Regional Development in CDR follows the development of the mentioned indicators on an ongoing basis., but we are waiting with publication until the baseline of the relevant goals has been prepared for the SGDs. This is expected to be ready to work by the end of 2019 / early 2020.

D3.2: The project management will be in dialogue with the beneficiaries of C8-C19 during phase 2 and 3 of the IP in terms of the actions' impact of the ecosystem functions. During the first 6 month of 2019 a student from Aarhus University will perform his final exam assignment for the C2C CC partnership regarding the implementation of the ESS.

D3.3: The project management will monitor add media activities and participation levels in the events that have come about as a result of the Life IP project, see also E actions.

Evaluation:
Initial investigations have been carried out in Phase 1 and are continued in Phase 2. A deliverable in terms of information material on ecosystem services was handed out to the partners on January 17th 2019 is available in MidtRum and at www.c2ccc.eu (Link).

Action and budget modifications: No budget modifications necessary.

After Life: Not relevant at this time of reporting.

Target and goals for Phase 2:

Action	Quantifiable milestones	Date by end of
D3	Coordination with beneficiaries responsible for C8-C19 on assessment of ecosystem service functions done	07/07/2020

6.3.4 Action D4. Environmental monitoring

Beneficiary responsible for implementation: CDR.

Foreseen start date: end of IP	***Actual start date:*** TBD
Foreseen end date: TBD	***Actual (or anticipated) end date:*** TBD

Foreseen: Reporting is foreseen to be initiated at the end of the IP, when the benefits of the implementation of C8-C24 can be monitored in practice.

6.4 Communication actions – E actions

6.4.1 E1 Communications and outreach plan

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017
Foreseen end date: 31/12/2022

Actual start date: 01/01/2017
Actual (or anticipated) end date: 31/12/2022 and beyond

Expected results:
This action results in effective and coordinated communication activities across the C2C CC consortium. The feedback from the various dissemination events are analyzed which provides an understanding of what works well and what has not been as successful as anticipated, and thus make it possible to adjust accordingly. It will further result in well-established communication contacts for effective and rapid media coverage and continues communication of the C2C CC actions after LIFE and during the physical implementations.

Achieved results:
All ready at the first meeting in the partnership end March 2018 we had a workshop on the subject in order to secure broad ownership among the partners to a coordinated communication. Simple main goals were pointed out, and the participants agreed on making a communication strategy together. Facilitated by the secretariat a strategy was made after another workshop.

After a few months it was obvious, that the plan didn't connect with reality. For instance the strategy operated with a number of press releases, but we only made a few of them, because news letters and social media were experienced as much more efficient. There for we updated the strategy according to our experiences. Communication plan in appendix E1.a – link.

It has been a great challenge to get a contribution to the joint narrative from all partners and all actions. The partners are used to present in the local areas, and often they even forgot to mention the C2C CC corporation. The secretariat took the initiative to develop AquaGlobe and Climatorium, as the two beacons they are, to take responsibility together with the secretariat realize the storytelling. In addition, initially, a temporary cooperation with a communication advisor for the entire project has been tried. Based on this experience, we will evaluate and decide how to ensure future promised communication both in the project period and after. But it is obvious, that we need a bigger budget on communication – both to the secretariat and to the beacons. Unfortunately, it has not been possible to provide more funds for communication during budgeting for Phase 2. We therefore expect a challenge here.

Periodic intervals media surveillance is conducted to follow the development.

A formal replication strategy has not been prepared. It is an issue we will discuss with the monitors at the forthcoming Monitoring Meeting.

During the project visits around the turn of the year 2017/18, we asked the projects to evaluate the information. We got several good ideas that are incorporated.

Evaluation:
Please look at the attached ANNEX 3 – Capacity Building and dissemination by end of Phase 1. It is clear that a lot of effort has been made to get the attention of the surroundings.

Additionally we can tell, that a collection of basic tales is under development. They will be available to the partnership before the end of Phase 1. The tales will be regularly supplemented.

CDR has a communication unit which has a very good knowledge about which medias to use for what purpose. Therefore, the secretariat has not put much effort into expanding the list of contacts with others than the previously known, the partnership and partners, among others. a. the complementary projects.

Preparation on afterlife activities is going on – especially connected to development of Klimatorium and AquaGlobe.

Target and goals for Phase 2

No specific milestones for Phase 2.

6.4.2 E2 Tangible communication products

Beneficiary responsible for implementation: CDR

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2027

Expected results:
E2 mainly result in tangible communication products are published, made available and set up to allow all stakeholders to gather information about C2C CC, this involves the C2C CC website and online platform, at least 24 notice boards, at least 12 newsletters and 1 layman's report distributed in at least 400 copies.

Achieved results:
The website was already accessible when the application to the LIFE IP was send, and has continuously been updated. At least the Danish part.

The communication products are among others:

- A summary of the project. A folder in Danish and in English. Is printed in at least 500 copies - link to the English folder, appendix E2.b.
- A list of partners and stakeholders. - *Made from the beginning. There is also a list of supporting stakeholders. This list is still growing. Available here: http://www.c2ccc.eu/om-c2c-cc/partnerne/*
- A full description of all actions within the project- *Made from the beginning available at www.c2ccc.eu under every sub project.*
- Goals and progress of the projects - *Process of the project is presented through newsletters, press releases etc. which all is at the webpage. To supply, there is links to sub sites about the goals of the sub projects. In second and third quarter of 2018 we have been working on a Story Map about the sub projects, which www.c2ccc.eu link to. At the StoryMap (link) the sub projects is presented much more appetizing through text, pictures, short film and drone film.*
- Results of the project – Is presented at different arrangements and at the website in form of power point presentations, films etc. Also some folders are made during time, for instance a folder about Ecosystem Services, (link to folder, appendix E2.c) *This material is at the website, presented in newsletters, as results under the sub projects. Though all project material is available in MidtRum.*
- Posters about the project are made for different occasions. Examples: NOCCA2018 in Norrkjöbing, appendix E2.d (link), Poster about global corporation in C2C CC, used at IWA2018 in Tokyo, appendix E2.e – link,
- Roll Ups and other merchandise. Example: The Innovation Day in CDR 28/10/2018. Se the picture below and notice the black backs with logo and the roll ups. We have produced 8 different roll ups, that both the secretariat and the partners use. Also some special designed umbrellas with logo are produced. They were made for the kick off in march 2017, and are later on used as merchandise and gifts for guests and speakers at partnership meetings. At the kick off, the umbrellas were folded out and raised high above the participants at the end of the day. It was a sign that we are protecting the mid-society from threats from the water. (link to a picture)
- Links to the individual websites of the actions (these is "located" on the various official websites of the municipalities). - *In all cases, were a individual website is published, we link to it. But not all actions has an individual website.*

- Information about different activities in the project. - *Is published regularly through newsletters, press releases, posts on social media etc.*
- Invitation to take part in various activities. - *Invitations are available from a calendar at the very front page and the website, and is all presented in newsletters and mails directly to the net work.*
- LIFE material incl. LIFE progress reports. - *Is not available at the website, but in a internal web based system, called MidtRum, where it is accessible for all partners, steering comity and monitors. Every quarter all the activities in the actions are shortly presented in a web based tool accessible for all partners and the monitors.*

Booth about C2C CC at the Innovation Day in CDR 28/10/2018

We have an escape syndrome! The English-language part of the website is not sufficiently developed. The Secretariat is still working on it.

Templates for letters, presentations, advertisements and signature templates for notice boards (appendix E2.h – link) have been developed that the partners use. Both at their offices and where the project has physical facilities, such as the Klimavejen in Hedensted.

The common noticeboard and the traffic information sign at Klimavejen

C2C CC is mainly brainwork why the physical manifestations first will come through the complementary projects and often after the LIFE project..

Newsletters (and social medias) has become the primary media for communication. That is the reason why they has increased in number and in 2018 has been released approx. every two weeks. The partners ask for newsletters with information on what is done in the secretariat and in the other actions. And we can se, that they are used satisfying.

Newsletters are released to the stakeholders that sign up on the webpage. There are approx. 200 recipients. And all newsletters are accessible from the web page.

Evaluation:
We are not quite satisfied af the website www.c2ccc.eu because the English part is to small and the content mostly is news and relevant activities more that what is going on in the sub projects and what is achieved.

Just at the early start of the project we created the local notice boards in cooperation with the local partners and we experience, that they are placed in their respective locations as well as at the CDR location in Viborg.

Yet only rather few articles have been made, as we are still in process. All of the kind has been send out in the newsletters and is available at the webpage. Please have a look at the ANNEX III Capacitybuilding af dissemination by end of Phase 1, where all articles also are listed.

Target and goals for Phase 2

No specific milestones for Phase 2.

6.4.3 E3 Seminars and conferences

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
The actions of E3 results in C2C CC is disseminated to a large number of stakeholders during the project's lifetime. The 3 C2C CC conferences and ENCORE will result in dissemination to at least 1150 Danish and European professionals.

Achieved results:
The action E3.1 is coordinated with other activities in the project. Most important is two workshops on the draft version of the report about the legal barriers, which involved partners and the Steering Committee in autumn 2017.

We chose to host a full day kick off seminar in March 2017 in stead of a conference after the first year. At the kick off we had approx. 250 participants, 25 exhibition stands and some highly rated speakers, such as the former Commissioner on Climate Action Connie Hedegaard, leading individuals from the University of Aarhus and VIA University College - and Claus Kondrup from DG Climate Action. 2 short films (available from www.c2ccc.eu) were made and at lot of press review was received. The kick off took place at Herning Conference Center at the 30th March 2017.

List of deliverables:

- Agenda for the kick off, appendix E3.a (link)
- Press release about the seminar (link)
- The film produced for the seminar, (link)
- A film about the seminar – made afterwards (link)

The promised material about the legal barriers is delivered under the preparatory actions.

The 13th international ENCORE conference took place in Herning Conference Center from 16th to 22nd of September 2018. ENCORE is a network of approx. 25 regions throughout Europe, and at the core of this network is the bi-annual conference aimed at the member regions environmental ministers as well as the regional politicians working with environment, climate and sustainability.

The member regions take turns holding the presidency of the network. The region holding the Presidency will also host the conference. The Central Denmark Region took over the reins from Carinthia in Austria after the ENCORE conference in 2016, and will be passing the torch to the Irish region of Eastern & Midland Regional Assembly.

50 young people from the member regions arrived for 4 days of preparatory work prior to the main conference, ENCORE. The young people of YouthCORE (as the preparatory conference has been aptly named) energized ENCORE with food for thought on the three key topics this year: Circular Economy, Climate Challenges and Eco Systems Services.

Central Denmark Region currently had the two-year presidency of ENCORE.

At the conference in September 2018, C2C CC had a boot with dissemination material and an opportunity for the project members to present, and communicate, C2C CC to many other European regions as well as to the four other regions in Denmark, which are all represented at the conference. More information on the conference is available at www.encoreweb.eu, where we also link to from www.c2ccc.eu.

Programme for the ENCORE conference September 2018, appendix E3.b - link

For reasons unknown, the Networking or thematic event upon request of the Contracting authority didn't run in CDR. But - three representatives participated in the platform meeting in Helsinki in February 2017, two in the platform meeting in Barcelona in June 2017 and one in the Netherlands in April 2018. It is our hope, that C2C CC will have the opportunity to host a platform meeting later in the project period.

In addition to the mentioned seminars and conferences C2C CC participated in ECCA2017 in Glasgow with a session. The project was presented by 5 of the partners; Central Denmark Region, VIA University College, University of Aarhus, Norddjurs Municipality and Horsens Municipality. The session resulted in us getting some very interesting contacts, for instance to the consultant named P2 in the Netherlands. The company was very helpful in arranging the study trip for the partnership in May 2018 and the corporation will continue because the Dutch are very interested in C2C CC and the partners are very interested in the Dutch way of co-creation and their innovative solutions. The method is called Mutual Gains Approach, and the partners in C2C CC is very interested in knowing more about that.

Full programme for the ECCA2017 conference, appendix E3.c (link)

The PM arranged a session. Here the used presentations:

1 - Rolf Johnsen, appendix E3.d1

2 - Rasmus Rønde Møller, appendix E3.d2

3 - Sidsel Kontni Prahn, appendix E3.d3

4 - Anja Skjoldborg Hansen, appendix E3.d4

5 - Christoffer Buch Larsen, appendix E3.d5 and

6 - Albert Jensen, appendix E3.d6

Furthermore; C2C CC participated in IWA2018 in Tokyo. Some of the partners participated as well, and we had a session together. This meeting is an important preparation for IWA 2020, which will take place in Copenhagen. It is our ambition to get visitors from all over the world to look at climate adaptation in CDR.

Programme for the PMs at IWA2018 in Tokyo, appendix E3.e (link)
Report on IWA2018 to EASME and monitors, appendix E3.f (link)
Booth presentations at the Danish Pavilion, appendix E3.g – (link)

Evaluation:
It was very useful for both partners and the Steering Committee to discuss the findings from the preparatory actions. There is foreseen a need for repeating in Phase 3 due to the many changes in legal stuff.

Instead of a conference "Coast to Coast Climate Challenge – The First Year, we chose to forward the conference to a kickoff in March 2017 to clarify that the project was in progress and to create visibility. Good timing and good response from participants - both exhibitors and participants.

Also from the ENCORE conference we had a lot of positive response from participants, and three new regions have expressed an interest in joining ENCORE.

Target and goals for Phase 2

Action	***Quantifiable milestones***	***Date by end of***
E3.3	The second C2C CC conference “Half way there” is held	09/01/2020
E3.6.1	Presentation and all relevant material is ready to bring to the IWA conference	18/10/2020
E3.6.2	Presentation and all relevant material is ready to bring to the ECCA conference	01/06/2019
E3.7	Presentation and all relevant material is ready to bring to the platform meeting	Date is not yet set

6.4.4 E4. Media works

Beneficiary responsible for implementation: CDR

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
Effective and professional communication through a good line of communication with the media and production of press material, this involves at least 24 press releases over the course of the six years and "study trips" to the demonstration projects as showcases of CCA, C2C CC and LIFE IP.

Achieved results:
The secretariat has absolutely been keen on getting the story of the wide-ranging cooperation in the CDR about climate adaptation, featured in the media. For example, it can be mentioned that the project:

- 2 times have been in national radio on P1,
- Cited in Breaking News on TV2,
- Regional TV several times,
- Contribution to debate in Politiken
- Article in Altinget, an independent journalistic web based newspaper that writes about Danish and international politics
- Article about AquaGlobe in Jyllands Posten
- Article about the Climate Road in Danske "Professionshøjskoler"
- 5 of the actions were presented in KLIMA100 by Sustainia

Annex III 'Capacity building and dissemination in Phase 1' contains a list with most of the press coverage of C2C CC. In addition, the subprojects are discussed diligently in the press - especially locally.

Evaluation:
In order to strengthen and focus contact with the important media, the secretariat corporate with a communications adviser.

It has been a barrier to further mention in the big media that the media demand payment. For example, in connection with thematic treatment of climate challenges in Berlingske, up to EUR 7000 is required as payment. The secretariat has not been prepared to pay.

Originally it was a goal to release 4 press releases per year on C2C CC. But as in E1, press releases do not have the same focus as we expected when we wrote the application. Therefore, the production is lower. On the other hand, much more is discussed in articles, interviews and on social media than expected.

Target and goals for Phase 2

Action	*Quantifiable milestones*	*Date by end of*
E4	Press release 9-10 are finished	31/12/2019
	Press release 11-12 are finished	31/12/2020
	8 signature stories are finalized	31/12/2020

6.4.5 E5. Networking with other projects

Beneficiary responsible for implementation: CDEU

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
Networking with other projects result in dissemination of C2C to the Brussels' environment and bringing in European best practice to C2C CC.

Achieved results:
C2C CC has successfully been presented to several other EU funded projects (in particular LIFE IPs) and European networks (CPMR, Climate Alliance, CoM, Eurocities, ERRIN, EPC). From the project start, C2C CC has increasingly, however unforeseen, been encouraged to join a number of conferences (CoM, Eurocities, Climate Adaptation Strategy Stakeholder Forum), and 'bilateral'/'multilateral' counselling on how to write an application, in which C2C CC knowledge has been disseminated and put into context. These additional actions have been highly valued by recipients. To this purpose, one-pagers and power point presentations have been produced.

Please have a look at Annex 3 – 'Capacity Building and dissemination in Phase 1', where the network activities is listed.

Evaluation:
Central Denmark EU Office continues to participate in CCA events in EU networks primarily Brussels-based organizations. The inspiration both from C2C CC and the other way to C2C CC is given by mail, Web meetings and psychical meetings regularly. Several times a meeting is followed up by invitation of the C2C CC secretariat to a Brussels based organization. The communication is very giving.

6.4.6 E6 International dissemination

Beneficiary responsible for implementation: CDEU

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 31/12/2022 ***Actual (or anticipated) end date:*** 31/12/2022

Expected results:
Each crosscutting capacity building activity and demonstration project is disseminated to a wide public international audience, at least 24 short films (one for concrete implementation action) are made and disseminated on the C2C CC website.

Achieved results:
In total, 24 short films are to be produced to illustrate aspects of C2C CC. Four have been produced during the first phase. The films reflects the development of the C1-C24 projects, meaning that more films are scheduled to be produced during the remainder of the project.

The following 4 films are made so far:

- http://www.c2ccc.eu/projektmateriale/falles-informationsmateriale/film/
- http://www.c2ccc.eu/projektmateriale/falles-informationsmateriale/film/
- https://twitter.com/LIFEprogramme/status/940561348068630528
- https://centraldenmark.eu/case/coast-2-coast-climate-challenge/

In addition, we have filmed the most important activities in the project, including master classes and highly-rated presenters at network meetings. The films are published on www.c2ccc.eu and are all texted in English.

Evaluation:
It is our experience, that the films reach a bigger audience as written articles etc.

6.5 Financial actions – F action

6.1.39 F1: Establishment of organizational structure

Beneficiary responsible for implementation: CDR.

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/11/2016
Forseen end date: 31/01/2017 ***Actual (or anticipated) end date:*** 20/11/2017

Expected results:
F1 will result in professional project management of C2C CC LIFE IP with a competent, structured and highly engaged PM unit. F1 will further result in clear division of responsibility in the C2C CC consortium and the Advisory Committee will result in high quality of capacity building to secure best practice, mobilize complementary projects and promote innovation.

Achieved results:
The unit is created and has run the project since 1st of November 2016. However, the last professional staff was in place one year later. The delay is due to recruitment challenges and to project management having resources for the introduction of new staff.

The secretariat has close contact to the partners and actions. The first visit at all actions has been done, and it is planned to bilateral meetings between the secretariat and the partners/sub-projects once every year.

In the first five quarters the secretariat had quarterly reports on all actions, but at the six's quarter, Q2 2018, a web based reporting system was ready. Then it is possible for the partners, the secretariat and the monitors to follow the progress in all actions.
During the meetings with the monitors there have been no big problems, nor surprises – both regarding financial and technical monitoring.

The steering committee is established shortly after start of the project, at had the first meeting in March 2017. Two other meetings followed in 2017 and one in 2018. The planned meeting in October 2018 was canceled due to too many cancellations from the members of the committee. Instead, we had 2 written hearings on urgency cases. It is planned to have two meetings yearly. The subjects for the group has been such as mission for the Steering Group, mission for the Advisory Comity, process and rules for the posting of PhD positions, discussing the draft report on legal barriers etc.

The comity members are used as speakers/facilitators at partner meetings, and some of the members participated in the initiation of 'Klimavejen' and the excursion to the Netherlands in May 2018. Similarly, they attended the IWA2018 in Tokyo and represented C2C CC.

Different project groups are created and some are shut down again after a while. Examples on groups are: Modeling tool, Common tender and Communication. In addition informal corporations are established. For instance between Horsens and Randers municipalities, and Klimatorium, VIA University College and Aalborg University. They network on daily bases with their common challenges.

The advisory committee was established shortly after project start in 2017. After the necessary video meetings a draft version of terms of reference was finalized and agreed on by the steering committee. The members of the advisory committee participate on the partnership meetings and already in the middle of 2017 a corporation with Hedensted Municipality started on added value in citizen involvement. This work continues in Phase 2 with replication activities for the partners etc.

Evaluation:
Both the secretariat and the Steering Committee is working very satisfying.

In the secretariat we were a little worried if the contact between the committee members and the partners was strong enough. Would the committee identify eventual needs for more knowledge etc.? After an evaluation with the committee members we have now revitalized the advisory committee. In the future the members will have more direct contact with the partners and will be more involved in concrete activities, including network meetings, master classes and further capacity building activities. To supplement we can tell, that more scientific articles will come in Phase 2 and 3.

Target and goals for Phase 2.

Action no.	Quantifiable milestones	Date by end of
F1	Mid-term report done Phase 2 progress report done	31/08/2019 31/09/2020

6.5.2 Action F2 Internal seminars and workshops

Beneficiary responsible for implementation: CDR

Foreseen start date: 01/01/2017 ***Actual start date:*** 01/01/2017
Foreseen end date: 28/02/2017 ***Actual (or anticipated) end date:*** 31/03/2017

Expected results:
The kick off seminar in F2 will result in dissemination of formal requirements, practical information and further mobilize engagement among partners and the communication workshop will result in dissemination and coordination of correct LIFE IP communication to local communication officers.

Achieved results:
Already on January 18, 2017, we had invited to the start-up meeting for the partnership. The invitations were sent out so early that we were sure that all partners could be represented. And they were.

At the meeting we reviewed the Grand Agreement, MidtRum (the administrative tool where all documentation in the project is collected), economics and procedures, as well as organization and roles. In addition, 2 sub actions were presented.

The part about Mayor Adapt, we have postponed here until the end of Phase 1. However, at the Partnership primo September 2018 the subject was in the program.

We have had two communication workshops with at least one participant from every partner/sub project. The 31th of March 2017 and the 4th of May 2017. We had a follow up session on the 1th of November 2017, where a well speaking journalist encourage everyone to contribute to the communication with up loading of pictures and text on the social medias.

Evaluation:
The internal seminars and workshops have bin very successful and means a lot for the feeling for being partners 'of the same club'. We learn to use each other for many purposes which is a benefit for C2C CC.

The action is finalized.

6.6 Overall status of the complementary actions

(Integrated Projects funded under the LIFE 2014 Call onwards must use this format.)

Project name	**Action/-Measure**	**Partners**	**Source of funding**	**Amount foreseen in the application**	**Amount committed and/or spent by X-Interim / Final Report**	**Reports available, dates**	**Comments** (e.g. *web-link to any relevant reports and mention of which IP action the complementary action is linked to, if relevant*)

6.2.1 Table of complementary actions, reports, dates, financing

Regn med Thyborøn	C4, C9 and C17	Lemvig Municipality (lead) and Skanderborg Forsyning, CDR, SDFE (National agency on data), DTU space, Ramboll	National funding: Regn i Byer (Realdania, Miljøstyrelsen, DANVA, Forsikring & Pension samt KTC)	53.590 €	53.590 €	Approved: May 2017	New ways of dealing and using rain water in towns and cities in a changing climate. Teaching and awareness raising in the society eg. School children, nature, culture. Duration: 2017-2019 http://www.regnogbyer.dk/projekter/thyboroen
Aquaclew	C1, C2, C3, C4, C5 and C6	Swedish Methodological Institute (lead) and "Dortmund University, Germany University of Innsbruck, Unit of Hydraulic Engineering, Austria University of Natural Resources and Life Sciences, Austria Geological Survey of Denmark and Greenland, Denmark University of Cordoba, Spain University of Granada, Spain National Research Institute of Science and Technology for Environment and Agriculture, France"	JPI (Joint Programming Initiative "Connecting Climate Knowledge for Europe")	2.000.000 €	2.000.000 €	Approved: August 2017	To develop climate services eg. Data, Warning systems. Overcoming the low resolution of scale on local level. Pilot areas will be located in CDR. http://www.jpi-climate.eu/nl/25223436-AQUACLEW.html Duration: 36 months
ORMUM	C3, C4 and C6	VIA University College	National funding: MUDP	181.466 €	181.466 €	Duration: 1/1 2018 – 31/12-2019 Reports: https://www.ucviden.dk/portal/da/publications/detailed-geological-modelling-to-support-urban-planning-in-aarhus-denmark(150f4673-ee56-4e03-a486-aaaa9a9efd94).html	Construction of urban 3D geological voxel models to address the effects of increased infiltration from SUDS on groundwater flow patterns and hence the fate of contaminants. https://www.ucviden.dk/portal/da/projects/optimering-af-risiko-og-miljoevurderingerne-ved-etablering-af-lar-loesninger-i-det-urbane-miljoe-ormum(d1795a92-4daf-409b-ac83-6b83cf87eb3b).html
TopSoil	C3 and C6	CDR (lead) and Vlaamse Milieumaatschappij, Bundesanstalt für Geowissenschaften und Rohstoffe, Dachverband Feldberegnung Uelzen, Landwirtschaftskammer	Interreg VB NSR (50/50)	7.350.000 €	7.350.000 €	2015	Using geological techniques to better understand the sub surface. The project focuses on a better understanding and management of uppermost groundwater with a special concern on CCA, quantity and quality.

		Niedersachsen, Landesamt für Bergbau, Energie und Geologie, Leibniz-Institut für Angewandte Geophysik, Oldenburgisch-Ostfriesische Wasserverband, Landesamt für Landwirtschaft, Umwelt und ländliche Räume Schleswig-Holstein, Universität Bremen Geologischer Dienst für Bremen, Central Denmark Region, Southern Denmark Region, Municipality of Herning, Municipality of Horsens, Hydrogeophysics Group, Geoscience Aarhus University, The National Geological Examinations for Denmark and Greenland, Waterscap Hunze en Aa's, Waterschap Noorderzijlvest, Provincie Drenthe, Rivers Trust, Norfolk Rivers Trust, Essex & Suffolk Rivers Trust, Northumbrian Water Ltd. and Durham University					https://northsearegion.eu/topsoil/ Duration: 2015-2020
SASLO (Satellitdata til Strategisk Ledningsnet Overvågning)	C6 and C17	Lemvig Forsyning (lead) and Rambøll, VIA University College,	National funding: VUDP	105.000 €	105.000 €	3rd of October 2017	https://www.danva.dk/viden/vudp/projektuddelinger-i-2017/saslo/ Duration: 2018-2019 Will apply for Innovationsfonden deadline 14th of August 2018
FODS 6.1	C3 and C6	SDFE (Styrelsen for Dataforsyning og effektivisering) (lead) and SDFE, DMI, GEUS, Holstebro forsyning, Municipality of Holstebro	National funding	33,784 €	33,784 €	May 2017	A pilot project in the Store Åen concerning data availablabilty for local users. Special focus on groundwater. CDR is in the steering committee and in a project group. http://sdfe.dk/data-skaber-vaerdi/faelles-data-om-terraen-klima-og-vand/ Duration: FODS6.1 2016-2020 (Storå: 2017-2018)
Geofysik i filter	C17	Lemvig Forsyning (lead) and Lemvig Vand, Aarhus university, Via University College, Niras A/S	National funding VUDP	196.890 €	196.890 €	May 2017	To get a better understanding on the well efficiency. Using techniques in a new way. https://www.danva.dk/viden/vudp/projektuddelinger-i-2016/geofysik-i-filtre/

							Duration: 2017-2019
Carbon Farm (Pløjefrit Danmark)	C3, C4 and C7	Økologisk Landsforening, FRDK, Dal-Bo A/S, Agro-Intelligence and Aarhus og Copenhagen universities and 4 farmers	National funding GUDP	1.300.000 €	1.300.000 €	2017 http://okologi.dk/landbrug/projekter/planteavl/carbon-farm	To test techniques and strategies of plow-free cultivation. The goal is increased soil fertility through carbon bonding. http://okologi.dk/landbrug/projekter/planteavl/carbon-farm http://mst.dk/erhverv/groen-virksomhed/groent-udviklings-og-demonstrationsprogram-gudp/gudp-projekter/2017-projekter/carbonfarm-baeredygtige-dyrkningssystemer-i-landbruget/ Duration: 2017-2021
DABAI	C1, C2, C3 and C6	Alexandra Institute AU (Aarhus University), DTU (Technical University of Denmark, KU (Copenhagen University), Systematic VISMA consulting, Business Minds, Danish Business Authority, Agency for Digitisation, Central Region Denmark.	Innovationsfonden (Grand Solutions) Central Denmark Region (REM): Private co-financing from the partnership.	6.000.000 € 665.000 € 8.900.000 €	6.000.000 € 665.000 € 8.900.000 €	December 2019	Integrated machine learning (ML) and algorithmic tools for efficient production of geodata used in flow modelling. Online visual analytics tool for flood risk assessment, supporting rapid scenario analysis and incorporation of forecast and/or event data. https://alexandra.dk/dk/cases/dabai Duration: 2016-2020
Anholt Kystsikring	Connection to C18	Norddjurs Municipality Aqua Djurs The Government Local citizens		1.750.000 €.	1.750.000 €.	Duration: Fall 2018 – summer 2019	The coast of Anholt (a small island in Kattegat) is threatened by erosion from the storms in Kattegat. On the Island there has been made different initiatives to protect the island from storm surge. Latest storms eroded the road connecting the harbor to the rest of the island. A CCA project to secure the coast has been formulated. The project is highly expensive and funding is ongoing to realize the project.
Storkeengen	C1, C4, C	- Randers Municipality - Randers Vandmiljø	Randers Municipality Randers Vandmiljø	8.400.000 €	8.400.000 €	2019	Randers Municipality and Randers Utility have joined forces in an ambitious project that will adapt the northern area of Vorup to the future's greater rainfalls, storms and higher water levels in River Gudenå and the fjord. At the same time, the project will allow the residents to experience nature in completely new ways. https://klima.randers.dk/visioner-planer-og-publikationer/klimatilpasning/storkeengen/

							Duration: 2017-2018
CHERISH: Climate Change and Coastal Heritage EU Funded Project	C24	- Royal Commission on the ancient and historical monuments of Wales, - Discovery Programme: Centre for Archaeology and Innovation Ireland, - Aberystwyth University: Department of Geography and Earth Sciences - Geological Survey, Ireland	European Union's Ireland-Wales programme: Partners' own financing.	4.100.000 € 1.100.000 €	4.100.000 € 1.100.000 €	Duration: January 2017 – December 2021	CHERISH will increase cross-border knowledge and understanding of the impacts (past, present and near-future) of climate change, storminess and extreme weather events on the cultural heritage of reefs, islands and headlands of the Irish Sea. The operation will target data and management knowledge gaps, employing innovative techniques to discover, assess, map and monitor heritage assets on land and beneath the sea. CHERISH will raise awareness about the impacts of climate change on heritage, train the citizen scientist and widely disseminate the results. It will develop best practice and guidance, making recommendations for future adaptation. https://rcahmw.gov.uk/coastal-heritage-and-climate-change-project-launched/ http://www.cherishproject.eu/en/resources/publications/newsletter
SCAPE: Scotland's Coastal Heritage at Risk	C24	University of St. Andrews Scotland.	- Heritage Lottery Fund - Historic Environment Scotland - The University of St Andrews - The Crown Estate	722.690 €	722.690 €	2016	Scotland's Coastal Heritage at Risk is a new project from the SCAPE Trust (Scotland's Coastal Archaeology and the Problem of Erosion), which will work with local communities to update records of endangered sites. You will be able to use our interactive map, our mobile phone app, or download a recording form to help update these records. You can also tell us which sites you think should be investigated in more detail - and we will help you organise twelve community projects at your favourite sites. http://www.scharp.co.uk/sites-at-risk/#zoom=1&lat=7862231.42789&lon=-449143.99347&layers=B00000FT Duration: 2011-2018
HERCULES: Sustainable Futures for Europe's Heritage in Cultural	C24	University of Copenhagen / Humboldt-Universität zu Berlin	EU FP7	368.539,20 €	368.539,20 €	Project closed, final deliverables available here http://cordis.europa.eu/project/rcn/110482_en.html	http://cordis.europa.eu/project/rcn/110482_en.html and http://www.hercules-landscapes.eu/ The project builds on the development and application of

Landscapes							innovative technologies and tools for assessing cultural landscapes. The strong involvement of small and medium-sized enterprises and non-governmental organisations provides a prototype for the empowerment of these institutions in landscape planning and management. The project cooperates closely with public and private authorities, agencies, and associations of citizens at local, national, and EU levels. Five objectives address the key topics of the call and form the structure of the project. Objective 1: To synthesise existing knowledge on drivers, patterns, and outcomes of persistence and change in Europe's cultural landscapes. Objective 2: To perform targeted case studies to develop in-depth insights on dynamics and values of cultural landscapes. Objective 3: To develop a typology of cultural landscapes and scale-up case study insights using observations and landscape modelling. Objective 4: To develop visions for re-coupling social and ecological components in cultural landscapes and translate them into policy and management options. Objective 5: To design and implement a community-based Knowledge Hub for Good Landscape Practice and test it with land users, agencies, small and medium-sized enterprises, and citizen associations.
WaterCOG	C5	The Rivers Trust (lead), The Skagerrak & Kattegatt Water District Authority, Swedish Agency for Marine and Water Management, Municipality of Aalborg, Local Government Denmark, Waterboard of Oldenburg, Hanze University of Applied Sciences, Hoogheemraadschap Hollands Noorderkwartier and SEGES	InterregVB	3.500.000 €	3.500.000 €	Approved: 2016 Duration: November 2015 – October 2017	http://www.northsearegion.eu/watercog/ The focus of the Interreg Water Co-Governance for Sustainable Ecosystems project (WaterCoG) is to understand how the implementation of EU directives can be achieved at a local level in the North Sea Region. Duration: ???
Watercourse restauration	C2		Danish AgriFish Agency under the EAFRD 2014-2020	85.000.000 €	85.000.000 €	2021	http://mst.dk/natur-vand/vandmiljoe/tilskud-til-vand-og-klimaprojekter/vandloebsrestaurering/

							Duration: 2015-2021
Municipal and Water Utility CCA projects	C4		Taxes and water fees	135.000.000 €/year average in the region – not in the sum below	135.000.000 €/year average in the region – not in the sum below		The municipalities and the region are to mobilize and invest at least 16 mill. € on CCA projects within the project period. Likewise, the Danish utilities are to spend app. 135 mill. € annually on climate investments over the next 25 years.
Vand i Byer/ Water in Urban Areas	C1-C7	Innovation partnership/network	National Funding: The Danish Agency for Institutions and Educational Grants, RealDania, Insurance & Pension Denmark, The Capital Region of Denmark.	4.420.800 €	4.420.800 €	Duration: 1/1-2015 - 31/12-2018 Expected to continue until 31/12-2020 with a budget of 803.800 €	www.vandibyer.dk. Vand i Byer is a Danish innovation network with focus on climate adaptation related to water issues. Many of their activities give inspiration to C2C CC, and vise versa. During the project period several events are made in partnership. Duration: 2010-2020
KLIKOVAND	C1-C7	22 municipalities and 9 utilities in the capital area	Regional and local funding in Copenhagen	535.744 €	535.744 €		www.klikovand.dk. Outputs: http://www.klikovand.dk/om-klikovand/vaerktoejer-arkiv/ Here we just count the budget from 2019, because the project changed administrator af had new limited budget.
Klimatilpasning af Holstebro/ Climateadaptation of Holstebro	C13	The Municipality of Holstebro and Vestforsyning Spildevand A/S Client Advisor: COWI	Vestforsyning spildevand A/S	6.035.000 €	6.035.000 €	Environmental impact assessment report (Miljørapport) released 29.8.2018	Public hearing from 29th of August to 24th of September. Read more at: www.holstebro.dk/klimatilpasning The Municipality of Holstebro can contribute with knowledge-sharing about ideas developed under the partnerships "Landmanden som Vandforvalter" and "Vandet fra Landet" based on principles of water retension in the landscape, as well as experience-based knowledge from Holstebro Municipality's climate adaptation project for Storå, described as a complementary project for the C2C partnership.
Climate road as "water road Horsensvej" in Hedensted City	C4, C15, C22	Municipality of Hedensted and pipeline owners e.g. Hedensted sewage company	Municipality of Hedensted and pipeline owners e.g. Hedensted Waste Water Company	2.100.000 €	2.100.000 €	Approved January 2018 Expected implemented December 2019.	CCA project to handle rainwater via a road and SUDS. The project includes Horsensvej from the exit on Hovedvejen to Løsningsvej, the green triangle at Hovedvejen and the northern part of Horsensvej (number 36 to 54), which today is a residential area (appendix 1). It includes a green area between Østerled and Birkealle, which is an important climate protection area in the project. Parallel to the road project, Hedensted Spildevand is completing a seperation of waste water on Horsensvej and on Nygade and Hedebogade. This is the company's second phase of sewer renovation in the Northeastern part of Hedensted. Soil analysis

							shows that the underground is optimum for the seepage of rain water. Therefore, landowners in the area shall henceforth seepage their rain water. Seepage of rain water from the area will solve a big environmental problem (med meget store overløb til Torup Bæk), which today is under pressure from rain water. The alternative to seepage of rain water would be to construct big rainwater basins, which most likely would require takeowers and demolitions of several properties in the area. Climate protection against cloudburst and long lasting torrential rain is also part of the project. Horsensvej has a slight downfall towards Haralds Plads, which during a potential cloudburst would cause flooding in the city centre. A new road profile on Horsensvej would under a cloudburst lead the water that falls north of Rønne Allé towards the green area at Østerled and further on to Torup Bæk without causing flood damages on values or cause other inconveniences.
Carbon low-bottom area ("As Vig Lavbundsprojekt ")	C8	Danish National Nature Agency	EU LDP	73.400 €	73.400 €	Available now	Information and reports will be available on: http://naturstyrelsen.dk/naturbeskyttelse/naturprojekter/as-vig-lavbundsprojekt/ Duration: 2016-2018
Synergy Project Ballevad	C2, C3 and C4	Lemvig Municipality and Utility	Lemvig Municipality, Lemvig Utility and the Ministry of Environment	669.885 €	133.997 €		Implementing a synergy project to remove phosphorus, climate-proof rainwater discharges from the city as well as promoting natural resources and expanding the recreational measures around Ballevad ditch. Duration: 2018-2019 https://www.lemvig.dk/Miljoe-og-Trafik/Natur-i-vand/Projekter-for-vandmiljoeet.aspx
The Eastern Harbor in Lemvig	C1, C2 and C21	Lemvig Municipality and Realdania	Lemvig Municipality and Realdania	2.949.494 €	2.949.494 €	Autumn 2018	High-water protection combined with recreation areas. Duration: 2017-2018 https://www.lemvig.dk/Nyheder/Ny-Oesthavn-i-Lemvig indvies.aspx?Action=1&currentPage=9&PID=5664
Building with Nature	C1 and C7	Kystdirektoratet		1.600.000 €	1.600.000 €	On going here: https://northsearegion.eu/building-with-nature/	The purpose of the project is to demonstrate how coastal protection, using natural processes, can be used to make coasts more resilient when it comes to the danger of flooding and coastal erosion in the present and future climate. There will be a special focus on the most cost beneficial method, sand

							nourishment and sand dunes as a natural barrier between the ocean and the hinterland. https://northsearegion.eu/building-with-nature/ Duration: 2016-2020
Lemvig Sødal	C3, C4, C5	Lemvig Municipality	Lemvig Municipality	241.164 €	241.164 €	2018	A newly established wetland in Lemvig Sødal has been established. The wetland combines the retention of nutrients with climate protection of the area near Lemvig Sø. A network of path connections is established in Sødalen, which results in amazing nature experiences. The construction work has been going on since the beginning of October 2018. Because of the relatively dry fall, the project has been carried out quick and effectively without any major surprises underway. https://www.lemvig.dk/Miljoe-og-Trafik/Natur-i-vand/Projekter-for-vandmiljoeet.aspx
SUM				**150.352.446 €**	**149.826.558 €**		

6.2.2 Contribution of complementary actions to the implementation of the targeted plan

The complementary projects contribute the implementation of the local CCA plans in two ways: Firstly, by bringing in useful knowledge to be replicated or transferred to the CCA activities in C2C CC. The PM has invited representatives from the complementary projects C2C CC events and distributed written material and information on the complementary projects to the partners. Secondly, supplementary local CCA actions are initiated and implemented by the municipalities and utilities, which further support the implementation of the CCA plans.
Similarly, C2C CC gives important inspiration to the complementary projects when we meet.

6.7 Evaluation of Project Implementation

6.7.1 Methodology applied

The very core of the overall methodology of the project is described in the GA and relates to the cross-sectoral collaboration.

Besides the C-actions, one of the key arenas for the cross-sectoral collaboration is the partnership meetings. The partners are very good in prioritizing these meetings, however, they perform less good in applying each other and the network as co-mentors.

In phase 1, the partners have had a tendency to have a local focus in their sub-projects (C8-C24), which may be explained by their focus on starting up their sub-projects and to set up an organization around these. However, their communication activities related to the sub-projects have also had a tendency to have a local focus. The PM have discussed this issue with the partners and asked them to broaden their perspective to the whole partnership. Furthermore, the partners have focus on multi-functional and holistic solutions in their sub-projects, however, there is still some way to implement this change of mind-set in their respective organizations. Traditional CCA solutions are still being implemented in praxis. During Phase 2 and especially in Phase 3, the IP will work much more in depth with governance and on the implementation of multi-functionality and sustainability in the CCA solutions, whereas the utility companies are to be involved in C2C CC to a larger degrees than during Phase 1.

C20 AquaGlobe and C21 Climatorium are the two beacons of the IP and is also a cornerstone of the C2C CC After LIFE. However, the two have a tendency to regard each other as competitors. The PM have initiated a co-development process with a process consultant, which have been positively accepted by both parties. This process is to be fully unfolded during Phase 2.

The dialogue model applied in C2C CC have gained great attention by the international CCA community and opened doors for cooperation with international bodies e.g. the Multi Gain Approach (MGA) developed by, amongst others, Harvard University. The C2C CC partners were introduced to this method during the study trip to the Netherlands, which was a great success. Furthermore, methods for cross-sectoral collaboration and stakeholder involvement has been applied in HEDKOM via Aalborg University and the knowledge committee, nspired by the complementary project 'The gold in the projects'. These experiences with governance methods will be elaborated further in Phase 2 e.g. with a course under C5 as a Master Class of Added Value.

6.7.2 Dissemination

Annex III 'Monitoring Capacity Building and dissemination in Phase 1' (also referred to in Action D1.3) gives thorough insight of the dissemination activities.

Of the most effective, understood as channels with the largest outreach, the following can be highlighted:

- 2 national radio programmes in relation to climate change topics
- 5 articles in national journals (Teknik og miljø, KTC, Danske Regioner, DANVA)
- 6 articles in national news papers (Altinget, Jyllandsposten, DKnyt, organic today, Byens Ejendom)
- 5 large public events with more than 100 participants: Youth event – engineers of the furture with more than 1000 participants, 2 summits for regional politicians, Climate Challenge at the Student House in Aarhus, Public opening of AquaGlobe, and The People's Political Festival (Folkemødet) at Bornholm.
- Selected large international professional events with more than 100 participants:
    - The European Climate Change Adaptation ECCA conference,
    - CDEU's 10th anniversary, IWA World Water Conference,
    - Nordic conference on Climate Change Adaptation
- Selected large national professional events with more than 100 participants:
    - Danish Water Conference,
    - AquaGlobe kick off,
    - Water in Urban Areas,
    - KLIKOVAND yearly conference

The outreach activities in Phase 1 have been extensive and the project is well known within the CCA and water community in Denmark. Furthermore, the project has been represented at the largest CCA and water conferences in the EU and internationally, and the project has been communicated at several EU meetings in Brussels.

6.7.3 Analysis of benefits

Environmental benefits:

a. Direct / quantitative environmental benefits:

   The direct environmental benefits are at this point of reporting limited as most activities in C2C CC are brain work.

b. Qualitative environmental benefits:

   C2C CC contributes to long term sustainable technology driven by C20, C21 and C22 with spin-off in the water sector as a whole. C20 and C22 are implemented in Phase 1 and we expect to have initial results in Phase 2. C21 is implemented in Phase 2 with expected results in Phase 3. C2C CC further contributes to better planning as especially C9, C10, C11 and C13 are sub-projects involving planning within watersheds that cross municipal borders. The analyses based on the whole watershed benefits the following planning at a later stage of the C2C CC.

   In relation to other policy areas, the results of A3 and A4 was, amongst others, that policies at EU level has conflicting interest and cause barriers in CCA practice. E.g. an agreement with a farmer on temporary flooding of farmland to protect an

urban area downstream are experienced to be hampered by the loss of financial support under the EU agricultural policy due to land-use change. Furthermore, there is conflicting interests between the Flood Directive and the Habitat Directive - The Flood Directive take point of departure in a dynamic nature under development, and The Habitat Directive takes point of departure in a static appointed habitat type. Two areas within C2C CC fall under both directives, whereas fulfilling one directive may cause that the other cannot be fulfilled. The results have been presented for the Environmental Agency and also to the EC (see section 6.3.3.7 Policy Implications). Furthermore, C2C CC has been consulted in relation to the EU's Strategy on Adaptation to Climate Change (See elaboration in Section 6.7.6 Policy Implications), and the project is mentioned in the LIFE mid-term evaluation: "the two integrated projects in Denmark and Spain (see Chapter 4) can potentially aid adoption and implementation of NASs and complementary regional or local strategies (objective 1).

Economic benefits
It is too early, at this stage of reporting, to state the impact of C2C CC on economic benefits. However, the following funding activities have been carried out:

- Birgitte Neergaard, funding coordinator at the Danish Technological University (DTU) has informed C2C CC and Water in Urban Areas about EU funding mechanisms and opportunities.
- Two municipalities, Samsø and Randers, have applied for two complementary projects at EU LIFE and EU Innovative Urban Actions (IUA). The projects were not granted funding.
- Several complementary projects was granted funding, see Table 6.2.1 (complementary projects)
- As a result of the partnership, a phd project on contaminates such as micro plasts related to C22 is funded by a joint collaboration between Aalborg University, VIA, NCC, Lemvig Utility and CDR.

Social benefits: It is too early at this stage of reporting to report on the impact on social benefits of C2C CC.

6.7.4 Replicability, transferability, cooperation

There are already quite specific activities, in which methods and models developed in C2C CC are replicated elsewhere, for example:

- The climate road with extraction of heat and water purification is replicated both in Denmark and in New Zealand,
- Climatorium is being replicated from the same concept in New Zealand
- The tool developed (C3 and C6 combined) is planned to be replicated nationally and has potential for EU and international transferability.
- The working method with the "Dialogue triangle" combined with Mutual Gain Approach, obtains great interest in both the partnership and outside, for example in The Netherlands, Bulgaria, Japan and in Britain, which we are visiting in Phase 2 in order to get inspired and to tell about our experiences. Here we corporate with both the organization Rivers Trust, the TopSoil project (Interreg North Sea)and the British environmental agency.

6.7.5 Capacity building

In Phase 1, capacity building has taken place in many different areas. Partly specific knowledge in project administration, which the secretariat staff has participated in, and partly procedural knowledge and lastly more subject-specific skills is obtained. Processual, there has been a focus on teaching the partners to think and work holistically across their own organization and with all relevant actors outside their own organization. Professionally, there has been a particular focus on thinking and working in multifunctional solutions rather than the traditional solutions with larger pipes of concrete in the ground. For example, the partners have been introduced to incorporate environmental, health and recreational elements into the solutions. These activities will continue in the coming Phases.
In Annex III 'Capacity building and dissemination in Phase 1' the specific activities are listed.

6.7.6 Innovation and demonstration value

According to the European Innovation scoreboard, Denmark ranks second after Sweden, and the Central Denmark Region (CDR) ranks as an Innovation Leader together with the Capital Region of Copenhagen. The general innovation level is already high, however, with room for improvement, and according to innovation levels, most of the innovation processes within C2C can be regarded as incremental (as in opposition to transformational). In the following, we report on the elements of technological innovation, arenas for innovation, innovation in processes, and innovation in tools. Followed, by a reporting of the use of best practices. As C2C involves 24 sub-projects the reporting, however, will be a brush up across the IP.

Technological innovation is especially represented in the development of the Climate Road Action C22 which is a result of a quadruple helix collaboration between a company, a university, a municipality, a utility and a kindergarten. The novelty lies in the composition of permeable road coating, the production of heat and the filtering of components from the collected rainwater before discharge to the environment. The road is being replicated in New Zealand. In addition, several innovative complementary projects are ongoing, see Table 6.2.1 'Complementary projects.

Arenas for innovation are very specifically set via two innovation hubs, AquaGlobe (C20) and Climatorium (C21). In Denmark, the development has moved from public-private-partnerships (PPPs), to triple helix (industry, government and knowledge institutions) to quadruple helix (triple helix + civil society). The later with the aim to bridge the gap between innovation and civil society, as the emerging technologies not always match the demand and needs of society, whereas the impact is limited. C20 and C21 will set the arenas for quadruple helix via joint development projects and shared office space. The full potential is still to be unfolded in Phase 2 and 3, as C20 and C21 are in its early stages.

Innovation in processes was in Phase 1 especially tested in HEDKOM via collaboration with Aalborg University (see reporting of C15) with the purpose to build capacity for CCA governance in a local government that builds on new collaboration methods and co-creation with the public. The experiences are brought into the wider C2C CC partnership through a course in Phase 2 and 3. In addition, many of the partners experience the cross-sectoral collaboration within each sub-project as a relatively steep learning curve, where each partner gain cross-sectoral project management skills when navigating between different professional abilities and also different political hinterlands as they all represent different organizations. Some might say that we are in the making of a paradigm shift within collaboration methods, where you closest colleague might not be from the same organization as yourself.

Innovation in tools was in Phase 1 in particular represented via Action C6 with the development of a tool of the terrain-near groundwater (see reporting of C6 for the specifications of the tool). Currently, no such tool has been developed in Denmark, the EU or abroad. The tool is designed to be user friendly and thus involves a focus group of practitioners from the C2C partnership. The tool is visualized through a CCA platform named SCALGO that is popular among Danish practitioners and will secure the usage of the tool. It is hoped that the tool will be replicated to other Danish regions and abroad. The novelty of this tool is the machine learning process behind the calculation of the estimated location of the terrain-near groundwater. Furthermore, the user friendliness and visualization is a relatively new component within flood risk modelling.

The use of best practice methods in C2C CC are in particular represented in the modelling and analyses in the C-actions. The modelling tools applied are the MIKE products, however, a Dutch tool 3Di has been tested for the first time in Denmark. The tool meets the increasing demand of user friendliness and visualization in the modelling of flood risk. The tool is still being tested by HEDKOM and LK, and the preliminary results are excellent in regard to visualization and calculation speed, however, in areas with more topography the speed drops due to grid size. Furthermore, the user friendliness in regard to setting up the model was more difficult than expected.

Furthermore, we like to highlight the tendering applied in C16, a parallel assignment between two architectural teams to develop a tool box for flexible CCA and coastal protection of a middle sized town. The two teams each consisted of a Danish architectural firm, a Danish engineering consultancy firm and a Dutch firm. The tool box is applied in the future urban master planning and the results of the two teams are exhibited in the center of the town (See reporting from C16).

Best practice is also applied in regard to SUDS, whereas the state of the art of practice and academia to day is related to secure and improve water quality from the systems. The C2C partnership is participating in national workshops on knowledge production within this area and contributes to secure best practice in the implementation of SUDS.

6.7.6 Policy implications

As mentioned in section 6.3.3 Analysis of Benefits, the preparatory actions A3 and A4 highlighted some perceived incompatible policies at EU level, which had caused barriers to CCA practice. One such example was a fear among farmers that these would lose financial support under EU agricultural policy – due to land-use change – if they agreed to let their farmland be flooded in order to protect an urban area downstream. Another example is the contradictory policies between the Floods Directive, on the one hand, and the Habitats Directive on the other. The reason is that the Floods Directive takes its point of departure in a dynamic perception of nature under development, whereas The Habitats Directive takes its point of departure in the seemingly more static conservation of certain natural habitats and of wild fauna and flora. Two areas within C2C CC fall under both directives, giving rise to a dilemma in which one directive may cause that the other cannot be fulfilled. These considerations and outcomes have been presented to the EC already in 2017 and formally mailed to DG ENVI (in October 2017) and to DC CLIMA (in September 2017). (Link to correspondence in MidtRum) The issues have also been discussed with other interested parties (CPMR, ERRIN, CoM, EPC, Climate Alliance) in various workshop settings.

In addition, a complementary CCA project to C10, C11 and C12 with added value between protected nature, SUDS and coastal protection is at risk of not being implemented due to a recent decision of appeal stated by the Danish Board of Environment and Food Complaints. The appeal states that the SUDS solution can be implemented to a higher cost elsewhere. However, this will influence an integrated solution between rainwater, coastal protection and the habitats. Furthermore, it influences the financial synergies and leaves the area without coastal protection. The appeal can impact the implementation of future CCA projects seeking to gain synergies between several considerations.

Finally, C2C CC has been consulted in relation to the EU's Strategy on Adaptation to Climate Change (participated in two stakeholder meetings and delivered input to the evaluation, the comments are available in MidtRum - link). The input considered the importance of strengthening the regional collaboration and the conflicts between CCA and some EU legislative areas (agriculture, nature - as described above). However, these points were not among the evaluation criteria. Furthermore, the actions and performance indicators of the strategy did not match the needs in the Danish context, as municipal CCA plans were implemented prior to the EU strategy, also Denmark has its own information and knowledge sharing portals, such as klimatilpasning.dk, whereas the EU initiatives Covenant of Mayors and Climate Adapt are not actively used by Danish stakeholders.

It is a special issue to mobilize politicians - both locally, regionally and nationally - to work on climate adaptation. Mitigation seems to be easier for politicians, while climate adaptation is a very complicated issue, which they often refrain from working with. We have therefore arranged several awareness-raising and capacity-building events in the project. In the appendix 1 the actual activities are listed.

For example, in order to catch the local politicians, we arranged two politician summits at Climatorium and AquaGlobe respectively. Here, the politicians were free from the press and curious citizens, but were inspired by experienced national politicians, professional experts, and opinion makers to equip local politicians with arguments that they can directly apply. They were given the opportunity to discuss the issues together without risking being exhibited as ignorant. It is our experience that this is a particular challenge.

Both the secretariat, local, regional and national politicians participated in the "Folkemøde" at Bornholm, where the secretariat had arranged some public discussions about climate adaptation.

When the opening of AquaGlobe and Klimavejen were celebrated, politicians from all levels were on the list of speakers, which also contributed to raising awareness of the topic politically. Later on both Climatorium and AquaGlobe several arrangements has included politicians. One particular result must be emphasized; The Climatorium has succeeded in beeing at the National Finance Act with a three-year operating grant.

Overall, the feedback from the politicians was positive as they acknowledge the relevance and complexity of the topic, especially the importance of an integrated and coordinated approach is mentioned in the evaluation schemes (link evaluation scheme from meeting with politicians 4th of May 2018 in Climatorium in MidtRum and link evaluation Scheme from meeting with politicians 4th og June 2018 in AquaGlobe in MidtRum)). One comment was also a call to follow up and continue the dialogue between officials and politicians in the

future. In addition, a national election is coming up in 2019 and polls show that climate change is on the top of the list of concerns among the population.

Debate at "Folkemødet" where the project manager Dorthe Selmer (with the microphone) uses C2C CC as an example of seeing opportunities in challenge's.

The Minister of Climate, Lars Kristian Lilleholt (to the right) visits Climatorium. He is shaking hand with Lars Nørgård Holmegaard, CEO of Climatorium and Lemvig Utility. LinkedIn.

6.7.7 Sustainability

As it is still early to report on the After LIFE of the project, we will at this stage report on the initial activities undertaken in Phase 1 and on the change in the policy context that influence the after LIFE of C2C CC. The actual mechanisms, actions, resources etc. will be reported in later interim reports.

A new law amendment implemented in Denmark in 2018 means a change in the regulatory set up of the local CCA plans, which now are legally integrated into the Danish Planning Act and the Municipal Spatial Plan. The plans are thus expected to enter a second phase or generation, where the first generation is expected to be revised. In this regard, the policy context supports the implementation of local CCA and the objectives of this IP. However, a common CCA strategy across municipal borders are still not on the national policy agenda, whereas C2C CC in phase 2 and 3 will continue its work on formulating a common CCA strategy across the municipalities in the region. The strategy will focus on emphasizing a holistic and integrative approach and sustainable development, the latter with point of departure in the SDGs. This strategy will continue after LIFE.

Securement of staff is at this point also depended on the policy context related to the regional and municipal authorities. There is a national election in 2019, which may influence the future of the regional authorities especially.

The Advisory Committee involves knowledge institutions that through their research and educations produce the qualified work force of the future. All three knowledge institutions emphasize the core objectives of C2C CC in their teaching – the importance of cross-sectoral collaboration in CCA to solve the issues of the future. 3 students from Aalborg University were trainees in C2C CC sub-actions, A large number of students from Aarhus University

participating in climate lectures at Aarhus Student House, 6 as trainees at CDEU and a lot of students at VIA have been involved in different C-actions during Phase 1 of C2C CC.

To secure the after LIFE of C2C CC, C20 and C21 are the two beacons to carry the work forward. Both centers have water and climate partnerships as the core value of their strategic work and a common strategy between the two have been initiated in Phase 1 (elaborated in section 6.3.1).

6.8. Program for project implementation in the next phase period (only for Interim Reports)

In the following, a brief update is given for each action.

All A actions is finalized. Though the subject of legal barriers will be revitalized under action C5 – governance.

Action C1 – Sea and Fjords

Inspired from the study trip in May 2018 to the Netherlands and spoken wishes from the partners, work with Mutual Gain Approach is incorporated in the action.
It is specified, that relevant partners will learn about the IPCC climate scenarios in order to choose a common scenario for the common strategy which is developed in C5.
These activities are regarded as specifications of the work to be done in Action C1, and no extra costs will come.

Action C2 – Rivers and Lakes

It seems to be a mistake in the original application, that work with Warning Systems started in Phase 1. The activities are moved to Phase 2 and 3 instead of Phase 1 and 2. Just as it is listed in Deliverables.
A study trip to England is mentioned in Action C2 and other actions. The trip is a supplement to the earlier description, and it is incorporated because of wishes from the partners. It will be one trip covering subjects from several actions. C2 (warning systems) is one of them.
No changes in the budget.

Action C3 – Groundwater

Minor changes in the description of how the partnership work with the tool issue. A combined tool on groundwater and surface water is ordered in Phase 1. The tool will be implemented here, and this is described under Action C6.
It is decided to have a workshop with both C2C CC partners and the complementary project TopSoil.
No changes in the budget.

Action C4 – Rainwater

Due to the fact, that legislation has changed in Denmark regarding that the regions no longer are allowed to work with business development (se description under action C7) the mentioned workshop involving business and producers as well as owners of facilities is converted to a workshop about using the Sustainable Development Goals, the SDGs, as instrument for choosing sustainable solutions. Several courses and workshops will be held in Phase 2 across the actions. The rainwater issue will be among.
No changes in the budget.

Action C5 – Governance

On the basis of the CDR's decision to use UNs Global Sustainable Development Goals as guideline for all development work, the same basis is taken for the work on a common strategy in C2C CC. This approach will have no extra costs as it naturally can be included in C5.
The activities from action A5 continues in C5 to maintain the necessary basis for working with common strategy in Phase 3. This will have no extra costs as it naturally can be included in C5.

Action C5.4 is now described more in details – ideas and needs which has been discussed in the Knowledge Committee.
No changes in budget.

Action C6 – Tools

Representatives from the advisory committee and the municipalities, Central Denmark Region (lead-partner) has decided to combine the groundwater tool and the surface water tool (C6.1) with the 3D decision tool (C6.2). The reason for that is that both the utilities and the municipalities needs for both tools in the planning of their climate adaptation projects.
Instead of using the Danish National Water Resource model (as described in the application) we decided to build the development on an existent platform SCALGO LIVE, developed by the private company SCALGO. The SCALGO Live tool is a very intuitive hydraulic surface model tool, which is already used by most of the municipalities and utilities in Denmark in connection with climate risk assessments.

Changes in the budget:

From the original application: **Budget – external costs - Phase 1**	**Suggested (changes):** **Phase 1Budget – external costs**
C6 Setup of groundwater model € 150,000	C6 Developing the combined tool – COWI/GEUS € 201,000
C6 Calibration of groundwater model € 40,000	C6 Developing the combined tool - SCALGO € 70,000
C6 Run - Climate scenarios and sensitivity € 30,000	C6 License of SCALGO for 2019 - 2022 € 107,000
C6 Operation of groundwater model € 20,000	C6 Operation of groundwater model € 15,000
C6 River sea screening tool € 150,000	
C3 1 workshop renting venue 1,680	C3 1 workshop renting venue 1,680
Sum € 391,680	**Sum € 394,680**

Action C7 – Innovation

The legislation that determines what the regions in Denmark are responsible for, and are allowed to work with, is changed with effect from 1. January 2019. After this date Central Denmark Region no longer are allowed to work with business development. Therefore, the C7 is revised so the direct business activities are lifted by C20 and C21, while C7 focuses on innovation, eco system services and SDGs. Do to the fact, that C20 and C21 has no or a very small budget in Phase 2, they have agreed to continue the corporation with C2C CC. Together we will try to define and get funds to a complementary project with this subject.
A consequence is, that the title of action C7.3 changes from "Train start-up companies on business development within ecosystem services" to "Train relevant stakeholders on innovation within ecosystem services". The former focus on companies changed to focus on relevant stakeholders.
Likewise the title of action C7.4 changes from "Support export of Danish solutions" to "Dissemination of Danish Water concepts".
Despite the fact that the change of legislation could seem to be of major importance to the project, we believe that the effects will not change significantly.

C8 – Håb to Håb

With the use of an interactive model tool in C8, HEDKOM expects to be able to complete the C8 project successfully despite the cuts in the budget. Purchases of the C8 interactive model tool has happened in Phase 1. The choice of tool is inspired by cooperation with LK and LVS and inspiration from the C2C CC study trip to Holland in May 2018.
Minor changes in the budget is necessary. These changes is detailed described in the amendment request:

C8 – Håb til Håb

C18 – Climate Change adaptation in Hedensted and Tørring

Phase 2	Phase 3	Phase 2	Phase 3
	External assistance costs: - € 5,300	Direct personal costs: + € 5,300	
	External assistance costs: - € 13,400	External assistance costs: + € 13,400	
	External assistance costs: - € 20,400	Direct personal costs: + € 20,400	

C9 – The Thyborøn Channel and the Western Limfjord

Economic resources have been relocated from C9.2 New Forms of cooperation with emergency management to C9.1 Mapping of the project area in form F3, Phase1. Mapping and modeling the project has turned out to be more expensive than expected. There is a need to model more scenarios (storms). More tasks under C9.2 will be handled internally by the members of the partnership to compensate for the additional consumption of C9.1. Some of the deliverables in C9.1 in Phase 1 will take place in Phase 2.

In the budget € 37.050 is transmitted from Phase 1 to Phase 2.

C10 – The River Grenaa Catchment

Minor specifications in the description of how to do the project:

- Data collection will continue because the model have a more complete foundation, if the data with on it is based has a longer timespan – therefor data collection will continue into phase 2 and run at the same time as setting up the model and calibrating. Due to this € 80.000 is transferred from Phase 1 to 2 for data collection.
- The workshop under C10.1.2 has been postponed. The bid workshop with involvement of external experts has been postponed, due to the securing the base and foundation of the project local. There have instead been held a workshop for local stakeholder, NGO's, and local organizations. € 720 is transferred from Phase 1 to 2, due to pushing the large workshop for expert involvement to Phase 2.

C11 – Randers Fjord

The fjord model will be finalized in Phase 2, when the Coastal Directorate (Kystdirektoratet) also finalize their work with modeling the fjord. The work will be combined in a teamwork between the governments work and C11's work to secure synergy and cost effective results. This has no changes in the budget.

In C11.3 Phase 2 has swallowed Phase 3, therefor Phase 3 must be split from Phase 2 – this work will be done in Phase 3 as the final step in the project, after the model has been made and run in Phase 2. Also here there will be no financial changes.

C12 – Gudenåen

Due to the long phase of clarification of procurement rules and contract negotiation, the modeling is postponed to February 2019, which means that several items from Phase 1 are transferred to Phase 2, the cost estimations are then also adjusted in Phase 1 and 2.

Economy transferred from Phase 1 to Phase 2:
Form F1 Direct personal Costs: 51.288 EUR
Form F3 External Assistance Costs: 76.767 EUR

Phase 1	Phase 2
Direct personal costs: - € 51,288	Direct personal costs: + € 51,288
External assistance costs: - € 76,767	External assistance costs: + € 76,767

C13 – Storå
No substantial changes, but added a description of the work in Phase 2.
No changes in budget.

C14 – Flood-proofing Horsens Town Centre
When the application was made, HORKOM found that the right way to go, was to make one tender to a main adviser for the whole project. Along the way, the municipality has acknowledged the need for modeling and scenarios, to make a shared ownership with the waste water company, SAMN Forsyning, towards needs for climate adaptation. The initial model calculations and scenarios are on going. The intention is that the studies must be taken into account, in order to focus the tender, more on innovative water management, climate adaptation solutions, processes, stakeholder owner ship and agreements, etc.
There are no changes in budget.

C15 – CCA in Hedensted and Tørring
The experience of C15.1 work in Phase 1 has shown that there is a need to change the overall and principle approach to a site-based and concrete approach. That means among other things, that the use of economic models as a basis for prioritizing focus areas, efforts and instruments is being reduced. Instead, greater emphasis is placed on the "place" challenges, opportunities and citizens 'common assessments of what gives them value at their place and the citizens' wishes for how their area is going to evolve.

The change in approach also leads to reconsider the added value Barometer in Phase 2 and in C15.3. Based on interactive processes in Phase 2, the added value barometer is adjusted to a catalog of value added related to specific locations, climate challenges and land use.

C15.2: The experience leading to the change in approach in C15.1 also leads to reconsider the C15.2 project. It is relevant to address cooperation between city and countryside as common challenges, with a higher priority. Common challenges, which is best solved by coordinated solutions both in the city and in the countryside. On this base recommendations and dissemination will be aimed towards a broader target group than field and drainage owners. Fall and winter 2017/18 were very rich in rainfall and caused major problems with harvesting of crops in 2017, and cold and wet fields in spring 2018. In this way the growing season was shortened. The following summer in 2018 was very hot and dry which also shortened the growing season with a very early harvest with low yield. The wet winter followed by a dry summer indicates that the climate issue for agriculture is essentially about being able to handle water in / on cultivated soil in a way so that the cultivation season can be utilized optimally.

HEDKOM is looking for partners who can and will be part of a collaboration to expand or supplement action C15.2 towards a "sustainable water management on cultivated land" in order to utilize the cultivation season optimally. SAK has shown interest in this. C15.3: The C15.3 project has already begun in Phase 1, as Tørring Development Council has prepared a

draft for a development plan with six concrete, and place specific initiatives. As start of the C15.3 project, HEDKOM has linked each initiative to the challenges of a changed climate. In this way, the issues in C15.3 is reversed and climate adaptation can be incorporated into the initiatives. Climate adaptation also becomes "added value".

The change of approach in C15 to a site-based and concrete approach means in C15.3 that the CCA work in Tørring primarily will be based on the city's own development areas in the city and in the proposals to develop new urban areas associated with it.

These considerations is reflected in updated description of Phase 2 and deliverables. The project scope will be the same as the budget.

C16 – Climate Ribbon

Due to increased activities and the progress of locally related projects, the workroom has already been established in Phase 1, thus the project is ahead of schedule.
The description of C16.3 is thus updated to cover the newest details and decisions related to the establishment and maintenance of the workroom. Activities 2-4 have been added to further describe the continuous activities related to the workroom, as they will continue into Phase 2 and 3.
Results are updated based on new and more optimistic expectations regarding the level of detail achievable within the timeframe of C2C CC.
No changes in budget.

C17 - Thyborøn City and Harbour

Some of the deliverables “Modeling – developing dynamic hydrologic model” will take place in Phase 2. More tasks under “Consultancy assistance at public meetings and workshops” will be handled internally by the members of the partnership.

Transmitted from Phase 1 to Phase 2: € 10.000

During Phase 1 we have changed the objective of Phase 2 regarding development of flexible pipelines for areas suffering from land subsidence. The adjusted objective is to develop innovative methods to extend the lifespan of pipelines in areas suffering from land subsidence.
First we have discovered that flexible pipelines exist on the market today. Second we have assessed that flexible pipelines is not the optimal solution in our case. Instead we need smarter and satellite based methods to forecast and plan for local land subsidence.
During Phase 1 the partnership has put out to tender the development of a dynamic model describing groundwater level as a function of land subsidence, precipitation, seawater level and further relevant parameters. The tender included a proposal for a detailed monitoring program.

The incoming tenders did not meet our expectations and our demand for a relatively simple and accurate model. The partnership has initiated a new working partnership with the Dutch consortium 3Di Waterbeheer. The model from 3Di is able to meet our demands. The cooperation with 3Di waterbeheer is expected to continue during the full project period, since the model is the foundation of most of the project. The objective of developing a dynamic hydrologic model demands more resources in Phase 2.

C18 – Citizen driven CCA in Juelsminde

A consequence of the major effort in Phase 1, efforts and budget is reduced in Phase 2 and is

almost cut off in Phase 3. The budget funds from C22 are transferred to C18 where intensive action is needed in the remaining part of phase 1 and phase 2:

C18 – Climate Change adaptation in Hedensted and Tørring			**C22 - Infiltration of surface water though permeable coating**		
Phase 1	**Phase 2**	**Phase 3**	**Phase 1**	**Phase 2**	**Phase 3**
Other costs: + € 1,700				Direct personal coast: - €1,700	
	Travel and subsistence costs: + € 2,300			Direct personal costs: - € 2,300	
	External assistance costs: + € 7,044				Direct personal costs: - € 7,044
	External assistance costs: + € 956			Direct personal costs: - € 956	

C19 – Sustainable Urban Drainage System

At the municipality, the calculated budget for Phase 1 has been too low. Furthermore we had to act on political momentum regarding parts of the overall project which meant moving the analysis on Tranebjerg, Samsø Golf Course and Besser Made from Phase 2 to Phase 1. Tender material will be postponed to Phase 2 where the politicians at the municipality are giving the opportunity to decide whether to allocate funds to materialize the projects in reality.
Due to the reasons mentioned above, the estimates for Phase 2 has been corrected and adjusted for progress of the project in Phase 1. The adjustment doesn't include technical changes in any part of the project. The budget for Phase 2 is composed of the following posts, excluding overhead:

Phase 1	**Phase 2**
Direct personal costs: + € 6,000	Direct personal costs: - € 6,000
Travel and subsistence costs: - € 2,347	Travel and subsistence costs: + € 2,347
External assistance costs: + € 7,139	External assistance costs: - € 7,139

C22 – Infiltration of Surface Water Through Permeable Coating

Especially dissemination of the climate road in the C22 project has been extensive and resulted in a relatively large overuse compared with the budgeted in Phase 1.
HEDKOM has found it appropriate to respond quickly and massively to the great interest - locally, nationally and internationally - the establishment of the climate road brought with it.

HEDKOM has, in cooperation with VIA, established the climate road in Phase 1. The establishment of the climate road has attracted major public awareness. HEDKOM has

for this reason, had a significant overrun of budgeted staff resources for communication and dissemination of the climate road in Phase 1. In that context, budget resources for C22 in Phase 2 and 3 are transferred for other uses within HEDKOM's C2C CC portfolio. In Phase 2, HEDCOM will continue its efforts on climate roads in search and establishment of complementary projects. This effort is primarily conducted outside the C2C CC program

Report on recommendations prepared in connection with the establishment of the climate road is postponed to Phase 2.

The milestone "Guidelines and recommendations are finalized" is moved to Phase 3, as there is no need to stop monitoring before it is necessary. The foundation for guidelines and recommendations will be of a higher quality.

The changes in budget is described under C18.

C23 - Potentials for increased infiltration in new urban areas

All reports from C23.1 have to be postponed to Phase 2 as bad weather has made the mapping campaign impossible to do in Phase 1. The changes in budget is as follows:

Phase 1	Phase 2
Direct personal cost: - € 1,682	Direct personal costs: + € 1,682
Travel and subsistence: - € 429	Other costs: + € 429
External assistance costs: - € 2,000	External assistance costs: + € 2,000

C24 – Climate History | Culture History

Some of the costs relating to travel and consumables in Phase 1 were smaller than expected, and was thus moved to Phase 2.
The budget for travel and consumables are thus lightly increased in Phase 2.

Phase 1	Phase 2
Consumables: - € 2,060	Consumables: + € 2,060
Travel and subsistence costs: - € 782	Travel and subsistence costs: + € 782

D1 - Monitoring the project's contribution to the implementation of the CCA plans

No changes is wanted. Short descriptions of how and when, the action is worked with, is added.
The budget is also not changed.

D2 - Monitoring of the project's impact on climate objectives

No changes is wanted. Short descriptions of how and when, the action is worked with, is added.
New Constraints and assumptions is added.
The budget is also not changed.

D3 - Monitoring of the project's socio-economic impact (incl. ecosystem functions)

Only added description of actions in Phase 2 in order to prepare Phase 3 and after LIFE. It is important, that the action links to future use in the partnership and hopefully combined with the measure methods to be used in Climate Alliance.
No changes in budget.

D4 - Environmental monitoring
It really does not make sense to monitor the direct environmental impacts of C2C CC while the project only involves planting a small stretch of road with permeable coating. But as the complementary projects that include the realization of climate adaptation in continuation of C2C CC, there will be an impact. This is proposed made clear in the text.

E1 - Communications and outreach plan
Nothing is really changed in this action, but the "How" is descripted more in details.
There are no changes in the expected costs.

E2 – Tangible communication products
The way we communicate is changing quickly these years. For example, press releases are almost never released, while many official messages are broadcast via social media. Therefore, action E needs to be updated with the communication reality we now have. Similarly, the initially planned method of electronic knowledge sharing has been resolved in a completely different way than originally described. Against this background, the description of the communication work has been updated.
Nu changes in budget.

E2.3 Newsletters
An example of the above mentioned is, that we at the end of 2018 send out newsletters twice a month and use LinkedIn several times every month. It is our experience that LinkedIn is very suitable for reaching relevant stakeholders about the activities of C2C CC. Messages are often spread very far quickly. On the other hand, it is our impression that press releases only to a lesser extent reach the audience we want to reach. Newsletters contains information like invitations, calls etc. to a rather specific audience. This targeting of our communication activities is updated in the description.
No budget changes.

E3 – Seminars and conferences
It is our experience, that the IWA (International Water Association) gives great opportunities for inspiration and dissemination. The secretariat and several representatives from the partnership and the steering committee participated in IWA 2018 in Tokyo in order to prepare IWA 2020 in Copenhagen. In Denmark we have established a planning committee to make IWA 2020 an event with 10.000 participants, and C2C CC is one of the good stories to show and tell about. It is our plan in the partnership that we will offer visitors to IWA 2020 an excursion to CDR where they can see innovative climate adaptation. Some of the options were exposed in Tokyo in a Story Map. This will be extended to IWA 2020 in such a way that

The StoryMap of C2C CC is explained at IWA 2018 in Tokyo.

there will also be a possibility to book a tour etc., and coordinated tours will be arranged to suit the interested participants. In this way we expect the dissemination of our experiences with cooperative processes, innovative climate adaptation and support for the companies' possibilities for export, etc.

In addition we plan to participate in ECCA conferences, while these maintains the relevant international network very well.

We refrain from joining the ICCCGW, as it is to focused on research, and thus, is less relevant to the project and the partners. This choice also reflects that we are pressured on the economy for assistance in communication work and must save on expenses and may consider to move budget from E3 to E4 at the next shift in Phases.

E4 – Media Works

This action is supplemented by signature stories, with is stories telling the whole C2C CC story instead of only the local or actual story. The partners are free to use te stories, and will this way be helped in their communication work to remember the connection to the other C2C CC projects, the corporation across borders and the LIFE funding.
We are short on money in this action. This challenge will be solved by being more efficient on other tasks in the secretariat in order to save the needed money

7. Project Specific Indicators

The KPIs have been submitted via the KPI web module:
https://webgate.ec.europa.eu/eproposalWeb/kpi/module/project/details/1515

8. Comments on the financial report

The project-related costs have been held within the specifications and frame of the original, approved budget for phase 1, and in compliance with the General Conditions of the eligibility of costs as described in the Grant Agreement.

The financial expenses, which have been held, are in line with the accumulative expenditure, that have been estimated from the 1th of November 2016 until the 30th of November 2018 by all beneficiaries - these numbers have previously been reported on the 30th of November 2018 as per Grant Agreement.

Finally the financial expenses have been held in compliance with the revised budget for phase 1.

The following deviations can be clarified as accordingly:

Personnel:

- Beneficiary LVS has encured personnel costs for director of LVS Lars N. Holmegaard. The role for Mr. Holmegaard has been and is Project Manager. He has a spezialised knowledge and is a higly skilled expert within water management. The personnel costs for Mr. Holmegaard in phase 1 has been significant higher than in the original budget, as the original budgeted plan was to hire an additional person as project manager and at a lower daily rate.

Durable goods – Equipment:

- The Purchasing of 2 laptops for modelling purpose became less expensive.

- The budgeted expenditure for the monitoring equipment for urban water projects, have in the revision of the budget been replaced to the Consumables category.

Other costs:

- The additional expenses compared to the original budget for phase 1 are at € 48.515. Compared to the revised budget the difference is at € 13.217. The reason for the variation being:

- The Guidelines for the classification of costs in Intergraded Projects, deviates specific from the classifications of project expenses in regards to external assistance and services or other cost compared to the Danish guidelines for financial coding.

- The coding of service costs realized can be rather difficulty, as a number of these expenses are related to partner meetings, contractually agreed. Most of these costs are low amounts, held in accordance with the Grant agreement

- A number of the realized service expenses are covered by the Government and Municipality's Purchasing Agreement (SKI), which is placed in open tender every five years.

8.1 Summary of Costs Incurred

	PROJECT COSTS INCURRED						
Cost category	**Budget according to the Grant Agreement in € -**	**Budget for reporting period in €**	**Revised Budget €**	**Incurred costs overall till reporting date in €**	**Cost incurred within the reporting periode in €**	**% of periode budget spent**	**% of periode revised budget spent**
1. Personnel	6.213.277,00	2.585.837,00	2.449.581,00	2.432.574,13	2.432.574,13	94%	99%
2. Travel and subsistence	425.215,00	157.028,00	143.597,00	145.698,00	145.698,00	93%	101%
3. External assistance	4.067.812,00	1.825.319,00	1.564.649,00	1.625.604,61	1.625.604,61	89%	104%
4. Durables goods: total non-depreciated cost	-	-	-	-	-		
- Infrastructure sub-lot.	-	-	-	-	-		
- Equipment sub-lot.	6.993,00	6.993,00	1.335,00	551,40	551,40	8%	41%
- Prototype sub-lot.	110.000,00	110.000,00	99.625,00	106.683,51	106.683,51	97%	107%
5. Consumables	23.341,00	3.341,00	12.276,00	1.571,34	1.571,34	47%	13%
6. Other costs	72.108,00	15.715,00	51.013,00	63.360,62	63.360,62	403%	124%
7. Overheads	764.312,00	329.296,31	302.545,00	306.323,05	306.323,05	93%	101%
Total	**11.683.058,00**	**5.033.529,31**	**4.624.621,00**	**4.682.366,67**	**4.682.366,67**	93%	101%

8.2 Accounting system

- The Coordinating Beneficiary has composed Guidelines for the eligible costs and for the reporting. These have been distributed to all beneficiaries (including Midtrum).

- Each partner has its own individual accounting system, a number of the public bodies use the same accounting system. Codes have been set up for identification of the project costs and for purpose of analysing the costs encured.

- Each partner has their own internal procedures for purchase, approval and payment of expenses.

- All partners are bound by The Government and Municipalities Purchase Agreement (SKI). This ensure the compliance of the rules regarding selection of vendors, prices etc.

- Manual completed timesheets are used in the project. Employees at CDR are using electronic timesheets with the necessary information encoded as per the instructions in the guidelines. Productive hours for all employees are set for 1.720 hours per year.

- The project employees, who are using the manual completed timesheets, are filling these out on a daily basis. After every months end, the time sheets are signed by the employee and approved by his or her superior.
- The project employees, who have specifically and contractually seconded to the project for a fixed percentage of time, have signed a special employment contract, which all have been approved by their superior.

- Every project managers for all beneficiaries ensures, that the invoices contains a clear reference to the LIFE project, ensuring that the invoices are marked with the Life project number in order to show the link to the LIFE project.

8.3 Partnership arrangements

- The main parts of all transactions have been carried out by each individual partner.

- In actions C9 and C12 costs for external assistance have been purchased by one partner and subsequently costs shared by the participating partners, in accordance to the actual agreement and invoice from the vendor. No addition.
- All partners have booked all costs in their internal book keeping systems.

- The study tour for Holland with 50 participants was paid by The Coordinating Beneficiary (CDR) and each partner participant paid a contribution to CDR of € 335.

- CDR has calculated the hourly rate for all project employees. CDR has likewise compiled all project financial statements based on the information of expenses (uploaded in Midtrum). All associated beneficiaries have approved and signed the completed financial statements.

- CDR has also prepared the consolidated cost statement.

8.4 Certificate on the financial statement

- In accordance with art. II.23.2.d in Letter Amendment no. 1 to Grant Agreement for the project – only the Coordinating Beneficiary is covered by this rule.

- The Central Denmark Region (CDR), is obligated to produce a certificate on the financial statements and underlying accounts.

- The auditor is Ernst & Young. They will certify and follow the format of the standard audit report form available on the LIFE website.

8.5 Summary of costs per action

- Allocation of the costs incurred per action for the reporting period has not in general been carried out by all partners.

- A complete allocation of all costs by all partners would be highly time consuming and the benefit wouldn't match this.

ANNEX 1

DELIVERABLE AND MILESTONES SCHEDULE

MAIN DELIVERABLE PRODUCTS OF THE PROJECT

Name of the Deliverable	Code of the associated action	Deadline	Actual date of completion
A memo sent to the beneficiaries PowerPoint presentation	A1	31/5/2017	31/10/2017
Report on best practices in relation to CCA mainstreaming (desk study) Report on strategy on how to work with cross-sectoral cooperation A PowerPoint presentation	A2	31/12/2017 31/05/2018	No longer relevant Moved to Phase 2 and 3
A report and database on information from previous data analyses and reports A report showing both quantitative and qualitative answers	A3	31/03/2017	15/01/2019
A script used for conducting the interviews A report showing both quantitative and qualitative answers A PowerPoint presentation used to disseminate the information	A4	15/04/2017 31/05/2018	15/04/2017 03/11/2017
Minutes of meeting. Initial contact is made with LGDK and relevant national ministries and agencies, and the first meeting is set up	A5	31/03/2017	31/12/2017 Continues under C5
One note on replication of the findings in the project Note on the continuation of a CCA and coastal challenges network after the IP incl. recommendations on purpose, organisation and financing.	C1	31/12/2022 31/12/2022	In process
An interactive 3D decision support tool on the water flow in catchment areas across municipal borders (same as C6.2). 1 forecast system based on models and meteorological forecasts available for the public 1 Note on new concept for utilities to pay farmers to retain water upstream cities, and thus save costly investments in the cities. 1 report on different business models to ensure win win solutions between the agriculture and urban areas. Action Report on the synergies between agriculture, CCA and wetlands 1 report on 'Impacts of CCA on freshwater ecology'.	C2	31/12/2018 31/12/2020 31/12/2020 31/12/2020 31/12/2020 31/12/2020	Primo 2018 In progress

Report with maps showing groundwater flood prone areas. Training material in the form of maps and descriptions. Report on the available tools on groundwater mapping including relevant test and demonstrations Workshop report on the results discovered. General report on the potential needs for local models in groundwater flood prone areas based on the results from the local and regional modelling. Guideline on local scale and regional scale modeling. Report - Identifying conflicts built in the present tax system on energy and water consumption. Report on relevant use of excess groundwater on a regional and local scale.	C3	31/12/2020 31/12/2018 31/12/2020 31/12/2020 31/12/2020 31/12/2020	 February 2019
Evaluation report on the capacity of SUDS and the limitations set by the local hydrology, geology and other framing conditions. A report on SUDS used in C2C CC and possible SUDS systems to be introduced as means to prevent flooding from heavy rain events. A report on consultation with relevant producers of SUDS. Report on the learnings within stakeholder involvement in relation to sewage separations and SUDS. Training and inspirational material for the authorities and utilities to inspire the citizens on the possible solutions.	C4	31/12/2018 31/12/2020 31/12/2020 31/12/2018 31/12/2020	April 2018 No report is made
Newsletter on the activities of the Advisory Committees available at www.c2ccc.eu Small videos on the experiences, benefits and recommendations of the C2C CC actions available at www.c2ccc.eu Reports on expert consultations Peer reviewed journal article on the experiences of network governance in C2C CC. 1 guideline for network governance based on the experience in C2C CC 1 common regional strategy on CCA with the outset in integrative planning and network governance.	C5	ongoing ongoing 31/12/2022 31/12/2022 31/12/2022	On going
A High resolution groundwater-surface water model User guideline for the model An interactive 3D decision support tool on the water flow in catchment areas across municipal borders User guideline for the tool. Report on the test and demonstration of warning systems	C6	31/12/2018 31/12/2018 31/12/2018 31/12/2018 31/12/2022	Delayed two month 31/12/2018 31/12/2018
Report on best practice cases Information material on EU support and funding possibilities Report describing potentials for Danish Water Hub and a comparison of water exports before and after C2C CC	C7	31/12/2022 31/12/2017 31/12/2022	 31/12/2017
3 descriptive scenarios and 1-3 prescriptive scenarios for the Håb til Håb area's development A report on the pilot project	C8	31/12/ 2018 31/07/ 2022	Postponed to 31/12/2020
Two surveys of major stakeholders An analysis of the optimal, permanent protection A cross-border emergency preparedness plan	C9	31/12/ 2017 30/06/ 2019 30/06/ 2020	21/12/2017
Calibrated hydraulic model for the Grenaa Catchment Strategic plan for the area and its climate adaptation	C10	31/12 2018 31/12/2022	31/12/2018

Report on mapping, modelling and analysis of the Randers Fjord A feasibility study into a possible subsequent EIA for a dam project Modelling Tools and two municipal strategies for land use in and around Randers Fjord	C11	31/12/2018	31/12/2018
Report and catchment tool og River Gudenaa Catchment area Catalogue of solutions, costs, etc. Material from workshop, travels etc. with stakeholders	C12	31/12/ 2018	Delayed to Q2 2019
Report on designation of test areas and mapping of drainage factors; Description of solutions for testing. Monitoring report.	C13	31/12 2018 31/12/ 2020 31/12/ 2022	Postponed to 31/12/2019
A model that can calculate scenarios for the total flooding from the sea, watercourses and sewage systems Technical background reports of model methodology and results , designated local sites and solutions, filling times for reservoirs and dimensioning of pumps and sluices, solutions for water flow and for the catchment area that promote biodiversity as much as possible, improve water quality and provide recreational options for local residents. Design material of dikes, sluices and pumps that inspire to provide recreational urban spaces.	C14	31/06/2017 31/12 2019 31/12/2020	31/06/2017
An added value barometer for Hedensted Town a citizen involvement tool The stakeholders' (Citizens) local climate proofing plan(s) for Hedensted and Tørring. 1 leaflet with recommendations (bullet 5 and 6) Technical report on drainage systems and scenario results for one area.	C15	31/12 2018 31/07/2021 31/07/2022	-> Phase 2
Report on the identification of the Climate Ribbon's exact size as well as geographical, biological circumstances (e.g. groundwater layers, soil, contamination etc) Publication of program for an international professionel competition on the Climate Ribbon Reports, investigations and masterplan for elements of the Climate Ribbon, incl. expected concrete planning for parts and publication of accumulating reports with best practice from methods of dissemination, incl. with the showroom/workroom.	C16	01/10/2017 01/01/2018 31/12/2022	01/10/2017 01/01/2018
A detailed investigation program for monitoring groundwater levels, pollution and land subsidence in Thyborøn and Harboøre Tange. A dynamic adaptation model describing the interaction between e.g. rainwater, groundwater, seawater, and pollution on the basis of a hydrogeological model.	C17	31/03 2018 31/12 2019	June 2018
Hydrological model of the risk of rising groundwater (saltwater) after high tides + Recommendations Booklet about rising groundwater in coastal areas Two articles for international periodicals, e.g. Journal of Hydrology Process description for the establishment of a new dike association. Model for local organisation for climate change adaptation and development in Juelsminde.	C18	31/12/2019 31/12 2019 31/12 2019 31/12 2018 31/12/2019	 -> Phase 2
Documented stakeholder network methodology Report of conceptual designs for SUDS at Tranebjerg, Ballen	C19	31/12/2018 31/12/2018	31/12/2017 -> Phase 2

and Samsø Golf Course and Besser Made Project video accessible at the C2C CC portal, at the Energy Academy's homepage (with LIFE logo) and at SAK homepage (with LIFE logo).		 31/12/2021 31/12/2022	 March 2017 March 2017
Evaluation report of amount of visitors and business collaboration	C20	31/12/2020	
A concluding report with feedback from interviewees on their interest in the Climatorium and a list of potential companies having expressed interest as tenants. A feasibility study of tourism documented in a report.	C21	31/12/2018	Postponed to Phase 2 31/12/2018
Report on the test of installation of a permeable coating (climate road) Sub-report on examination of which filter media the road is best built with to provide the most optimal removal of road-related xenobiotic substances Sub-report on examination of the degree to which permeable surfacing can be integrated with geothermal heating/cooling.	C22	31/12/2018 31/12/2022 31/12/2022	31/12/2018
4 reports of the test results of the infiltration potential methodlogy 1 guideline with process description of how the infiltration potential map can be prepared. Complementary project description.	C23	31/12/2017 31/12/2018 31/12/2018	-> Phase 2 -> Phase 2 -> Phase 2
4 Open Access scientific papers distributed across Sub-projects 1 and 2: I) 4 popular science/outreach articles Climate tourism brochure for the Region Data on storm flood pillars archived at http://historiskatlas.dk and on CD-ROM A synthetic popular science book on climate and culture history in CDR	C24	30/10/2019 30/10/2019 31/10/2021 31/12/2019 31/10/2023	
Monitoring protocols Baseline report Monitoring report for phase 1	D1	31/03/2017 31/07/2017 10/10/2018	-> Phase 2 -> Phase 2 29/03/2019
Baseline report on flood and risk maps Final monitoring report Monitoring report for phase 1	D2	31/07/2017 10/10/2021 10/10/2018	January 2019 29/03/2019
Monitoring protocols Report on Ecosystem services assessment methodology Monitoring report	D3	31/03/2017 31/3/2018 10/10/2018	On going December 2018 29/03/2019
Monitoring report for phase 1	D4	10/10/2018	29/03/2019
Communication and outreach plan Report on feedback on quantitative statistics List of media contacts Communication plan for After LIFE activities (F1.1)	E1	31/03/2017 31/12/2022 31/02/2017 31/09/2022	31/03/2017 Developing all the time
1 C2C CC website and 1 online platform 24 notice boards (1 large and 5 smaller notice boards for 4 projects). 12 newsletters incl. articles, progress reports, etc. 1 layman's report in 400 colour copies and online download	E2	31/03/2017 30/11/2017 15/12/2022 10/11/2022	01/11/2016 31/11/2016
Agenda for the seminar and presentation on review of legal barriers (cf. E3.1) Conference material and one pagers for three C2C CC conferences	E3	31/05/2018 10/01/2018 09/01/2020 15/11/2022	October 2017 10/01/2018

Booth material (demonstration projects) for use for the three conferences Presentation to use at ENCORE Presentation to use at ICCCGW		 2018 (the date for the conference is not yet set) 10/07/2019	September 2018
24 press releases over the course of the six years 17 agendas for the "study trips" to the demonstration projects	E4	31/12/2022	
1 overview of all Danish projects having received LIFE funding and other Danish projects having received other EU funding and relevant in relation to C2C CC 24 confirmation letters/emails of attendance to events	E5	30/04/2018 31/12/2022	On going follow up
24 short films disseminated on the C2C CC website	E6	31/10/2022	
Phase 1 progress report Phase 2 proposal Phase 2 progress report Phase 3 proposal Mid-term report Phase 3 progress report Final report Electronic Log book After LIFE Plan	F1	31/09/2018 31/08/2019 31/09/2020 31/09/2022 31/06/2023	
Report on Kick-off seminar Report on Communication workshop	F2	26/01/2017 28/02/2017	30/03/2017 30/03/2017

MAIN MILESTONES OF THE PROJECT

Name of the Milestone	Code of the associated action	Deadline	Actual date of completion
Desk research and interviews are conducted	A1	31/05/2017	22/08/2017
Draft strategy on cross-sectoral cooperation and presentation at the seminar (cf E3.1)	A2	31/05/2018	03/11/2017
Desk research and interviews are conducted	A3	31/03/2017	03/11/2017
Interviews are conducted and presentation at the seminar (cf E3.1)	A4	31/05/2018	03/11/2017
Initial contact is made with LGDK and the first meetings are set up	A5	31/03/2017	31/08/2018
Common tender material to be used in the partnership Workshop on sustainable approaches to coastal protections Workshop on new governance and involvement models	C1	01/02/2018 01/06/2019 01/06/2020	Not wanted
Compiling experience of warning system Investigating the possibilities of areas that can be flooded and possible funding of the investment Development of forecasting Test and demonstration	C2	31/12/2018 01/06/2018 31/12/2020 31/12/2022	Postponed to Q2 2019 On going
Outline of groundwater flood prone areas on a regional basis including workshop Identification of built in conflicts with existing tax system and legislation including workshop Relevant use of excess groundwater and the constraints and barriers	C3	31/12/2019 31/12/2020 31/12/2021	

Training and inspirational material for authorities and utilities on how to involve local land owners in implementing SUDS. Overview on SUDS experience in C2C CC Evaluation on the SUDS experiences within C2C CC.	C4	31/12/2020 01/06/2021 31/12/2021	
Interviews with Danish ministries, networks and universities Study tour to Germany and The Netherlands to study organizational and practical solutions on CCA and coastal challenges Training course in integrative planning processes and network governance 6 catchment based workshops with C2C CC partners to define cross-cutting issues and activities and to decide on a common framework for integrative planning (all six workshops) Development and formulation of a common regional strategy on CCA with the outset in integrative planning and network governance. At least one of the 6 C2C CC thematic partner seminars (stormøde) has adopted integrative planning as a common theme. Call service established, where the partners can call the Advisory Committee	C5	01/07/2017 31/10/2017 31/12/2018 31/12/2019 01/07/2019 01/01/2021 01/07/2017	On going 04/06/2018 04/06/2018 will continue 01/07/2017
Groundwater-surface water model constructed (C6.1) Observation data collected and groundwater-surface water model calibrated All CDR municipalities have applied the tool and use the results in decision making and spatial planning 3D decision support tool is constructed (C6.2) Testing completed All CDR municipalities have applied the tool and use the results in decision making and spatial planning Exploring and testing warning systems (C6.3) DEMA and 5 municipalities have applied an extended warning system module for flood prediction	C6	01/07/2018 31/12/2018 31/12/2022 01/07/2018 31/12/2018 31/12/2022 31/12/2022 31/12/2022	01/07/2018 15/01/2019 01/07/2018 15/01/2019
6 workshops on best practice and/or topical issues; Annually from 31.12.17 to 31.12.22 Advising 10 companies Interviews of 30 clean-tech water companies	C7	31/12/2022 21/12/2020 31/12/2018	31/12/2018
Project ideas selected and deselected Pilot project prepared Project ready to be executed	C8	31/12/2021 31/07/2022 31/12/2022	

Kickoff Meeting with the entire project team. The establishment of the project team with the participation of emergency management units North and South of the Western Limfjord. Analysis of the optimal level of protection available. A cross-border emergency management for handling of storm surge events established. A number of proposals for funding are available.	C9	 31/02/2017 30/06/2018 30/06/2019 31/03/2021	 28/02/2017 28/08/2018
Collection of data for the model and other assessments Elaboration of model and calibrating Screening and qualifying options incl. risk assessment Impact assessment of chosen scenarios and prioritization	C10	31/12/2018 31/12/2022 31/12/2022 31/12/2022	Postponed to Phase 2
Data collection for the 'Fjord model'; the preparation of this model Analyzes of different scenarios for future climate adaptation Strategy for future land use around Randers Fjord to climate adapt area where there is a collection of knowledge and assessments of activity 1,2, and meetings among stakeholders	C11	 31/12/2018 31/12/2018 31/12/2018	 28/02/2019 11/03/2019 Postponed to Phase 2
Collection of data for the model Establishment of model and calibration Scenario Driving	C12	31/12/2018 31/12/2018 31/12/2018	Postponed to Phase 2 Ditto Ditto
Registration of cultivation/area use. Agreements with farmers. Transfer knowledge of/present the project's progress and results on the internet, themed meetings and field tours with land associations, and to a wider, national audience. Monitoring of the transfer of knowledge of/presentation of possible solutions and results. Monitoring of the effect of the solutions on water retention, yields, biodiversity, leaching of nutrients.	C13	31/12/2018 31/12/2020 31/12/2020 31/12/2020 31/12/2020	Postponed to Phase 2
Collection of data A model calculating scenarios for the total flooding from the sea, watercourses and sewage systems Clarification of the possibilities for retaining water in the catchment area, including the open countryside and from the urban areas. Solution proposal for water retention, dikes, pumps and if required, barriers in the fjord Citizens and politicians involved in the development of the solutions	C14	31/12/2017 31/06/2018 31/12/2018 31/12/2018 31/06/2019	06/07/2017 18/09/2018 Postponed to Phase 2 Ditto

Technical report for one area on elevated land Leaflet about elevated land Added value barometer finalized Stakeholder integration carried out At least one project description ready for execution A process description on how climate proofing and the setting of goals has occurred through local organising.	C15	31/07/2021 31/07/2022 31/12/2019 31/12/2019 31/12/2021 31/12/2022	
Defining the area of the Climate Ribbon as well as analyses and studies of geographical and biological conditions Prequalification of 4-6 teams and launching competitive process Announcement of the winner of the international "Climate Ribbon Competition" Opening the show room / workroom and holding of regular, annual events, dissemination seminar and development of methods for the use of digital communication forms Preparation of accumulating reports and studies and preparation of a master plan / master plan for Klimabåndets elements - presumably with concrete plans for its parts	C16	01/10/2017 01/03/2018 01/04/2019 During final two years up to 2022	31/03/2017 15/06/2018
Kick-off meeting with project group 1st large citizens meeting Contract with private company and counsellor on development of innovative, flexible pipes A number of conceptual designs that can solve the climate challenges in Thyborøn and Harboøre Tange and contribute added value	C17	28/02/2017 31/02/2018 30/04/2018 31/12/2021	28/03/2017 12/06/2017 Postponed to Phase 2
Data loggers established and data logging started. Continued monitoring and verification of hydrological model for C18.1 Dike association created New organization of climate change adaptation and development in Juelsminde is completed.	C18	31/07/2017 31/07/2019 31/12/2018 31/07/2020	31/07/2017 Postponed to Phase 2
Preliminary investigation and initial involvement of possible stakeholders. Conceptual Design Tender material Preliminary investigations and initial stakeholder involvement, phase 2 Technical background report for modeling	C19	31/06/2017 31/06/2018 31/12/2018 31/12/2019 31/12/2019	30/03/2017 Postponed to Phase 2 31/12/2018

Hydraulic modeling incl. zero-alternative, coupled events and climate scenarios. Conceptual Design		2021 2022	
Application for financing from relevant foundations Stakeholder agreements established with central actors Innovation Camp partnerships agreements closed Optional subject in Innovation/Entrepreneurship provided Water Visits established Innovation Camp is launched	C20	31/03/2017 31/03/2017 31/12/2017 31/12/2017 31/12/2017 31/12/2018	On going On going from the start 31/12/2017 Not achieved Lack of funding 02/03/2018
The analysis of company types is finalized Interviews with entrepreneurs and companies are finalized The feasibility study of tourism is finalized Design criteria for the innovation house is finalized and the preparation of zoning plan and the political process is initiated. The conceptual design is finalized.	C21	31/06/2017 31/09/2017 31/12/2017 31/032018 31/12/2018	30/06/2017 30/09/2017 31/12/2017 31/08/2018 31/12/2018
Establishment of a baseline and the preparation of a monitoring programme First season measurements are evaluated with regard to the sub-projects and any necessary adjustments are made. Third season measurements are evaluated with regard to sub-project goals. Preparation of guidelines, recommendations and reports so that experiences gained from the current project are integrated into wider society.	C22	31/12/2017 31/12/2018 31/12/2020 31/12/2020	31/12/2017 31/03/2019
The statistical clarifications and correlations are finalized Production of a detailed infiltration potential map for the urban development areas. Preparation of recommendations for stakeholders about future working processes for the purpose of mapping the infiltration potential in urban areas.	C23	31/12/2017 31/12/2018 31/12/2019	31/12/2018 Postponed to Phase 2
Milestone 1.I – Nomination of staff Milestone 1.II – archaeological and geological field-investigations complete Milestone 3.I – the synthesis over the Region's coupled natural and cultural heritage and the C2C CC contributions published Milestone 3 – Climate history brochure for the Region complete Milestone 2.II – Exhibition opens	C24	31/03/2017 31/12/2018 31/12/2023 31/10/2021 31/10/2022	01/11/2017 31/12/2018
Indicators for added value defined and evaluation questionnaires developed Baseline for CCA plans established Phase 1 monitoring completed	D1	 31/03/2017 31/03/2017 31/07/2017 10/10/2018	Postponed to Phase 2 31/03/2017 31/07/2017 23/04/2019
Baseline for flood maps and risk maps established Monitoring in relation to final reporting Monitoring for phase 1.	D2	31/07/2017 10/10/2021 10/10/2018	01/02/2019 23/04/2019

Ecosystem service assessment methodology developed	D3	31/03/2018	31/12/2018
Data from existing databases related to employment and tourism gathered		10/10/2018	On going
Coordination with beneficiaries responsible from actions C8-C21 succeeded		07/07/2020	
Data from existing databases related to employment and tourism gathered	D4	10/10/2018	On going
The first draft of the communications and outreach plan is finished	E1	31/03/2017	31/03/2017
The feedback from all the dissemination events are analyzed and ready to use for planning of events after C2C CC is finished		31/12/2022	
The media contact list is prepared		31/02/2017	28/02/2017
Communication activities for After LIFE is prepared		31/09/2022	
Draft version of website and online platform	E2	26/01/2017	01/11/2016
Final version of website and online platform		31/03/2017	31/03/2017
Notice boards for 4 demonstration projects are ready		30/04/2017	30/04/2017
Notice boards for the remaining projects are ready		30/11/2017	30/04/2017
Newsletter 1 is published		30/06/2017	22/12/2016
Newsletter 2 is published		15/12/2017	20/07/2017
Newsletter 3 is published		30/06/2018	15/08/2017
Newsletter 4 is published		15/12/2018	29/08/2017
Newsletter 5 is published		30/06/2019	22/09/2017
Newsletter 6 is published		15/12/2019	10/10/2017
Newsletter 7 is published		30/06/2020	14/11/2017
Newsletter 8 is published		15/12/2020	06/12/2017
Newsletter 9 is published		30/06/2021	21/12/2017
Newsletter 10 is published		15/12/2021	19/01/2018
Newsletter 11 is published		30/06/2022	29/01/2018
Newsletter 12 is published		15/12/2022	13/02/2018
Layman's report is finalized		10/11/2022	06/03/2018
Seminar on legal barriers + other research is held	E3	31/05/2018	03/11/2017
The first C2C CC conference "The first year" is held		10/01/2018	30/03/2017
The second C2C CC conference "Half way there" is held		09/01/2020	
The final C2C CC conference "Done! What comes next?" is held		15/11/2022	
A presentation at the ENCORE conference		2018 (the date for the conference is not yet set)	
A presentation at the ICCCGW conference		10/07/2019	
Press release 1-4 are finished	E4	31/12/2017	10/10/2017
Press release 5-8 are finished		31/12/2018	06/07/2018
Press release 9-12 are finished		31/12/2019	
Press release 13-16 are finished		31/12/2020	
Press release 17-20 are finished		31/12/2021	
Press release 21-24 are finished		31/12/2022	
17 study trips have been planned and executed		31/10/2022	
The overview showing Danish projects (LIFE and other EU funds) is finished	E5	30/04/2018	12/06/2017
Participation in 4 events on CCA and/or CCM(year 1)		31/12/2017	31/12/2017
Participation in 4 events on CCA and/or CCM(year 2)		31/12/2018	31/12/2018
Participation in 4 events on CCA and/or CCM(year 3)		31/12/2019	
Participation in 4 events on CCA and/or CCM(year 4)		31/12/2020	
Participation in 4 events on CCA and/or CCM(year 5)		31/12/2021	
Participation in 4 events on CCA and/or CCM(year 6)		31/12/2022	

24 short film are finished	E6	31/10/2022	
New recruitments and establishment of project management unit Launch of steering group Phase 1 progress report “Clearing House” established Mid-term report Phase 2 progress report Phase 3 progress report Final report After LIFE plan	F1	01/11/2016 06/01/2017 31/09/2018 31/12/2018 31/08/2019 31/09/2020 31/09/2022 31/06/2023 31/06/2023	01/11/2016 31/12/2016 - Postponed
Kick-off seminar prepared Communication work shop prepared	F2	26/01/2017 28/02/2017	26/01/2017 28/02/2017

Annex 2 TIMETABLE

List all actions ordered by number and using their numbers or names. Tick as appropriate.

Annex 2 is attached

Annex 3 – Capacity Building and Dissemination in Phase 1

Annex 3 is attached

Annex 4 - Remarks to project visits 1-3 – Financial issues:

Annex 4 is attached

Annex 5 – Personnel – Timesheets and fixed % allocation

Annex 5 is attached

Annex 6 – Documentation for salary costs Niels Markussen

Annex 6 is attached

Annex 7 – Procedures for travel LVS

Annex 7 is attached