

# Introduction meeting

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# (Virtual) Round table introduction

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Professor, Consumption, Culture and Commerce (CCC) and Center for Humans, Health and Technology,  
Department of Business and Management, Faculty of Business and Social Sciences

Project team:

- Ciprian Cimpan, Associate Professor, SDU Life Cycle Engineering, Department of Green Technology, Faculty of Engineering
- Kristian Kidholm, Professor, Head of research, CIMT – Center for Innovative Medical Technology, OUH/SDU
- Elena Shulzhenko, Assistant Professor, Management of People (MAP), Department of Business and Management, Faculty of Business and Social Sciences

# The call – project goal

Through research the interdisciplinary PhD project must map possible reduction paths, identify options and barriers and make recommendations for a better climate behaviour at the hospitals, so that the hospitals in this and other regions are capable of reducing both their resource consumption and the climate and environmental impact effectively.

- Map best practice in relation to reduction of the greenhouse gas emissions from the hospitals through literary studies and fieldwork.
- Identify potential reduction paths, inclusive of possible solutions, financial consequences and potential barriers, for Danish hospital **towards 2030, 2040 and 2050** in context of the Danish 70% goal (1990-2030) and the regional 35% goal (**2020-2030 for the entire emission i.e. scope 1, scope 2 and scope 3**).
- Identify and analyse the existing and not yet available technological solutions and how these can be implemented, scaled and potentially developed at hospital, regional and national levels.
- Uncover and analyse legal and institutional barriers etc. in Denmark.
- Identify and analyse behavioural, cultural and managerial barriers, also compared to other hospitals in Denmark or Scandinavia, where the climate change also has a high priority.

# Formalities in relation to funders

## From the call:

- The PhD student must spend minimum 6 months with the region, either at its headquarter in Vejle or at one or more of the region's hospitals.
- Biannual reports on the PhD programme/status and biannual meetings with the region.

## From the SCC welcome letter:

- The granted amount for your PhD project will be transferred to the cost center of the principal supervisor's institute
- Annual reporting to SCC about the progress and results of the project. In the first two years, the reporting can comprise of the status report that the principal supervisor must work out towards the PhD student's first year and second year evaluations.
- SCC instrument you will get a so-called loose affiliation to SCC in HCM – SDU's HR system. This means that besides your primary affiliation to an institute/a center you will be affiliated to SCC.

# The project – a discussion of layout

## PhD main elements

- A model framework that allows to account the climate footprint for the regions healthcare sector (Scope 1-3), including the possibility to model effects of mitigations scenarios to 2050
- Mapping possibilities to reduce climate impacts
  - circular economy approaches (replacing single-use, waste streams)
  - eHealth services
  - other ?
- Estimating climate impacts of options to select most promising
- Observational and interview-based study of the practices and concerns inherent in the implementation of circularity, and in general to new practices in the sector
- Construction of scenarios
- Modelling scenarios
- Proposal of some roadmaps towards a more sustainable healthcare sector in the region

# The model framework

## Assessing environmental footprints

Danish Ministry of Finance and NIRAS, the impacts of procurement within the Danish healthcare sector was to the effect of **0.7 Mt CO<sub>2</sub>eq**

Health Care Without Harm - **3.2 Mt CO<sub>2</sub>eq or 6% of total national** consumption-based emissions

Climate account for the Central Denmark Region - 568.000 tons CO<sub>2</sub>, main component is healthcare

# The model framework

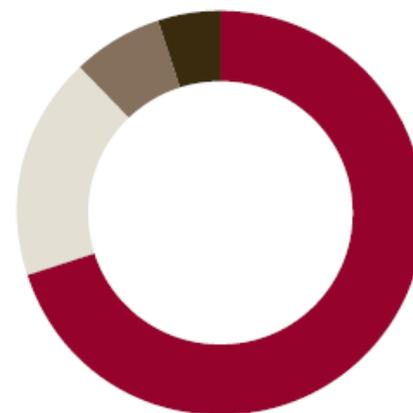
## Assessing environmental footprints

Climate account for the Central Denmark Region - 568.000 tons CO<sub>2</sub>, main component is healthcare

Region Midtjyllands samlede driftsomkostninger i 2019 var i alt 31,7 mia. kr., som fordelte sig således:

- Sundhed 29,7 mia. kr.
- Social og Specialundervisning 1,3 mia. kr.
- Regional Udvikling 0,7 mia. kr.

Fordeling af det totale klimaaftryk



Klimaaftryk, forbrug varer og tjenesteydelser



- Forbrug af varer og tjenesteydelser 70%
- Byggeri og anlæg 18%
- Transport 7%
- Energiforbrug 5%

- Læge- og sygefaglige produkter/udstyr 26%
- Medicin 22%
- Tjenesteydelser 21%
- Øvrige vareforbrug 18%
- Medicoteknisk udstyr 10%
- Fødevarer 4%

