



# C O M P L E X

Knowledge Based Climate Mitigation Systems for a Low Carbon Economy



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## **Policy considerations aiming at a path towards a fossil free society**

The following aspects provide some of the insight that we consider we have absorbed during the project process of investigation based on analysis and presence in the Swedish system, with emphasis on our chosen case region. Thus leaning on a multitude of experiences from the Swedish case study in the COMPLEX project - as well as drawing on other reflection inputs from the current literature and international conferences inputs - the following main points could be seen as suggestions to the top political structure in the region i.e. the "Mälardalsrådet" (roughly meaning "The Advisory council for regional issues in the Stockholm-Mälars region, including the city of Stockholm"). (Our case study has since long followed the Council work, especially in its efforts to outline transformations of the region including the path to a non fossil society. And we have also contributed to the Council Annual meetings in 2015 and 2016 presenting some of our findings).

1. The transformation to a non fossil society includes all aspects of society.  
That relates to all different levels of society, to all sectors and forms of stakeholder types. It also involve civil society at large and relates to the living conditions to all of the citizens of the region.  
This means that it is not only an issue of a change of the technical aspects e.g. of the energy system and related infrastructural mechanisms, but the transformation also connects to consumer behavior, and in more general terms issues about where we want to live and work in the future and how the inhabitants of this region within a few decades would consider what a well functioning society might entail, especially caring for the particular needs of persons of all ages and gender.
2. The transformation will not only create challenges of change, but will also invite new possibilities.  
This means that although the change is necessary and deep going it may also provide new competitive means in an international context – given that a change trajectory is chosen that encourages such possibilities.  
Thus the region should use the transformation process to serve these purposes at national and European levels to demonstrate solutions developed in the technical and ecological domains to foster avant guard forms of societal competitive ways forward – also serving other countries with less initial advantages for such performances.
3. The transformation requires a mobilization of the entirety of our society.  
This means that our democratic processes are fully used to invent and implement changes using a deepened planning process with democratic consolidation. Innovations should be encouraged – not only with regard to technology but also with regard to how society could be changed e.g. through changes of laws, rules, administrative processes, stimulation to risk taking and renewal in all sectors and by all actors as well as through the creation of new patterns of collaboration. There will be a need to creatively scrutinize our current patterns of values facing the new challenges within all strata of

society – public official structures, the business community and civil society alike. The further move towards a future oriented activity interest and openness towards change will be of strong importance. But this also put demand on the stronger segments of society to responsively caring for parts in society with more limited capacities.

4. The transformation is made within a very large complex system with many partial couplings.  
This means that the complexity will have to be orchestrated in partially new ways. This can be prepared through various ambitious experiments both at limited levels and actor spaces, but also in large constellations involving the needed investments for such actions. Such transformation experiments must be conducted in line with the goals of a fossil free society – and be done through strong encouragement, maybe deliberate relaxation of certain rules and with several diversified tests with varied starting points. However, the total overview of the process will never exist at any one time. Thus the constant upgrading of the vision in relation to path experiences has to develop in a dynamic interplay over the time.
  5. The transformation is being performed in a societal context within which there are several interplaying levels (e.g. the level of the individual, of the local municipality, the county, the sub-regional, the region, the national and the EU-levels – also influenced by the constantly changing international conditions at large).  
This means that the interplay between levels has to be given considerable attention. What once was a reasonable distribution of labor and responsibility might not be the same in the future due to changed conditions. The pressure to move quickly to a fossil free society also put stress on the governance architecture. Different versions of interplay between “bottom-up” and “top-down” solutions have to be conceived, developed and tested.
  6. The change towards a non fossil society is necessary. However, it can also provide advantages for other aspects of change in society.  
This means that a diverse set of solutions developed for the purpose to bring us to a non fossil society might also be supportive of other changes that are needed. One already very well known example is that goals related to the handling of climate change may go very well hand in hand with efforts to reduce health effects from harmful components in the atmosphere – not least in heavily urbanized areas. Such synergies have to be better explored and mobilized – much better than what is the case today. This also calls for more cross sectorial connectivity innovations.
  7. The transition is of course of a broad nature, but also have distinct regional dimensions. This means that the societal conditions that historically have been developed over long time in our specific case region also in the future must be guarded and cared for – but now in a directed non fossil context. The new possibilities that probably might be
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generated should be encouraged. An essential factor for success in this endeavor is a well spread sense of participation in the change process by large segments of the population in society. This means that all persons in society should be needed in one way or the other – and this should be conceived of in a multi generational perspective.

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The Västerås train station. The train between Västerås and Stockholm typically takes an hour and is short enough to allow for commuting between the two cities. (Photo: U. Svedin).