Bridging the Valley-of-Death – Demonstration projects' role in advancing sustainable energy and transport technologies

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Bridging the Valley-of-Death – Demonstration projects' role in advancing sustainable energy and transport technologies.

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There is a growing interest within industry, policy making and academia in the role of demonstration project in developing and implementing to sustainable energy and transport technologies. The reason for this interest is that demonstration projects "*shorten the time within which a specific technology makes its way from development and prototype to widespread availability and adoption by industrial and commercial users*" (Lefevre, 1984). However there are only few empirical studies of the learning from demonstration and trail projects in sustainable energy and transport (e.g. Hendry, Harborne, & Brown, 2010).

A recently concluded research project, InnoDemo, funded by the Research Council of Norway has targeted this research gab with a solid empirical foundation. The project was based on three sources of empirical data: 1) a database of 433 demonstration projects within sustainable energy and transport in Denmark, Norway and Sweden started in the period 2002-2012, 2) an online survey with 80 responds, and 3) in-depth interviews with 26 project managers and project participants covering 17 of the 433 projects.

There are four preliminary conclusions across the three countries. First, to promote succesfull projects public institutions need an absorptive capacity as full-scale demonstration projects test & provoke the whole (innovation) system around a new technology – in particular existing standards and regulation as well as financial institutions (e.g. venture capital, business angles). Second, policies towards adaption/innovation of standards and regulation must be supported and future needs must be foreseen. Third, financial institutions' learning needs to be included in early stages of demonstration projects – not added afterwards. Forth, individual actors are crucial as entrepreneurial persons and 'ordinary' staff (e.g. bus drivers in demonstration of hydrogen driven busses) are key to success and dissemination.

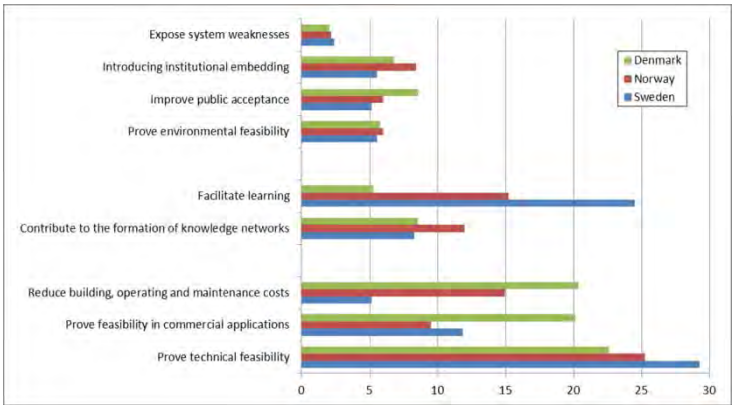

Figure 1. Aims of the projects in the database. Multiple aims possible, percentage (normalised) within each country.