



DANISH
TECHNOLOGICAL
INSTITUTE

it's all about innovation



Teknologisk Institut har eksisteret siden 1906

I over 100 år har vi sikret, at den nyeste viden og teknologi er blevet omsat til reel værdi for erhvervslivet.



DANISH
TECHNOLOGICAL
INSTITUTE



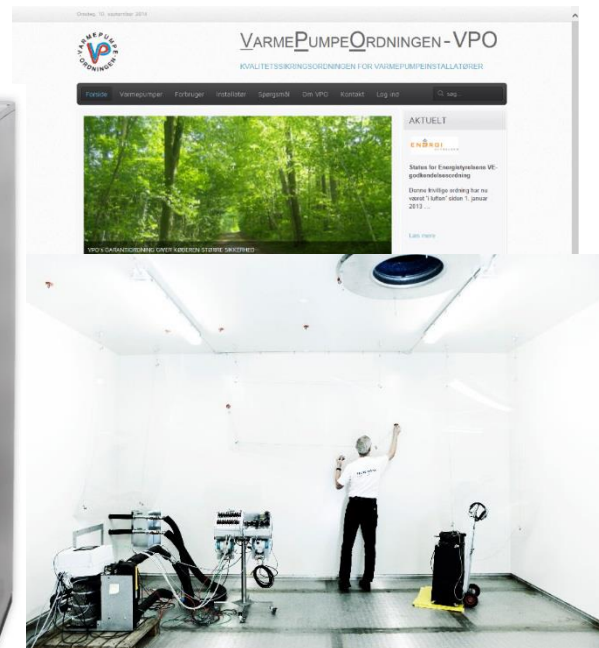
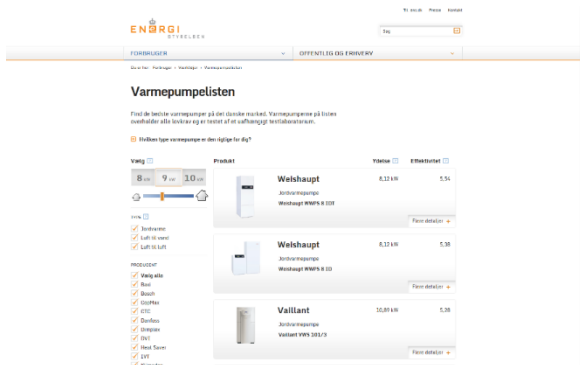


Transportens
Innovationsnetværk



DANISH
TECHNOLOGICAL
INSTITUTE



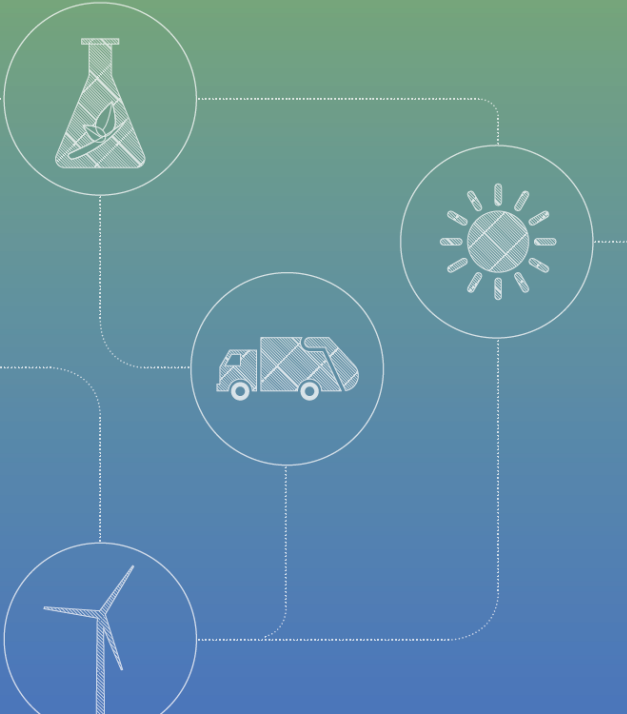


DTU International
Energy Report 2015

Technical University of Denmark DTU

**Energy systems integration for the
transition to non-fossil energy systems**

Edited by **Hans Hvidtfeldt Larsen** and **Leif Sønderberg Petersen**, DTU National Laboratory for Sustainable Energy



**DANISH
TECHNOLOGICAL
INSTITUTE**



Ingeniørforeningen, IDA
er en moderne interesseorganisation
og fagforening for tekniske og natur-
videnskabelige akademikere.

Sammenfatning

IDAs Energivision 2050

Et intelligent 100% vedvarende energisystem



AALBORG UNIVERSITET



May 2013

Disruptive technologies:
Advances that will
transform life, business,
and the global economy

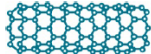


DANISH
TECHNOLOGICAL
INSTITUTE

Twelve potentially economically disruptive technologies



DANISH
TECHNOLOGICAL
INSTITUTE

	Mobile Internet	Increasingly inexpensive and capable mobile computing devices and Internet connectivity		Next-generation genomics	Fast, low-cost gene sequencing, advanced big data analytics, and synthetic biology ("writing" DNA)
	Automation of knowledge work	Intelligent software systems that can perform knowledge work tasks involving unstructured commands and subtle judgments		Energy storage	Devices or systems that store energy for later use, including batteries
	The Internet of Things	Networks of low-cost sensors and actuators for data collection, monitoring, decision making, and process optimization		3D printing	Additive manufacturing techniques to create objects by printing layers of material based on digital models
	Cloud technology	Use of computer hardware and software resources delivered over a network or the Internet, often as a service		Advanced materials	Materials designed to have superior characteristics (e.g., strength, weight, conductivity) or functionality
	Advanced robotics	Increasingly capable robots with enhanced senses, dexterity, and intelligence used to automate tasks or augment humans		Advanced oil and gas exploration and recovery	Exploration and recovery techniques that make extraction of unconventional oil and gas economical
	Autonomous and near-autonomous vehicles	Vehicles that can navigate and operate with reduced or no human intervention		Renewable energy	Generation of electricity from renewable sources with reduced harmful climate impact

Konference

Avanceret energilagring 2015

Smart energilagring med varmepumper
og batterier

1. december 2015 · Aarhus



Program

- 9.40 Strategi for dansk indsats inden for Smart Grid v/ Torben Normann
Schulze, specialkonsulent, Energistyrelsen
- 10.05 Status på varmepumpens rolle i det intelligente energisystem v/ Steen
Kramer, chefspecialist, Insero Energy
- 10.25 Smart Grid set fra en producents perspektiv – Ecodesign, Smart Grid,
Energimærkning
v/ Henrik Vogensen, produktchef, Vølund Varmeteknik A/S
- 10.45 Pause
- 11.05 Standard og kommunikation v/ Claus Amtrup Andersen, direktør, Eurisco ApS
- 11.25 Intelligent, avanceret energilagring – Batterier og de andre muligheder
v/ Lars Reinholdt og Kjeld Nørregaard, Teknologisk Institut
(Introduktion til eftermiddagens to spor samt til besøg i laboratorierne)
- 11.35 Besøg i batterilab i bygn. 22 (Spor B)
Varmepumpelaboratoriet i bygn. 14 og 16 (Spor A)
- 12.10 Frokost**
- 13.00 Intelligent storage for the home - Networking solutions for electrical and
thermal Energy
Jürgen Schwarz, BOSCH Power Tec GmbH



Program

13.45

Besøg i batterilab i bygn. 22 (Spor A)

Varmepumpelaboratoriet i bygn. 14 og 16 (Spor B)

Spor A: Batterier		Spor B: Smart Grid & varmepumper	
Konferencesalen, bygning 1		Mødelokale 17.1.2, bygning 17	
14.30	Intro til lagring v/ Lars Reinholdt, faglig leder, Teknologisk Institut	14.30	Intro til Smart Grid v/ Kjeld Nørregaard, senior projektleder Teknologisk Institut
14.35	Community Extended Power v/ Kurt B. Nielsen, bestyrelsesformand, CXPower	14.35	Smart Grid Open projekt intro og resultater v/Claus Amtrup Andersen, Eurisco ApS
14.55	Batteri systemtest v/ Bjarne Johnsen, seniorkonsulent Teknologisk Institut	14.55	Smart Grid Ready Label – eksempel på Smart Grid Open- testmetode v/ Kjeld Nørregaard, Teknologisk Institut
15.15	Pause	15.15	Pause
15.35	Energy Storage Systems v/ Rasmus Rode Mosbæk, projektleder, Lithium Balance	15.35	Varmepumper i et Smart Grid-system (HPCOM projekt) v/ Henrik Lund Stærmosé, Neogrid Technologies ApS
15.55	Termisk energilagring i metaller v/ Lars Reinholdt, Teknologisk Institut	15.55	Perspektiver for fremtiden v/ Claus Schøn Poulsen, Teknologisk Institut
16.15	Energilagring – spørgsmål og dialog	16.15	Smart Grid energilagring – spørgsmål og dialog
16.30	Afslutning	16.30	Afslutning