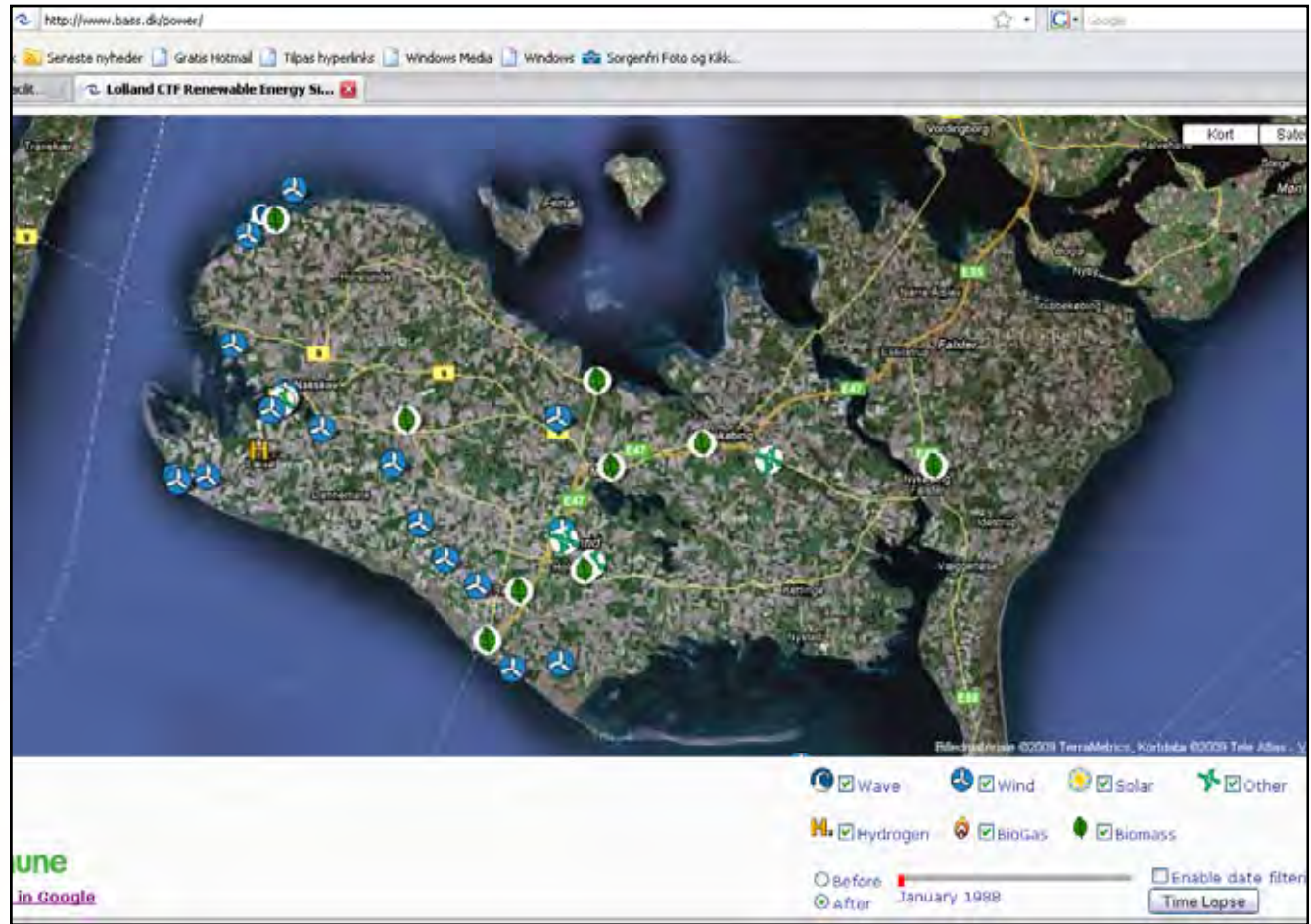


# Lolland CTF

**LOLLAND MUNICIPALITY**  
**Leo Christensen**

**20 May, 2009**

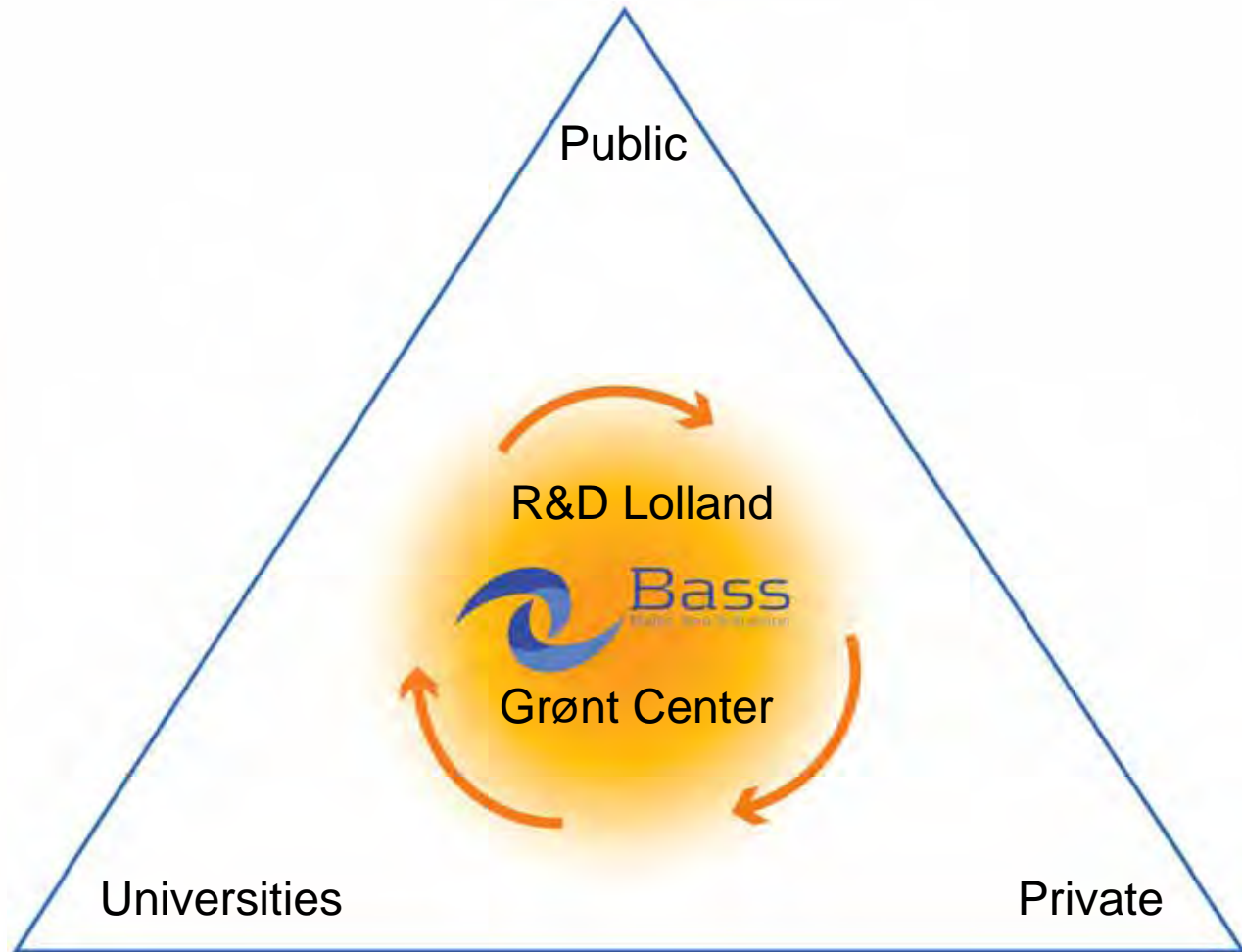
## Lolland CTF



## Vision

To create long-term partnerships within business, research and education on renewable energy, focused on solving today's energy problems from many angles, including technological, organizational and political approaches.

# Triple Helix Networks

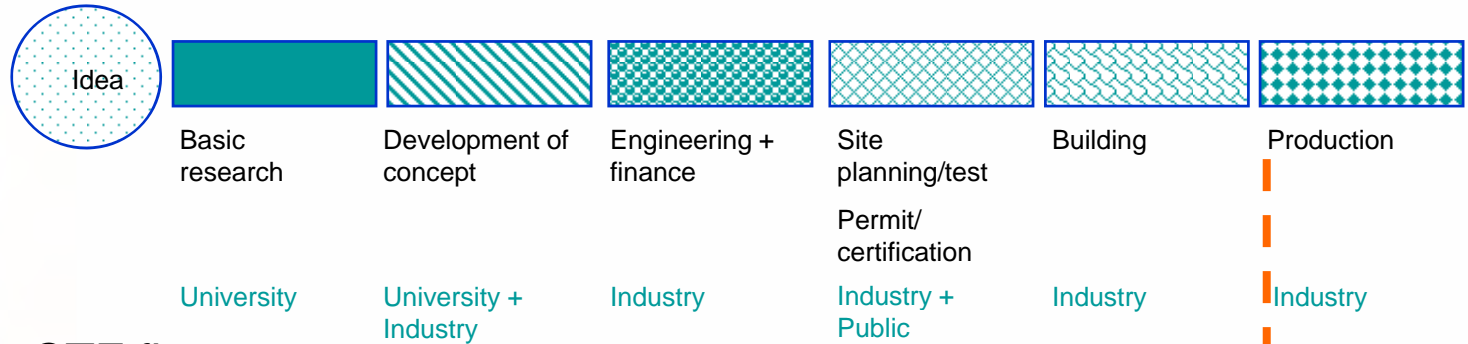


# Lolland CTF Networks

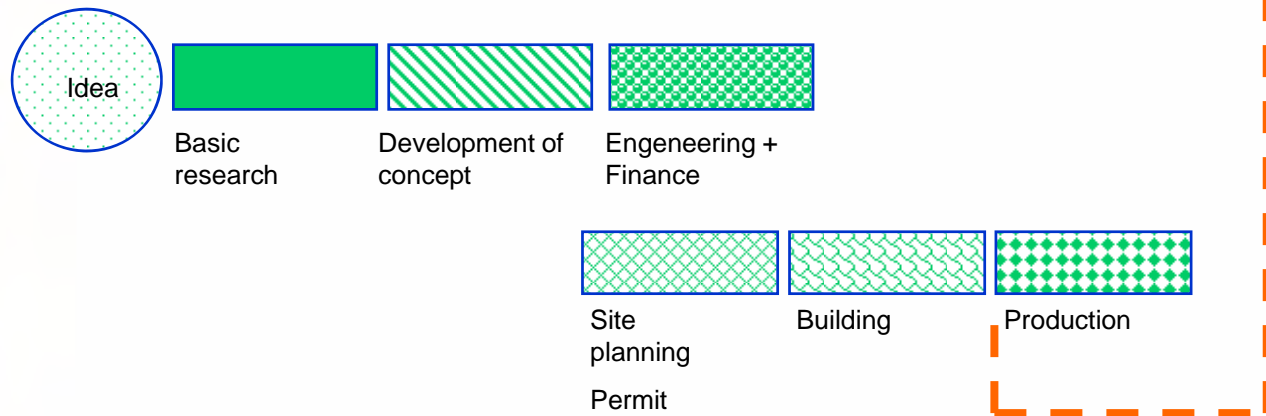
Private Industries	Universities	Others
<p>DONG Danfoss Alfa Laval Danisco Vestas DLG IRD A/S Dantherm Prima-Lyx Haldor Topsøe COWI DGC SEAS-NVE BSG Bioenergie Rapsol Wise Renewables (US) Solar Quest (US) Praj Industries, Indien</p>	<p>København Universitet Syddansk Universitet Danmarks Tekniske Universitet Roskilde Universitet Risø National Laboratorie Institut for Regional Udvikling og Strukturel Planlægning (D) CURS (FIN) Nordregio (S) Nordisk Energi Forskning NICE-Nordic Innovation Center Kaunas Technical University, Lithuania Tutech, Hamburg, (D) Berkely University, USA UCSC, USA UC Davis, USA Stanford University, USA Monterey Institute, USA, Millenium Institute, USA Nasa Ames, USA</p>	<p>LOKE (Denmark) REFA I/S (Denmark) Råhavegård Danske kommuner Region Sjælland KL Transport- og Energiministeriet Miljøministeriet Videnskabsministeriet Bass Netværk Østersøen Invest in Denmark (UM) Innovation Center Denmark Energistyrelsen Scandinavian H2 Highway EU Hydrogen Regions ISLENET Santa Cruz by og Amt Salinas Valley, USA Watsonville, USA Galapagos Islands Aruba Island Regioner I Canada Green Business Norway</p>

# CTF – How it works

The traditional flow...



CTF flow...

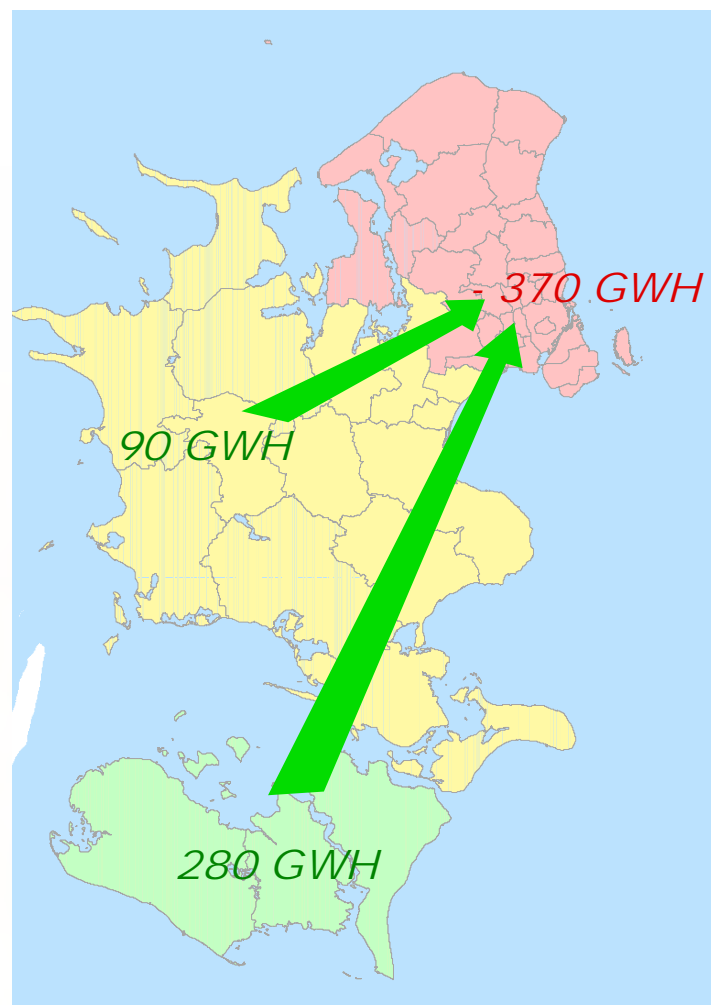


**Time saved**

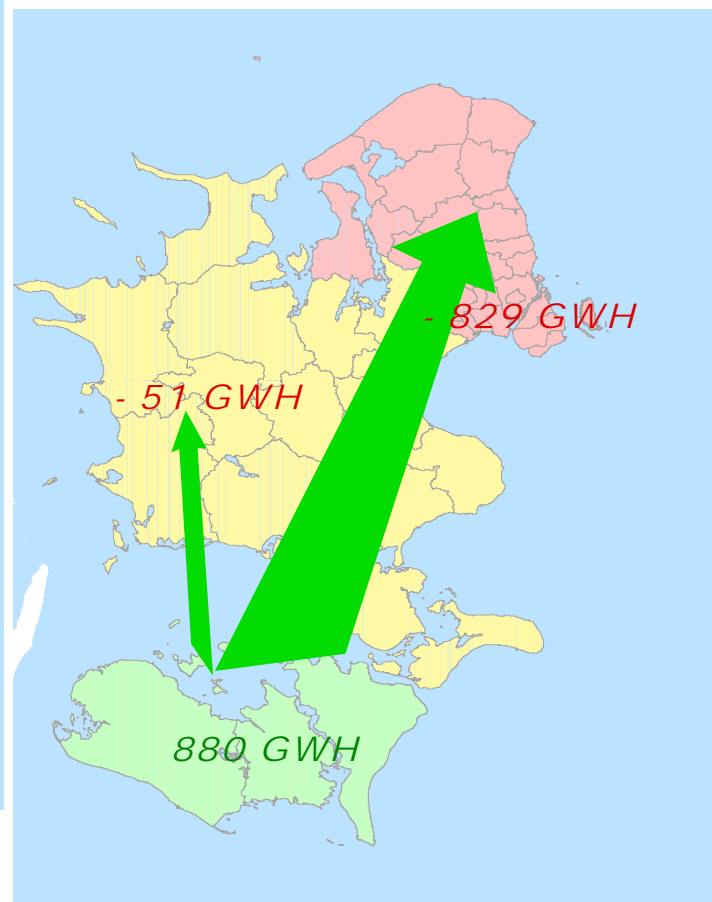
Alternative business with IP



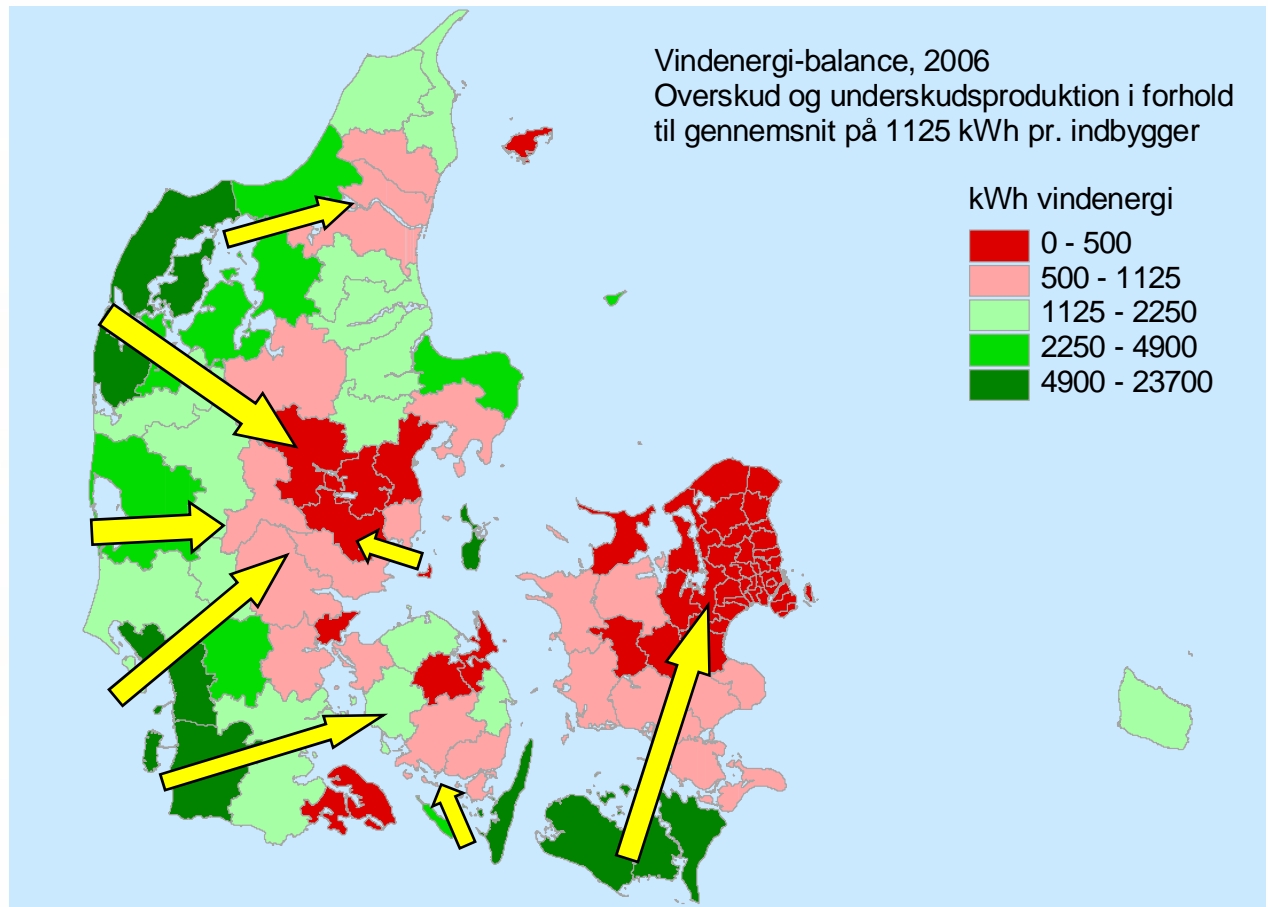
# Green electrical power production



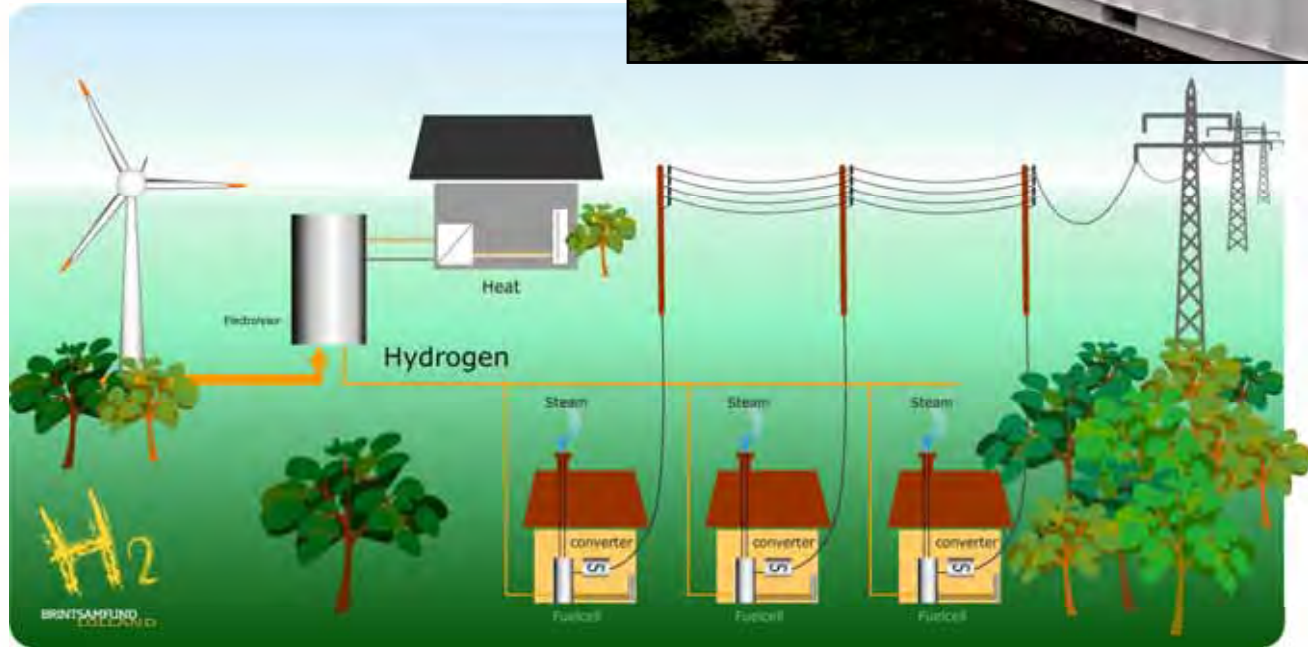
1996



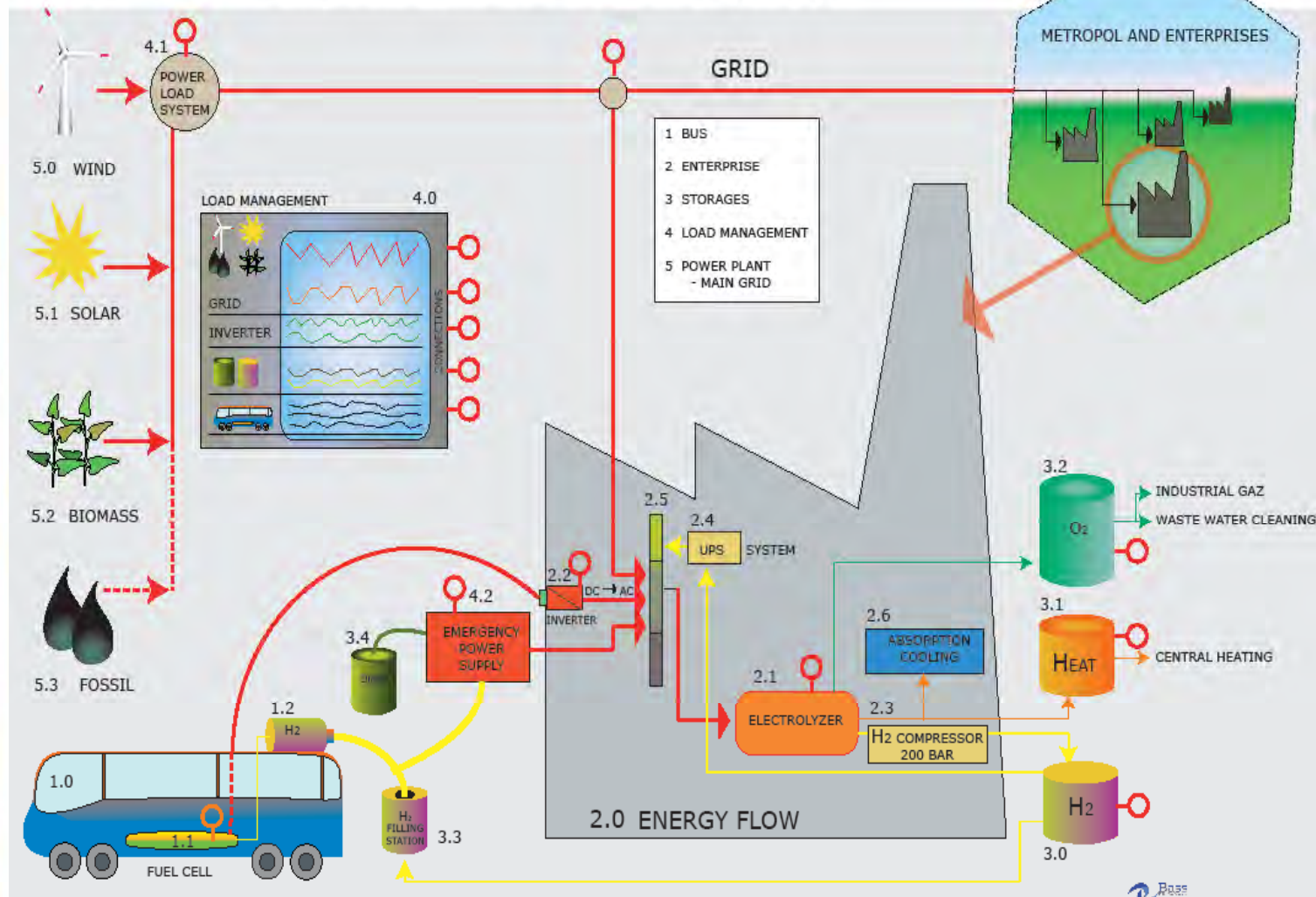
2006



## Hydrogen Village



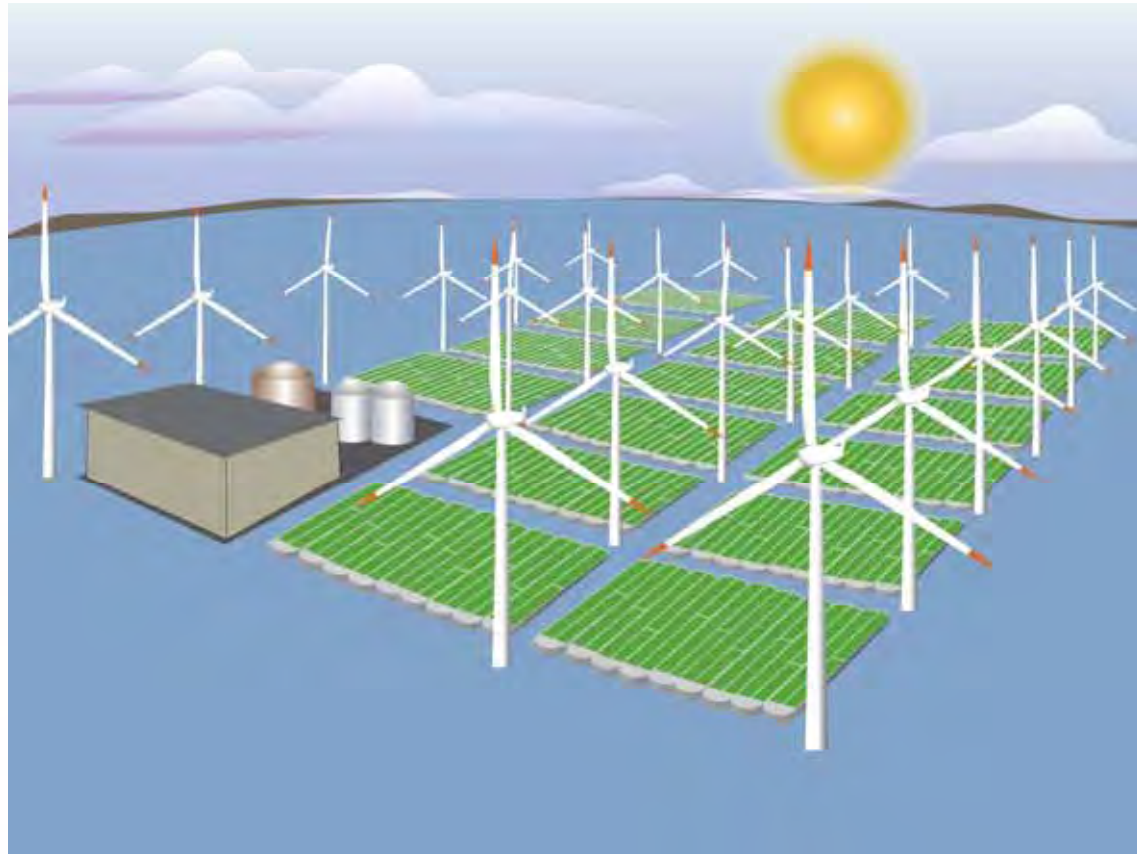
## INTEGRATED HYDROGEN UTILIZATION SYSTEM (IHUS)





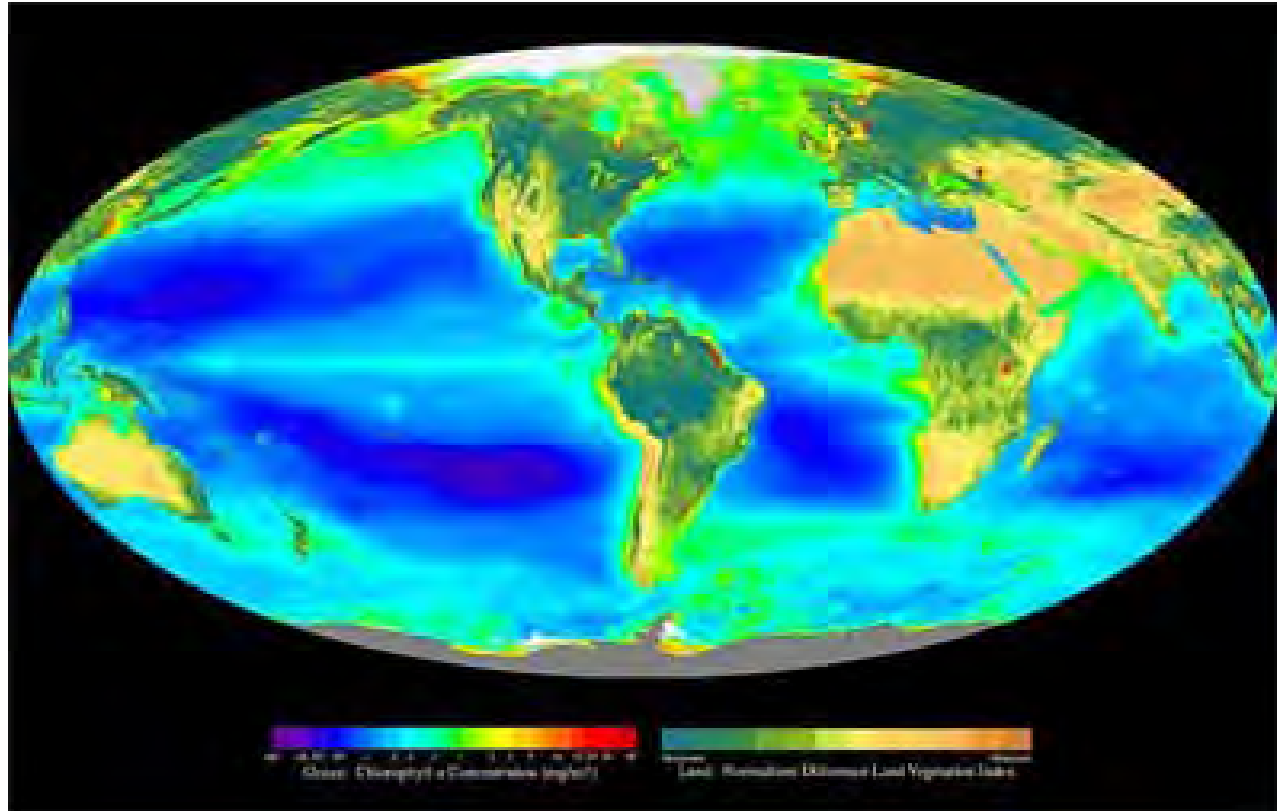








## The Globe and Biomass Production



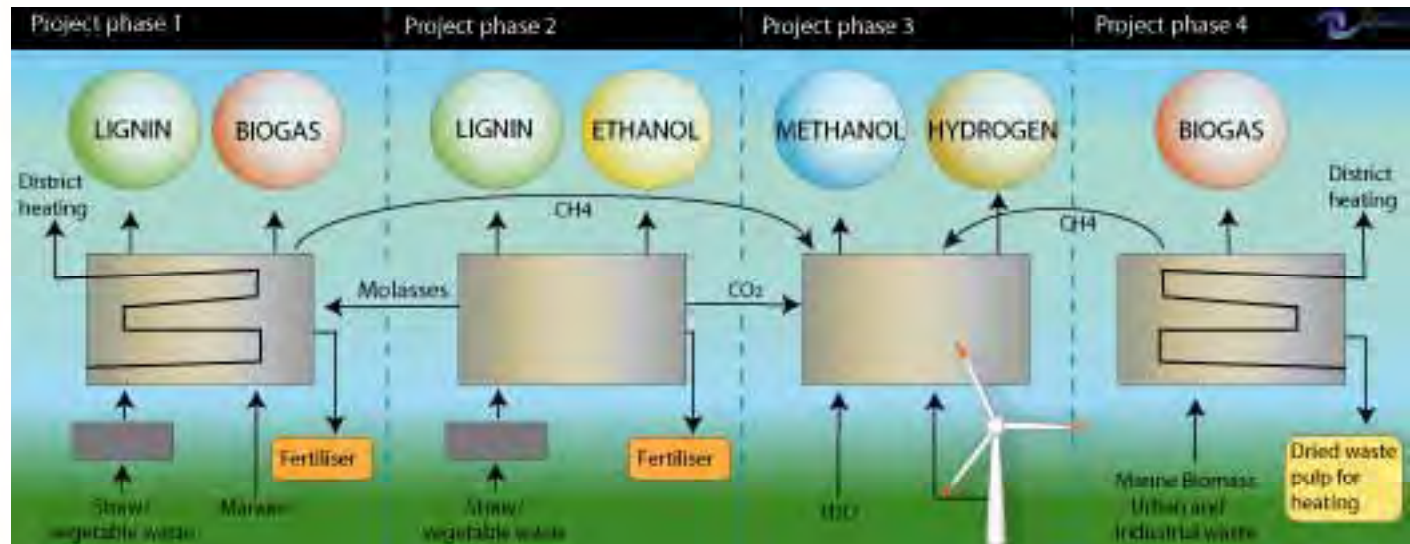
# Wave Energy & Offshore Test Field



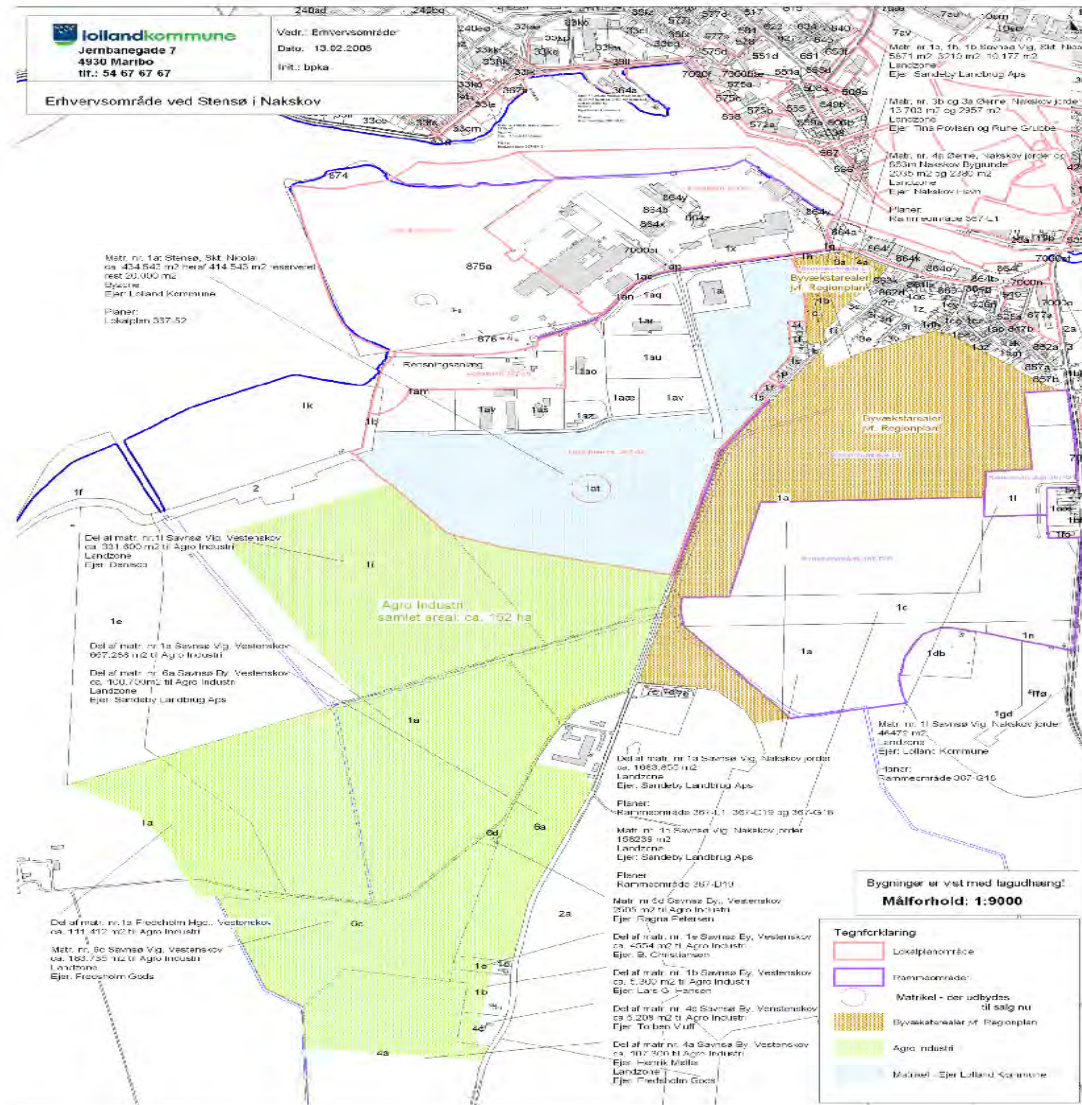
# Nakskov Environmental and Industrial Park



# Biorefinery in Nakskov



# Agroindustry Lolland



# Lolland CTF

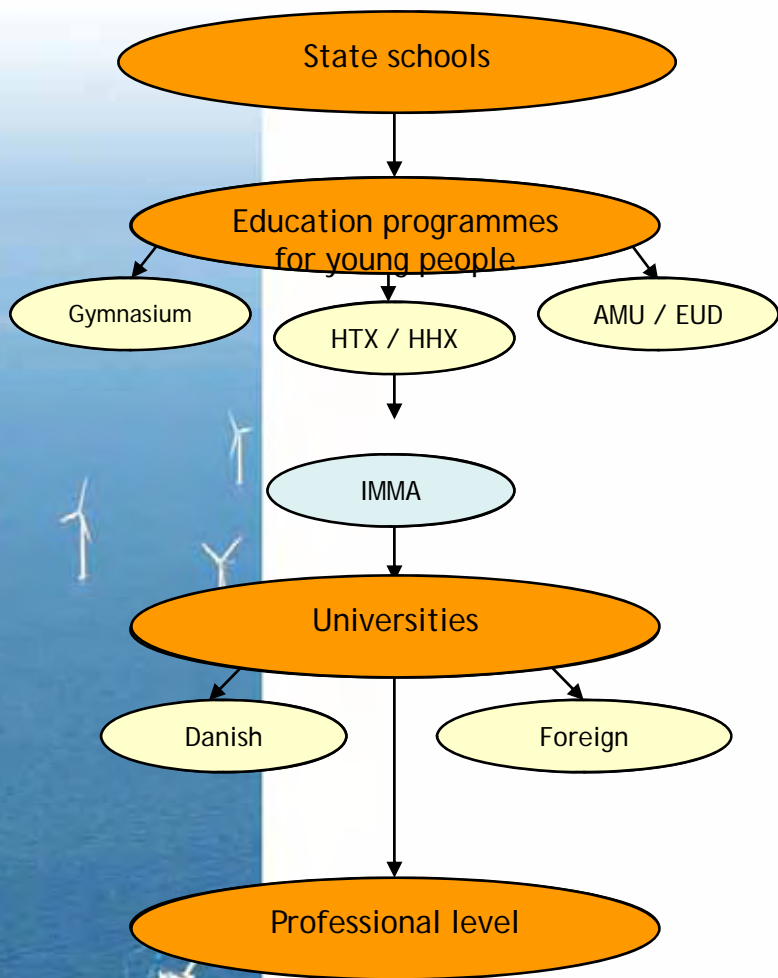


## HUG A WINDMILL!

- Triple E Tours
- Integrated into Lolland's art and cultural activities
- Activities and events for experts, investors, decision takers and tourists.



# Lolland Energy Education System



- Scribbling Competition, Lolland 2006 - 2007
- ECO schools network
- Potential participation in the First Lego League

- Projects under EU IEE-Education programme (Intelligent Energy Europe)
- Renewable Nations Consortium – a new organisation under UN mandate  
2 instructors have been employed
- Introduce T21- as a dynamic social model  
[http://www.millenniuminstitute.org/integrated\\_planning/tools/T21/index.html](http://www.millenniuminstitute.org/integrated_planning/tools/T21/index.html)

- IMMA = Interactive Media & Marketing Academy
- Multimedia design education – KVVU
- Educational projects within marketing of Green Energy Tourism

- Danish universities (KU, RUC, DTU) and foreign universities (UC Santa Cruz, UC Davis in California) are involved in Summer Camp on Lolland
- Massachusetts Training Center has sent students in the energy studies to Reality Camp in Lolland – CTF related research
- Use of T21
- CEUS Business School – involved in the development of Green Energy Tourism

- Extra curricular activities for practical training in the maintenance of offshore wind energy and safety standards.

Think global...



[www.lolland-ctf.info](http://www.lolland-ctf.info)

[www.bass.dk](http://www.bass.dk)

[www.lolland.dk](http://www.lolland.dk)

[www.loke-holding.dk](http://www.loke-holding.dk)

[www.h2-lolland.dk](http://www.h2-lolland.dk)

**Thank you for your  
attention**