

ERNEST final conference - Florence, June 27th, 2012

Sustainable tourism in the Danish ERNEST region - some examples



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Examples of increasing sustainability

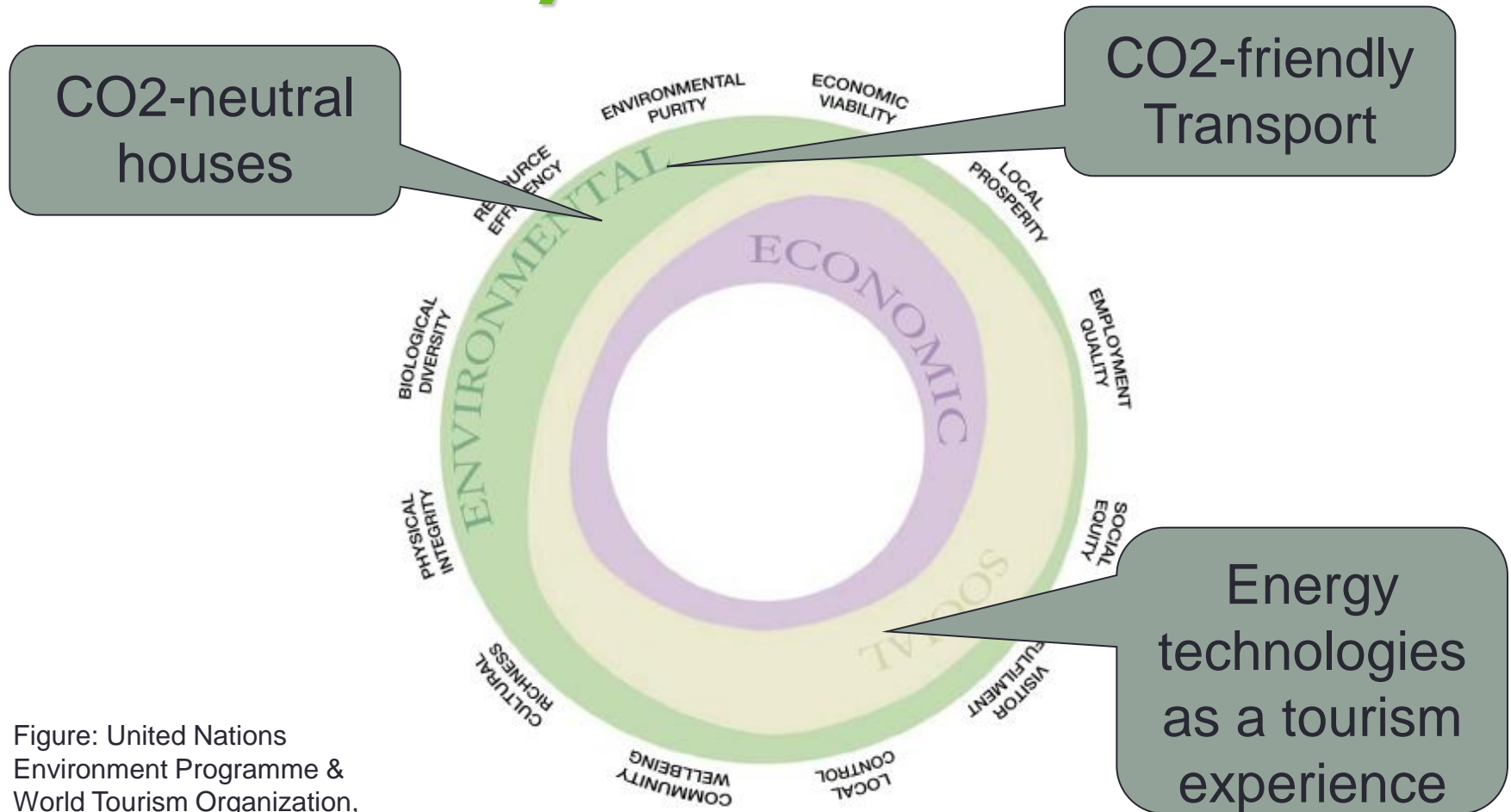


Figure: United Nations
Environment Programme &
World Tourism Organization,
2005.

Steps towards CO₂-neutral individual transport in the Danish ERNEST-region

- **Hydrogen cars** (www.scandinavianhydrogen.org & www.vatgas.se/images/stories/pdf/07029_advancing_nordic_hydrogen_report.pdf)
- Electric cars
- Biofuel plants
- Bicycling opportunities improved: www.cyclistic.dk

Hydrogen cars

- Energy from windpower and other alternative energy sources can be stored as hydrogen and used as fuel.
- Hydrogen Partnership in Scandinavia (since 2006)
- Plan for infrastructure development, commercial from 2015
- First-mover → high potential for income & jobs in sector
- 2050: 25-50 % hydrogen cars in Europe





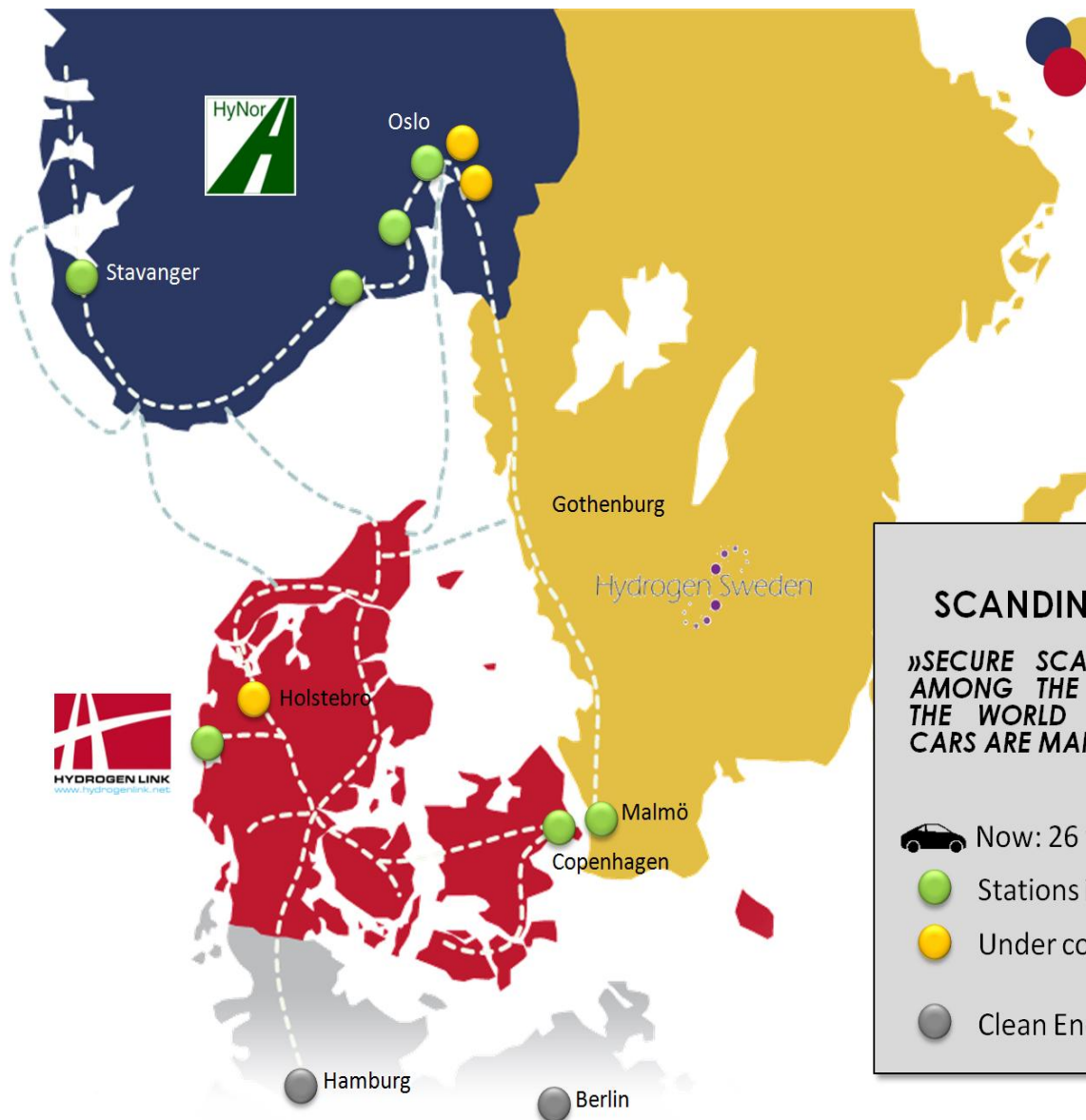
EUROPEAN COMMISSION
European Research Area



ernest
European Research Network
on Sustainable Tourism




Now
(2010)




**SCANDINAVIAN HYDROGEN
HIGHWAY PARTNERSHIP**
WWW.SCANDINAVIANHYDROGEN.ORG

SCANDINAVIAN VISION

»SECURE SCANDINAVIA AS ONE
AMONG THE FIRST REGIONS IN
THE WORLD WHERE HYDROGEN
CARS ARE MARKET INTRODUCED«

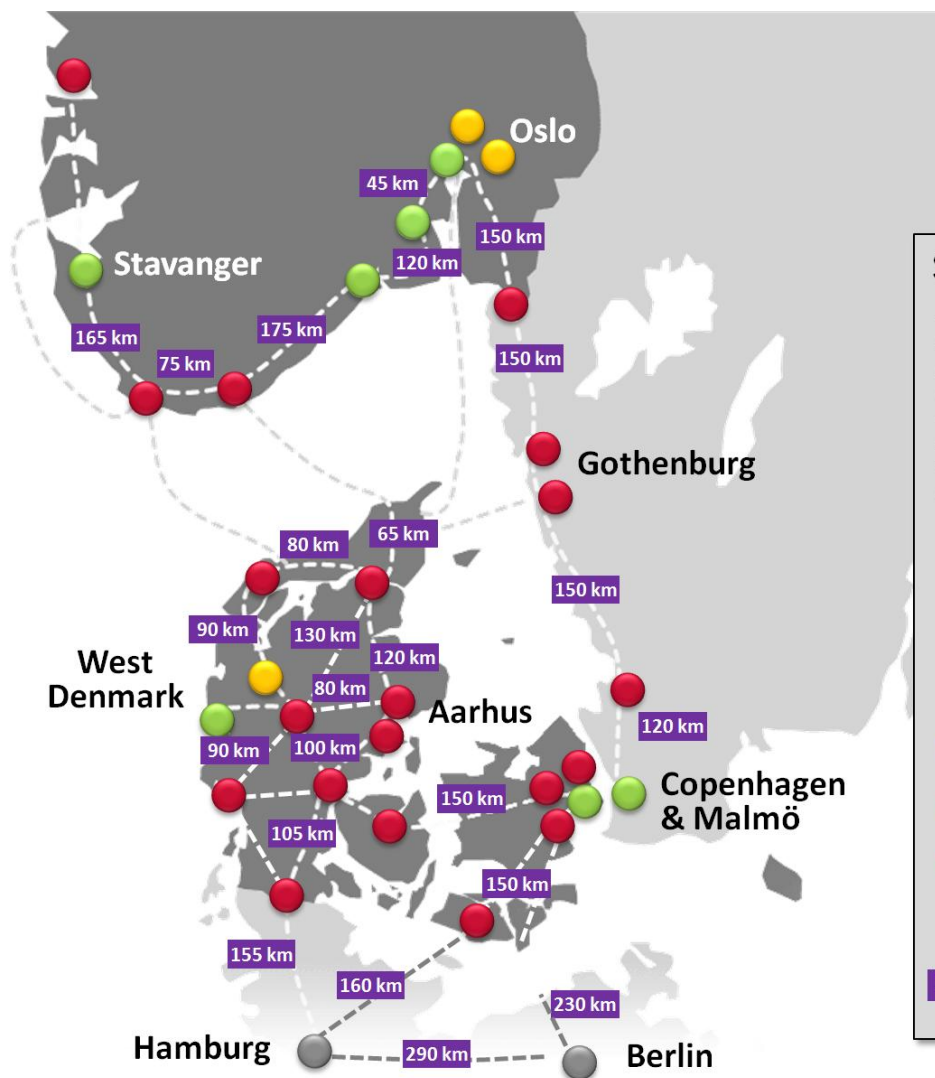
 Now: 26 vehicles | 2011: 43

 Stations in operation (7)

 Under construction (3)

 Clean Energy Partnership

2015 vision



SCANDINAVIAN HYDROGEN
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SCANDINAVIA 2015 VISION

» In 2015 it shall be possible to buy hydrogen cars and refuel hydrogen all across Scandinavia, and drive to the surrounding countries. The Network is to be built-up from metropolitan areas via corridors into countryside coverage«

Clustering many/larger stations in major Cities

Few/small stations in Regions, closing the corridor routes

- In operation (7)
- Under construction (3)
- Under consideration (20)
- Clean Energy Partnership

X km Road distance between stations

Toward CO₂ neutral buildings

Existing initiatives on passive housing and energy-efficient dwellings aimed primarily at the permanent residences. Technologies can be transferred to tourism facilities

Some examples:

Crowne Plaza Copenhagen Towers

'Future Vacation house'

Energy-renewal of second homes

Crowne Plaza Copenhagen Towers

- 4 star luxury hotel with 366 beds and conference centre
- Solar cells build into facade (> 200,000 Kwh/year)
- Groundwater heating/cooling system 110 m below ground reduce energy use by 90 %
- All electrical equipment highly energy efficient
- Food waste recycled for biogas
- 2 electric cars for pick-up
- Local food highly used

More info on hotel:

www.crowneplaza.com/h/d/cp/925/en/hd/rkecp

EU's Green Building Program:

www.eu-greenbuilding.org



CO2 neutral second home



- A second home designed to be build on Bornholm (island i ERNEST region)
- Self-sufficient with energy from heat pump + solar
- Under construction - transferable to other locations

More info: www.arkitec.dk &
www.bornholm.dk/groentbyggeri

Environmental initiatives as tourist attractions

Examples:

- The environmental learning experience (www.greeninsight.dk)
(energy technologies, alternative housing, organic food)
- State of Green Tours (energy technologies and cleantech) (www.stateofgreen.com)
- Windmill cruises - see and learn about windfarms
(http://www.dfdsseaways.dk/cruise_med_familien/event_cruise/eventcruise)



Conclusions

- Denmark has highly developed energy technologies (wind, solar, biofuel, hydrogen etc.). Slowly being integrated into tourism
- Many of these technologies have great potential in other countries and in tourism facilities & transport e.g. solar energy has much higher effect in the south
- Integrate into building codes, physical planning, demonstration projects on CO₂-neutral holiday resorts, transport systems and similar.
- First-movers get the competitive advantage but all can benefit from reduced energy costs & environm. benefits

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ERNEST PROJECT

Thank you for your attention

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