How to create the image of a green region – the example of Lolland

Leo Christensen
Lolland Energy Holding A/S
Denmark
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.
Lolland Toolkit

NEW COMPANY

EXISTING COMPANY

Lolland CTF Toolkit

INTERNAL TOOLS
- Political Level
- Town Council, financial committee
- Political resolved visions and objectives
  - Regional Plan - Master Plan
  - Local Plan, LA 21
- Administrative machinery
- Municipal management
- Business development department
  - Environmental permits
  - Site purchase & logistics
  - Utility services and connection
  - Taxes
  - Visualization
  - Other municipal services
    (housing, schools etc.)

EXTERNAL TOOLS
- Emergency services
- Public employment agency/
  - Available/suitable workforce
- Statistics
- Business related education
- Trade Union
- Framework agreements
- Existing business network
- Estate agents

FINANCIAL TOOLS
- Local - LOKE Invest
- Regional
- National
- IFI’S Financing schemes
- EU

The Company is established
Triple Helix Networks

Public

R&D Lolland
Wind Academy
Grønt Center

Universities

Private
INTEGRATED HYDROGEN UTILIZATION SYSTEM (IHUS)

1. BUS
2. ENTERPRISE
3. STORAGES
4. LOAD MANAGEMENT
5. POWER PLANT - MAIN GRID

GRID

METROPOL AND ENTERPRISES

INDUSTRIAL GAS
WASTE WATER CLEANING

HEAT
CENTRAL HEATING

H₂ COMPRESSOR 200 BAR

2.0 ENERGY FLOW

2.1 ABSORPTION COOLING
2.2 DC-AC INVERTER
2.3 ELECTROLYZER
2.4 UPS SYSTEM
2.5 H₂ STORAGE
2.6 H₂ COMPRESSOR 200 BAR

1.0 FUEL CELL
1.1 H₂ FILLING STATION
1.2 H₂ GAS

3.0 H₂
3.1 CENTRAL HEATING
3.2 INDUSTRIAL GAS
3.3 WASTE WATER CLEANING

LOAD MANAGEMENT

4.0 INVERTER
4.1 POWER LOAD SYSTEM

5.0 WIND
5.1 SOLAR
5.2 BIOMASS
5.3 FOSSIL
CTF – How it works

The traditional flow...

Idea
- Basic research
- Development of concept
- Engineering + Finance
- Site planning/test
- Building
- Production

University
University + Industry
Industry
Industry + Public
Industry
Industry

CTF flow...

Idea
- Basic research
- Development of concept
- Engineering + Finance
- Site planning
- Permit
- Building
- Production

Alternative business With IP

Time saved
Now to the hard part

- Get a political plan approved.
- Raise the first money
- Get partners
- Raise more money
- Build the plants and test facilities
- Support the scientists
- Show it to the world
Lolland CTF

http://www.besk.dk/power/
Export of wind energy
2013 we estimate to export 2500GWh
Hydrogen Village
Wave Energy & Offshore Test Field
Biomass & Biotech
How to create an image

- Try to Google "Sustainable Development Lolland"
- Create an organisation which can handle visitors
- Be sure you have the politicians back-up
- Made your projects part of the local success stories
- Share the success and take the blame on your shoulder
Think global…

Thank you for your attention