CATCHING ENERGY ISLANDS SPIRIT
Denmarks
Renewable Energy Island
A 10 year development plan for
100% renewable energy
In 1997 we pledged to give up fossil fuels and convert to 100% renewable energy.
In the center of Denmark
Background and organization

- Survival of the island
- New strategy
- More jobs
- Local economy
- Independence
- CO$_2$ neutral
- Energy democracy
- Local activity!!
- Implementing renewable energy in local action plans needs:

- National targets based on feed-in tariffs and legislation agreements

- Municipal long term agreements – not only a 4-year election period!

- Investment capital from local action to co-finance EU/National framework
Budget planning

<table>
<thead>
<tr>
<th></th>
<th>Investment without support Mill. DKK</th>
<th>Savings/year Mill. DKK</th>
<th>Simple pay-back period Years</th>
<th>Necesssary support Mill. DKK</th>
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<tbody>
<tr>
<td>Heat savings</td>
<td>41,2</td>
<td>7,0</td>
<td>5,9</td>
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<td>District heat 1</td>
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<td>11,5</td>
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<td>District heat 2</td>
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<td>2,6</td>
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<td>22,3</td>
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<td>Individ. Solar thermal</td>
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<td>15,4</td>
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<td>Collective PV</td>
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<td>0,01</td>
<td>55,2</td>
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<td>Individ. biogas</td>
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<td>Individ. heat pumps</td>
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<td>Individ. PV</td>
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<td>Small windmills</td>
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<td>Windmills</td>
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<td>Off-shore windmills</td>
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<td>32,62</td>
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<td>Total</td>
<td>588</td>
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<td>68,2</td>
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</table>
Individual planning
Common opportunities

- **Each community has a special RE plan**
- Planning is a public tool
- Local resources are used
- Local business is involved

- **RESULT**
- More challenging jobs
- Better local economy
- Local capacity building
- The money stays in the community.
Side effects

• Cheaper energy (whats in it for me!!)
• New workplaces during implementation and maintenance
• Technological development and sale of know how and equipment
• Reduction of environmental problems
• Less dependency of imported fuels and services
The Energy Office

- Public opening hours
- Information about RE
- Assistance in planning
- Workgroup meetings
- Education
- Campaigns and demonstration
- ”Open house” meetings
Local heating
RE Development

District heating:
Windpower:

75% of heating is produced from renewable energy sources

Total CO₂ reduction: 140 %
Summary

- 100 % electricity from land-based windmills
- 75 % heating from RE-sources
- 100 % RE-compensation from sea-based windmills for the energy used on transportation
Investment and Economy

1998 cost of imported energy

• 5.5 million pounds energy import cost

Investments

• 42 million pounds invested in 10 years
• 36 million pounds from citizens, local households, companies, municipality and energy company
• 6 million pounds from national and EU framework
Local ownership- real heroes
Information og contact:

Samso Energiakademi
Strandengen 1
DK-8305 Samso
Phone: +45 87 92 10 11
E-mail: info@energiakademiet.dk
Homepage: www.energiakademiet.dk
Links: www.cop15.dk
www.ens.dk
www.concept-for-hire.dk/wind
www.samsohavvind.dk