Local Governments Climate Partnership (LGCP) Study Tour of German cities to their US twin cities 20 – 25 February 2010

European Energy Award as a landmark for the City of Friedrichshafen‘s energy and climate policy

City of Friedrichshafen
Department for Environment and Nature Conservation
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Climate Alliance Workshop in Chicago 22nd February 2010
22022010 Klimabündnis EEA in Chicago.ppt – Short Version
European Energy Award as a landmark for our energy and climate policy

Structure of presentation

1. The City of Friedrichshafen
2. EEA – as a landmark for our energy and climate policy
3. Landmarks for success
4. EEA – challenges and chances

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1. The City of Friedrichshafen

The City

Friedrichshafen with its 59,000 inhabitants, is the second largest city at Lake Constance. Known from the Zeppelin, the city is now the biggest economical city at the northern waterside of Lake Constance, with big companies in the fields of engine construction and automotive industry, the fair and the airport, as well as with the district government.

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1. The City of Friedrichshafen

The City in Numbers

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total area</td>
<td>70 km²</td>
</tr>
<tr>
<td>Settlement- and traffic area</td>
<td>28.7 %</td>
</tr>
<tr>
<td>Agriculture and pomiculture</td>
<td>51.1 %</td>
</tr>
<tr>
<td>Forest</td>
<td>19.3 %</td>
</tr>
<tr>
<td>Population (2008)</td>
<td>59,158</td>
</tr>
<tr>
<td>Residential density</td>
<td>845 Res./km²</td>
</tr>
</tbody>
</table>

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2. European Energy Award
as a landmark for our energy and climate policy

**European Energy Award (eea)**

- The eea is a certification and quality management system for towns and cities across Europe.
- The eea allows communities to identify their strengths, weaknesses and potential for improvement and above all, implement energy efficient measures.

The City of Friedrichshafen received the Award 2008 after a two year preparatory process.

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3. Landmarks for success
Concepts and action plans

Partition of the consumption of end-use energy in sectors (2007)

- Industry: 40%
- Households: 25%
- Traffic: 24%
- Business: 9%
- Municipal buildings: 2%

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3. Landmarks for success

Improvement of public buildings

Energetic renovation of

- heating and pump systems
- roofs, windows, facades
- insulation of building cover
- lighting system and street lights
- renewable energy for heating and electricity

Karl-Maybach-Gymnasium (high school)

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3. Landmarks for success
Fostering green mobility

Non stop water way Friedrichshafen – Constance

Since 2005 a catamaran is connecting the two largest cities at Lake Constance – Friedrichshafen (59,000 res.) and Konstanz (80,000 res.) non stop in 50 minutes.
3. Landmarks for success
Technical pilot and model projects

**Solar City Wiggenhausen since 1994**

- Solar collectors area: 4,056 m²
- Heat reservoir volume: 12,000 m³
- Heated living space: 35,000 m²
- Covered demand for heating and warm water: April - October, 48% of energy facilities
- Construction costs of energy facilities: 4.45 Mio. EUR
- Energy savings: 1.6 Mio. kWh/a
- CO₂ savings: 366 t/a

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3. Landmarks for success
Technical pilot and model projects

Fuel Power Cell MTU/Tognum 2009

Pilot project for power-and-heat integration through the City of Friedrichshafen’s public works and MTU/Tognum AG in 2009.

- Electric power 245 kW
- Electricity production 1.9 Mio. kWh/a
- Thermal power 180 kW
- Energy efficiency approx. 73%
- Cost of the facility 2.2 Mio. EUR
- CO₂ savings 366 t/a

The necessary hydrogen is processed with the input of natural gas.

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3. Landmarks for success
Actions, campaigns, round tables

**Competition for best projects and ideas under pupils and trainees**

as part of a concerted action under the motto “Climate protection by energy savings” supported by all for the energy sector decisive stakeholders.
3. Landmarks for success
Support program
“Climate protection through energy savings”

Since 1998 Friedrichshafen is providing one of the most successful municipal support programs for

- energetic insulation of residential buildings constructed before 1995
- utilization of renewable energies

Results

- 1.5 Mio. EUR public subsidies until 2009
- 47.8 Mio. EUR private investments between 1998 and 2009
- relation between financial support and investment 1:31
- 35,000 t CO₂ could be saved (1998 – 2008)

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3. Landmarks for success
Quality management

**Environmental management**

exemplary realized in four public schools and in the city’s sewage plant.
Eco-management is a regular, systematic inspection and benchmark of the activities from organizations (companies, schools, agencies, etc.) concerning environmental effects on technical and organizational levels and to realize continuous improvements.

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3. Landmarks for success
Reporting system and benchmarking

**Sustainability report 2008**

3rd report about the city’s development with 45 sustainability indicators to the following fields of action

a. Environment and nature (resources, mobility, nature)
b. Economy and labor
c. Society and social affairs
d. Citizens participation and democracy

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3. Landmarks for success
Reporting system and benchmarking

Solar energy production in Friedrichshafen

sqm  Collector surface

Year 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

Collector Surface (sqm)

- Solar thermal collectors
- Photovoltaic collectors

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3. Landmarks for success
International cooperation and city partnership

Cooperation in the fields of energy and climate protection with partner cities

- Regional projects: Interreg IV with partner cities in Austria, Germany and Switzerland
  - energy efficient communities
  - 2000 Watt Society

- European projects: Sustainable Urban Energy (SURE) with partner cities in Belarus, Spain and Morocco

- International projects: Local Governments Climate Partnership (LGCP) with twin cities in Japan and the USA, coordinated by the Climate Alliance

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### 4. European Energy Award
Challenges and chances

#### Realization quality of the city’s energy action plan 2008 – 2012

<table>
<thead>
<tr>
<th>Sectors of action</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development and land use planning</td>
<td>52 %</td>
<td>60 %</td>
<td>71 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Municipal buildings and facilities</td>
<td>59 %</td>
<td>63 %</td>
<td>67 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply and disposal</td>
<td>51 %</td>
<td>49 %</td>
<td>68 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td>72 %</td>
<td>78 %</td>
<td>83 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal organization</td>
<td>60 %</td>
<td>81 %</td>
<td>86 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication and cooperation</td>
<td>71 %</td>
<td>75 %</td>
<td>79 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>61 %</strong></td>
<td><strong>67 %</strong></td>
<td><strong>75 %</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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European Energy Award (eea) – challenges and chances

- A systematic review of the energy activities in the community
- Continuous increases in energy efficiency and associated cost savings
- A continuous assessment of success through a comprehensive monitoring system
- Benchmarking with other towns and cities participating in the eea program on a national and European level.
- A significant contribution to common climate protection and sustainability efforts by implementing energy policy for the future