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# **"INOGATE Technical Secretariat & Integrated Programme in support of the Baku Initiative and the Eastern Partnership energy objectives" Project**

**BUILDING PARTNERSHIPS FOR  
ENERGY SECURITY**

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# INOGATE Study Tour/Workshop

## Energy Efficiency & Renewable Energy



## The Experience in Europe and Austria in Sustainable Energy Banking; Support Facilities Available - Part 1

**25 February – 01 March 2014 | Yerevan, ARMENIA**

Presenter: Werner WEIHS-RAABL – Head of Group Infrastructure Finance, Erste  
Source: Margit Kapfer - Head of Climate Change and Energy, Denkstatt

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# Content of the presentation



- **Presentation part 1: EE/RES Financing, Terms and Technologies, European Experience, Success Stories**
- Presentation part 2: Austria: Financial Support Facilities / Projects Available for EE/RES

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# Case Studies Austria (1)



## Thermal Insulation for an Open – Air Museum

- Insulation of the façade and renovation of the existing box-type windows → Decrease in energy index of the building to 44 kWh/m<sup>2</sup>/yr.
- **Annual fuel oil requirement to be reduced by ~ 25%.**



## Case Studies Austria (2)

### Biomass-fired heating plant for Alpine Zoo

- 120-kW **wood-chip-fired heating system** supported by Climate Austria to be installed, replacing **an oil-fired heating plant**.
- Change of boiler → saves ~21,000L of fuel oil annually, decreasing ~ 1,140t of CO<sub>2</sub> over the lifetime of the heating system.



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## Case Studies Austria (3)



### The German Alpine Association (DAV Section Augsburg)

- Newly installed new energy supply system, a **PV system**.
- → use of existing diesel engine reduced
- → reduction of noise load and 60t of CO<sub>2</sub> over service life (4 years)



## Case Studies Austria (4)

### District heating system based on Biomass

- Unused agricultural building converted into a boiler house. The heat generation provided by a 10 kW **biomass-fired boiler**.
- The heat is conveyed to the customers by means of **heated water flowing** through a 220 meter **district heating system**.



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# Case Study LIFE-projects: BELGIUM Biogas



## BIOGASTIL (AlcoEnergy)

- Objective: To develop an innovative means of producing biogas by treating thin stillage.
- The beneficiary will
  - ✓ integrate a prototype biogas production unit into an existing biofuel production unit and
  - ✓ prove that the technique can be applied by other bioethanol plants under similar process conditions.
- Relevant to climate change.





# Case Study LIFE-projects: GERMANY

## DRIP (RWE Deutschland AG)

- Objective: To reduce carbon dioxide emissions
- Method: Integration of renewable energy sources and contribution to energy efficiency in the electricity grid by taking advantage of the **potential of large commercial and industrial customers to be flexible in their energy consumption.**
- The project is based on the concept of Demand Response (fluctuating electricity demand to the grid)



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# Case Study LIFE-projects: SPAIN Ceramics



## CERAMGLASS

- Objective: To reduce the environmental impact caused by thermal treatment of ceramics
- an innovative laser-furnace technology
- effect of reduction in the raw material consumption; replacement of toxic materials
  - → minimization of CO<sub>2</sub> and other greenhouse gases;
  - → reduction in energy consumption of the process.



# Case Study LIFE-projects: SPAIN Real Estate



## PLATAFORMA CENTRAL IBERUM (Urban Castilla La Mancha, S.L.)

- Objectives:
  - 1st industrial estate in Europe based on the principles of sustainable development
  - Development of industrial areas, integrating all environmental impacts
  
- Focus on:
  - energy savings,
  - creation of woodland areas and
  - management of the water cycle.



# Case Study: SPAIN Autonomous Office



## The Autonomous Office (TSK Electrónica y Electricidad S.A.)

- Objectives:
  - Construction of a green, **energy-autonomous office building** to operate without connection to an electricity grid.
  - integration of principles of bioclimatic design and renewable energy technologies → minimising the environmental footprint of the construction and its users.
- It thus hopes to provide a sustainable model in terms of energy demand and its contribution in reducing CO<sub>2</sub> emissions.





# Case Study: FRANCE Hybrid telecoms-broadcast transmitting station

## ZENITTHYS (Thomson Broadcast)

- Objective: Development of an innovative “green” **hybrid telecoms-broadcast transmitting station concept based on recent advances in electronic devices, signal processing** and renewable technologies to achieve major environmental gains.
- Drastic reduction of carbon footprint of telecoms-broadcast transmitting stations by reducing energy consumption, using renewable energy sources and reducing the number of relay stations.



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