






Energienmusterobjekte statt Gurkenradien

Christine Lins
Secretary General
European Renewable Energy Council

Ökosan 2007

Weiz, 11. Oktober 2007

EREC - European Renewable Energy Council

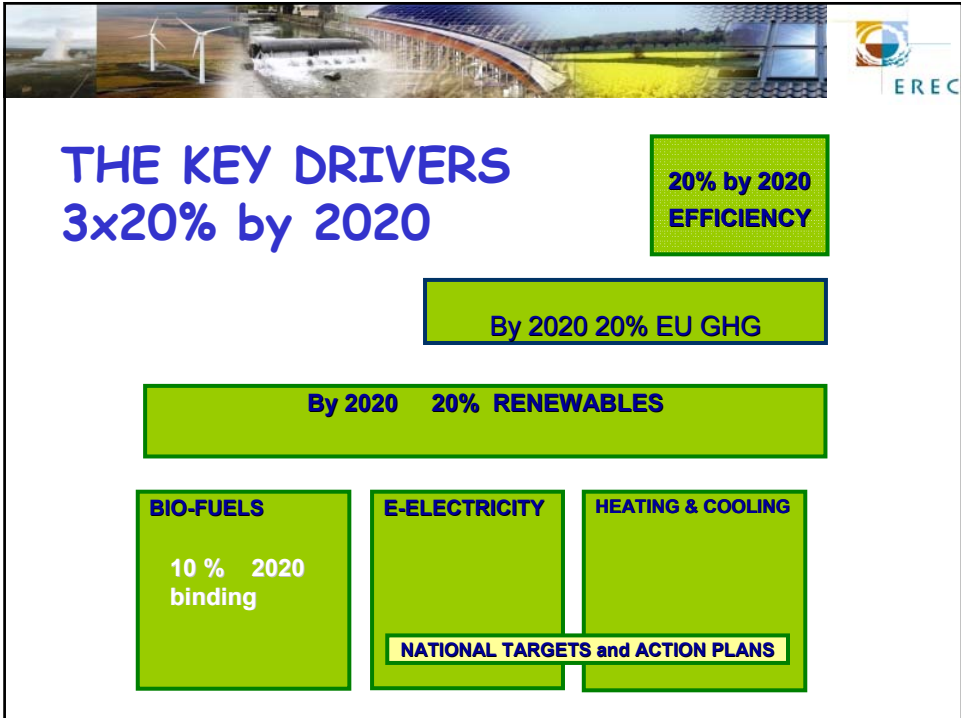
Umbrella organisation representing all RES sectors:

✓ AEBIOM	European Biomass Association
✓ EGEC	European Geothermal Energy Council
✓ EPIA	European Photovoltaic Industry Association
✓ ESHA	European Small Hydropower Association
✓ ESTIF	European Solar Thermal Industry Federation
✓ EUBIA	European Biomass Industry Association
✓ EWEA	European Wind Energy Association
✓ EUREC Agency	European Renewable Energy Research Centres Agency

Associate members:

✓ EU-OEA	European Ocean Energy Association
✓ EBIO	European Bioethanol Industry Association
✓ EREF	European Renewable Energy Federation
✓ ESTELA	European Solar Thermal Electricity Association

Representation of European RES industry, trade & research



EU Renewable Energy industry

- ✓ **Europe is global leader in RES development**
- ✓ **350.000 jobs in Europe already now**
- ✓ **Annual turnover of 25 billion € already now**
- ✓ **Innovative Business Sector with a large share of SMEs**
- ✓ **Economic growth and regional development**



Where to find us: Renewable Energy House

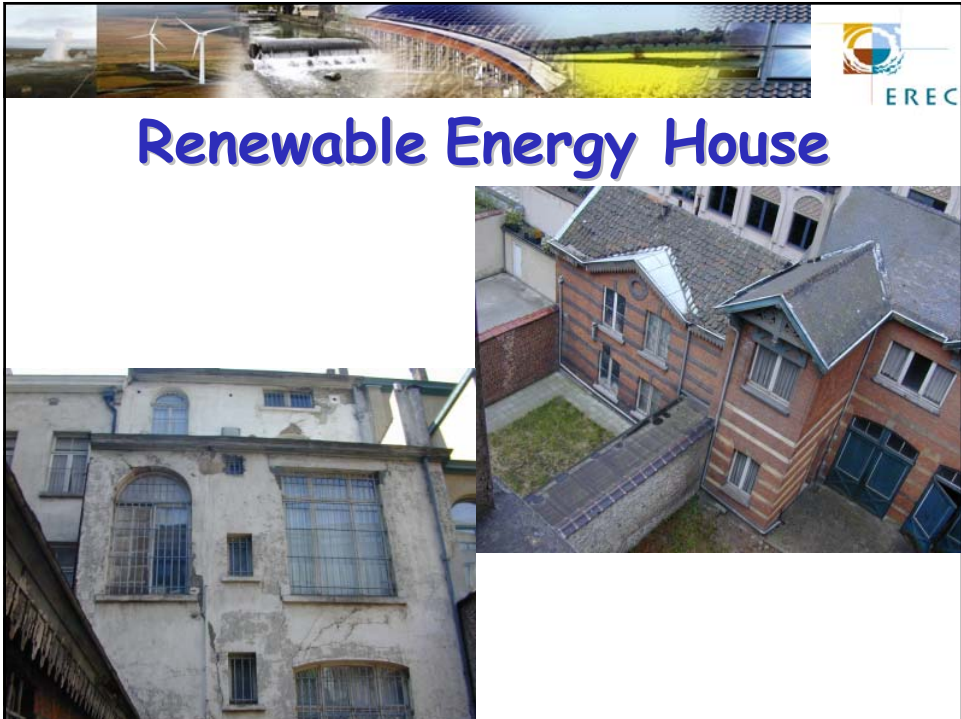
- Headquarters for the European renewable energy sector in Europe's capital Brussels
- Renewable energy and energy efficiency showcase in a 120 year old monument protected building in the heart of Brussels
- 2.000 m² of modern office building hosting currently 75 staff from 20 countries



Renewable Energy House



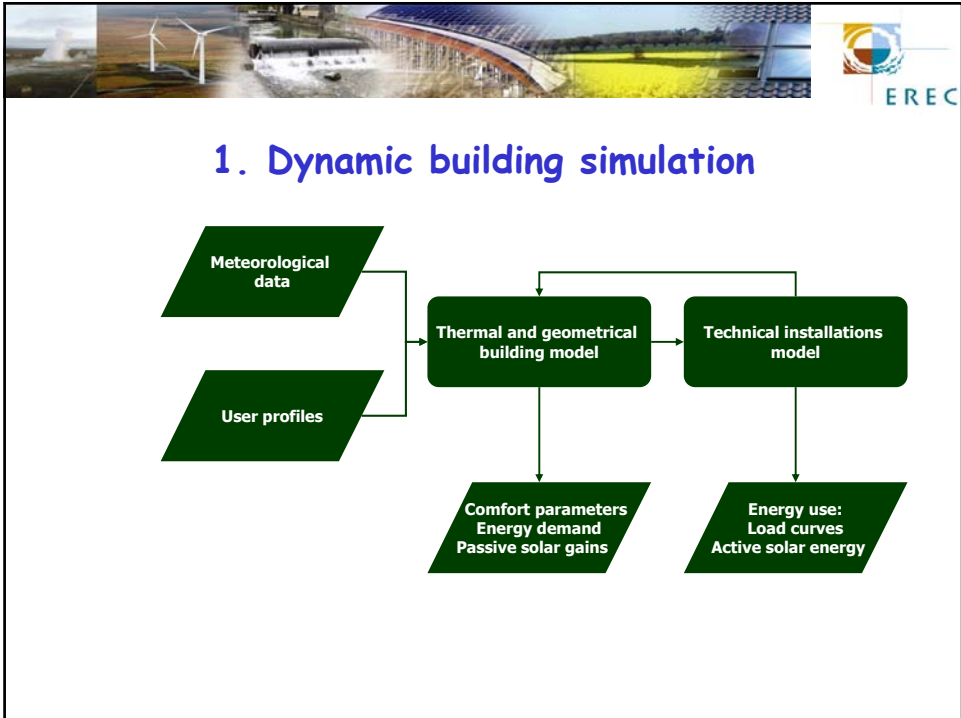
Before & after renovation






Renewable Energy House

Ambitious energy concept

1. Calculation of energy demand using dynamic simulations approach
2. Reduce energy demand through energy efficiency measures
3. 100 % heating & cooling with renewable energy
4. Electricity production through PV
5. Purchasing remaining electricity as green electricity



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- ## 2. Energy efficiency measures
- Insulation of roof and façade
 - Double glazing
 - High efficiency T5 fluorescent lamps
 - Ventilation with heat recovery (85 % efficiency)
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3. 100 % RES heating and cooling supply

- 80 kW pellets boiler
- 60 m² solar thermal collectors
- 4 geothermal ground coupled heat pump
- with vertical borehole heat exchangers (4 x 115 m deep)



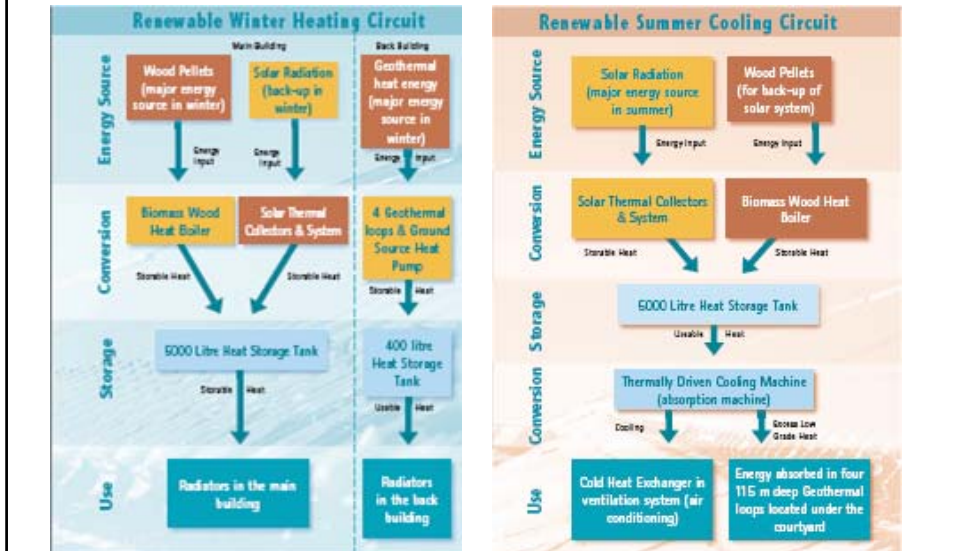
Solar cooling

Absorption cooling machine: uses heat to produce cold

- **SOLAR THERMAL** - 60 m² of solar collectors produce heat for cooling
- **BIOMASS** - pellets heating system: backup for solar thermal system
- **GEOTHERMAL** - vertical borehole heat exchangers dissipate low temperature waste heat



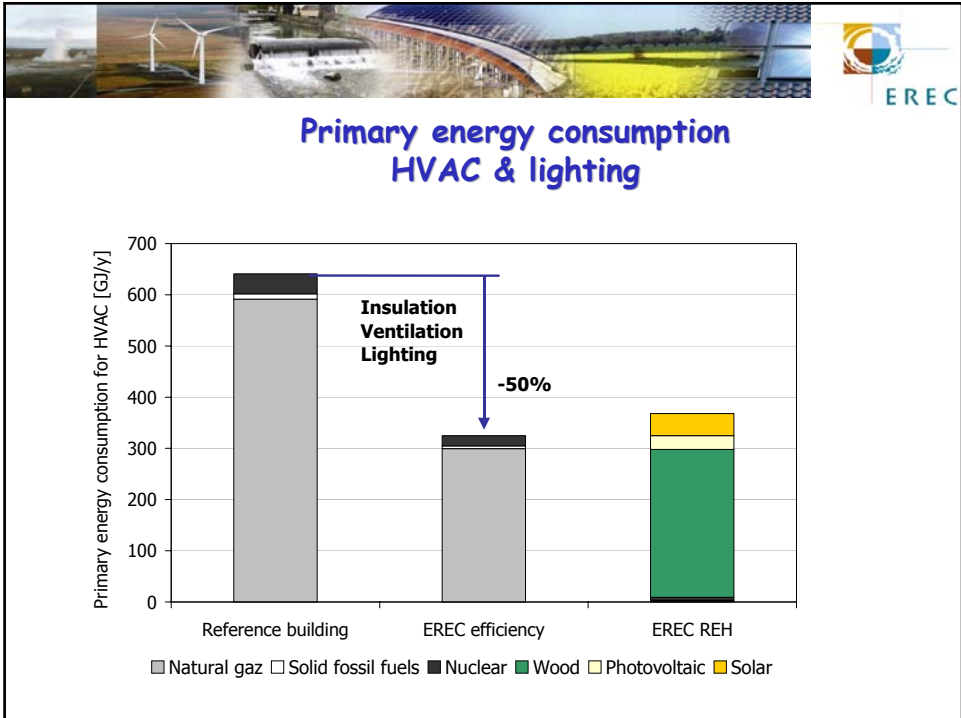
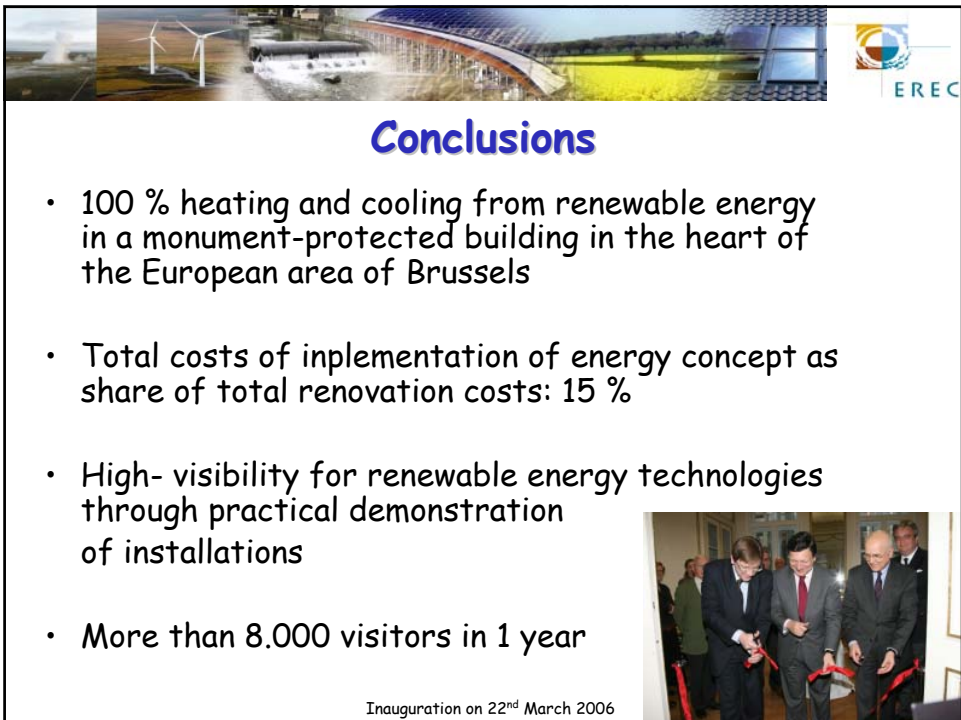
Heating & Cooling



4. Electricity production with PV

- Multicrystalline panels
- Monocrystalline panels
- Thin film
- Semi-transparent window-integration




Conclusions

- 100 % heating and cooling from renewable energy in a monument-protected building in the heart of the European area of Brussels
- Total costs of implementation of energy concept as share of total renovation costs: 15 %
- High- visibility for renewable energy technologies through practical demonstration of installations
- More than 8.000 visitors in 1 year

Inauguration on 22nd March 2006





New 4 Old project

Project title

New energy for old buildings - Promoting the integration of RES & RUE measures in historic buildings

Duration:

September 2007 - August 2010

Consortium:

- EREC (Coordinator)
- GRECT
- 3E
- AEE - Institute for Sustainable Technologies
- University of Stuttgart, ITW
- National University of Ireland (NUID)
- National Kapodistrian University of Athens (NKUA)



Project Summary

Objectives:

To contribute to RES & RUE market penetration in historic Buildings

Project outcome :

a) Creation of a network of light-house Renewable Energy Houses in the different EU Member States

b) Capacity building among architects and planners in the field of building integration of RES & RUE energy into historic buildings

- Development of technical guidelines
- Marketing & communication campaign on building integration of RES & RUE
- Thematic workshop & final conference



Further information

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www.erec.org

Thank you very much for your attention!