# Erneuerbare in der Krise?

# – Sicht des OMV Future Energy Fund

## Energiegespräche

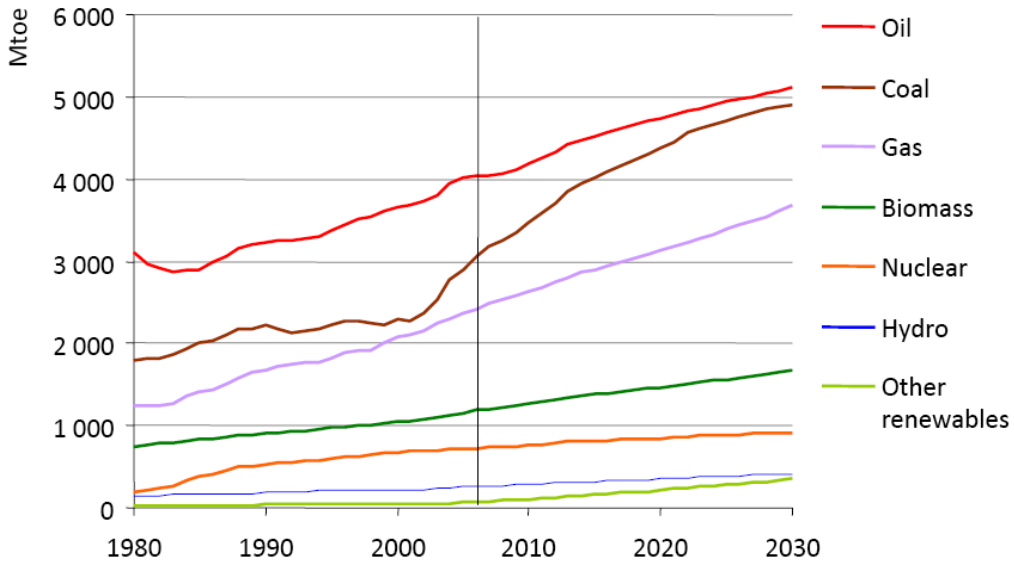
Mag. Dorothea Sulzbacher

Vienna, 17th of March 2009

OMV future energy fund

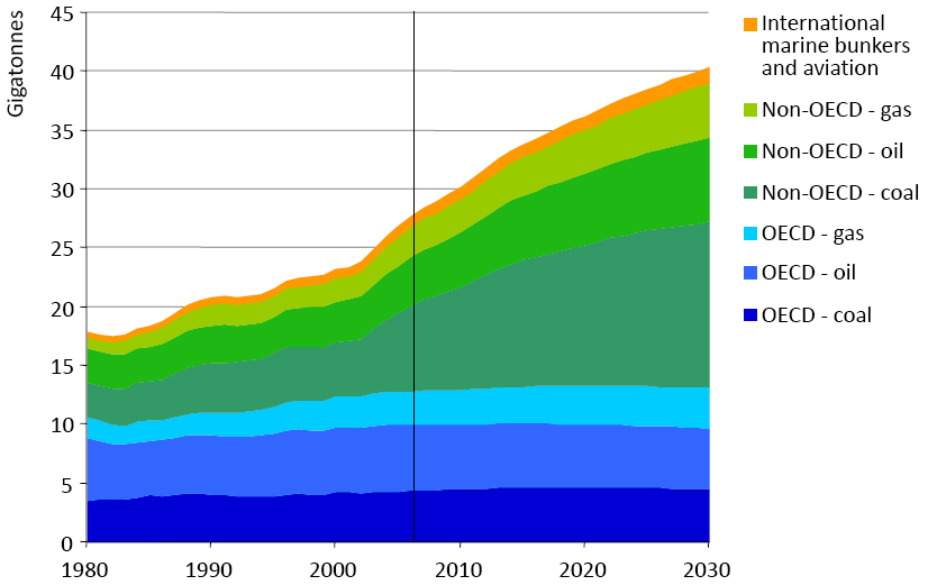
# World Energy Demand

## World Primary Energy Demand




- World energy demand expands by 45% between now and 2030
- An average rate of increase of 1.6% per year
- Coal accounting for more than a third of the overall rise

## Energy-related $CO_2$ Emissions




- 97% of the projected increase in emissions between now & 2030 comes from non-OECD countries –three-quarters from China, India & the Middle East alone

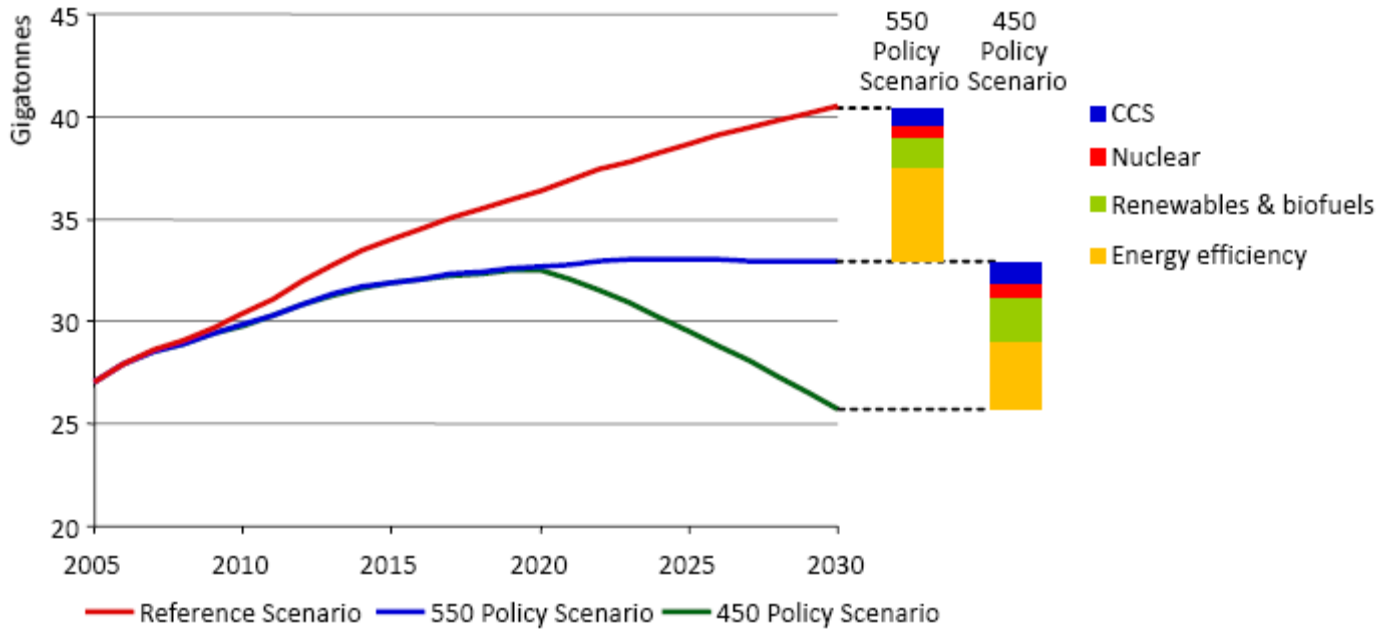
**(Source: IEA World Energy Outlook 2008, Reference Scenario)**



OMV future energy fund

# Reductions in energy-related $CO_2$ emissions

- Renewables and energy efficiency could potentially account for nearly 80% of emission reductions
- Renewables have to make a large contribution to reach $CO_2$ reductions

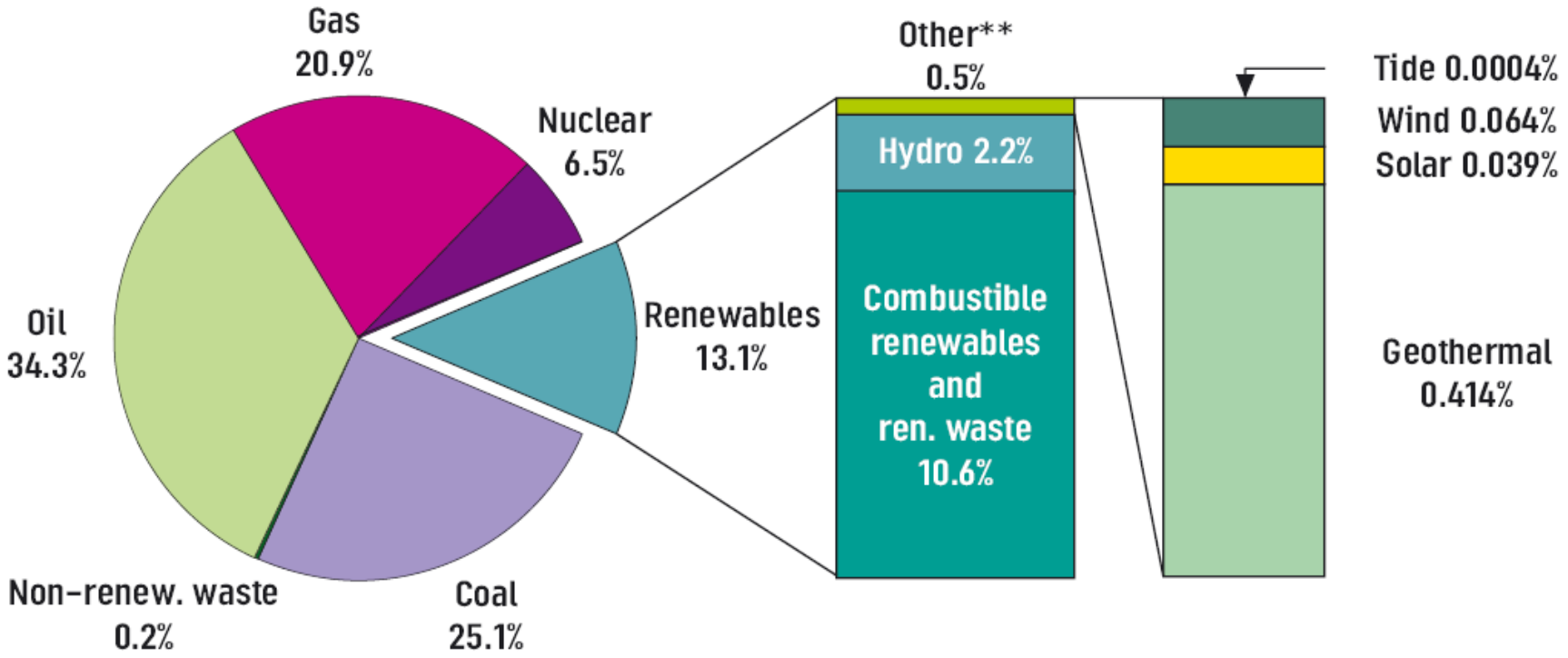



**(Source: IEA 2008)**



OMV future energy fund

# Fuels Share of World total primary Energy Supply

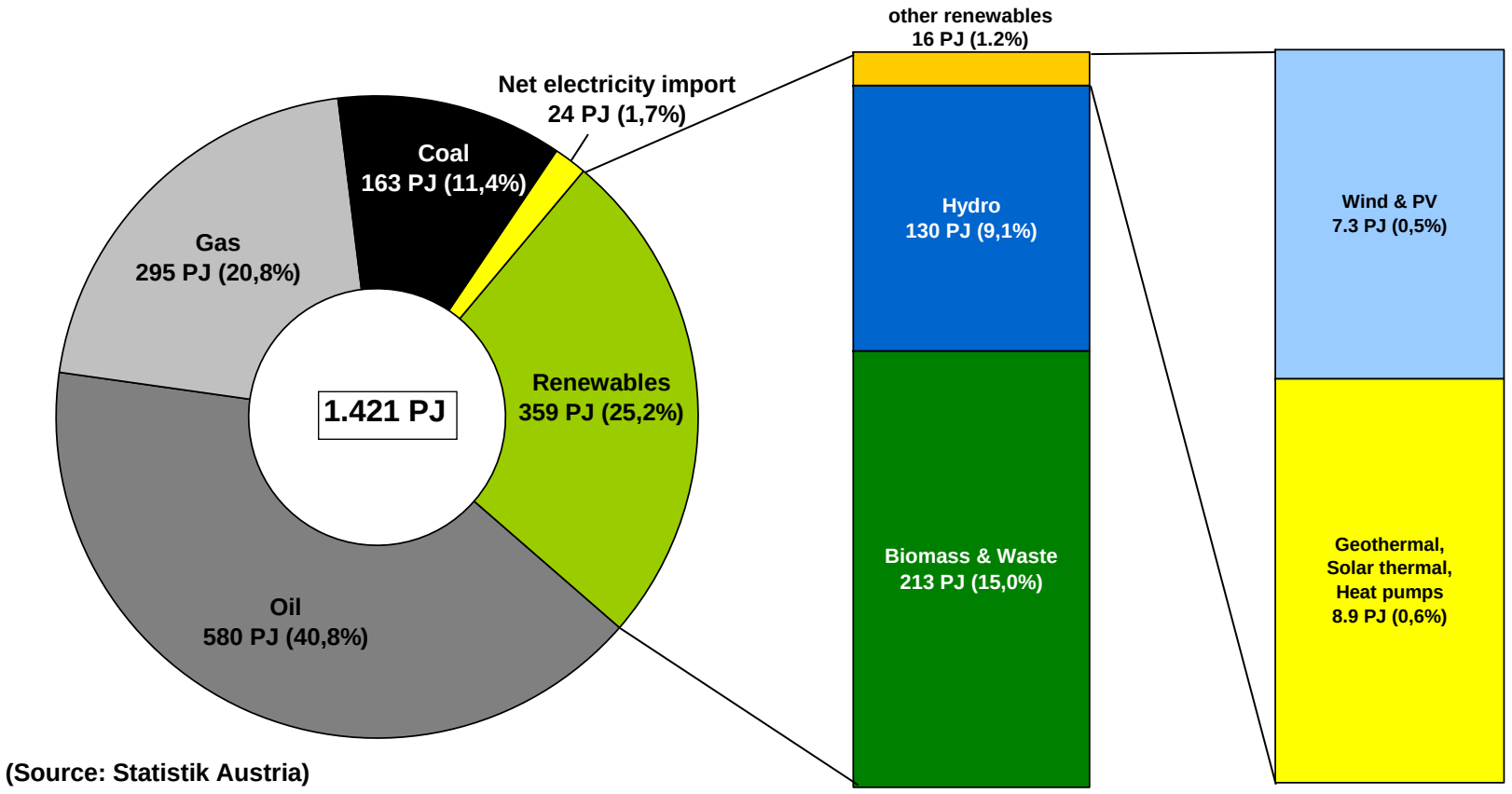



**(Source: IEA, Renewables in Global Energy Supply 2007)**



OMV future energy fund

# Primary Energy Consumption in Austria (2007)




(Source: Statistik Austria)



OMV future energy fund

# Renewables and the financial crisis

## Factors adversely influencing renewable energy projects

- Reduced availability of project funding
- Lower leverage
- Unfunded risk participation by banks
- Higher bank margins
- Reduced debt repayment periods
- Loan currency from local to EUR
- Low oil and gas price makes renewables even more unattractive compared to conventional energy sources
- RES rely on state subsidies that might be squeezed

## Changed risks

- Currency risk (devaluation of a number of eastern European currencies)
- Higher market risks in CEE countries
- Revised demand outlook

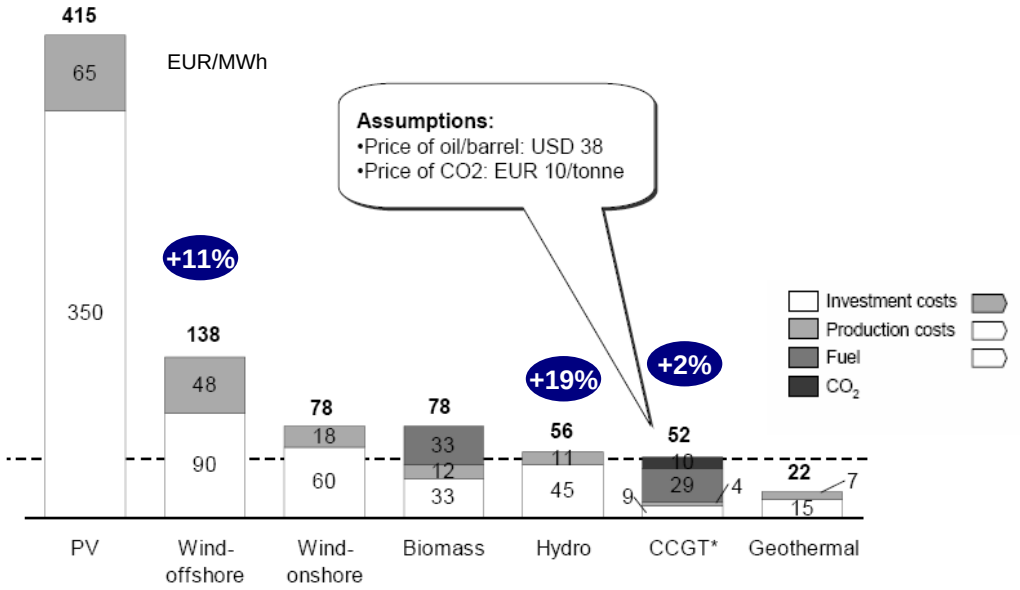

## Conclusion

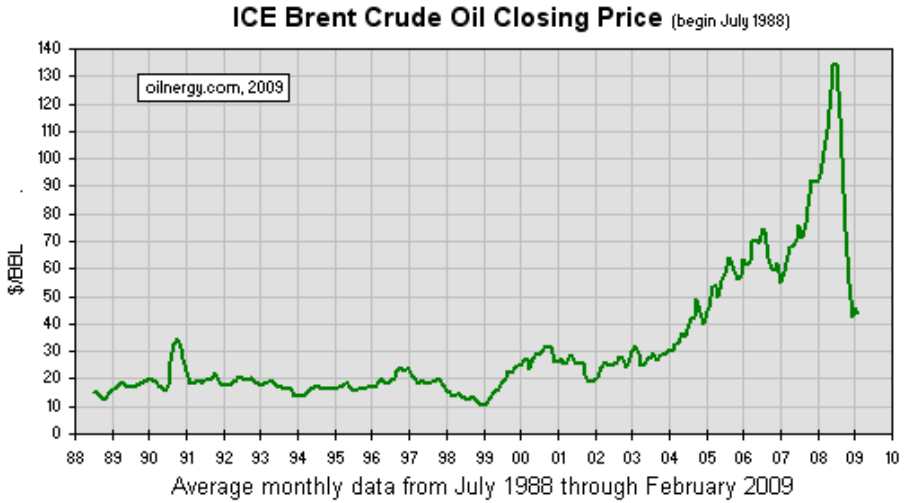
- Financing of RES has become a huge problem and is likely to remain so for some time
- It is much more difficult to finance for large projects compared to one year ago, especially for eastern European countries
- For the time being, RES cannot compete effectively against conventional energy sources without heavy subsidies



OMV future energy fund

# RES investment and production cost compared to conventional energy sources



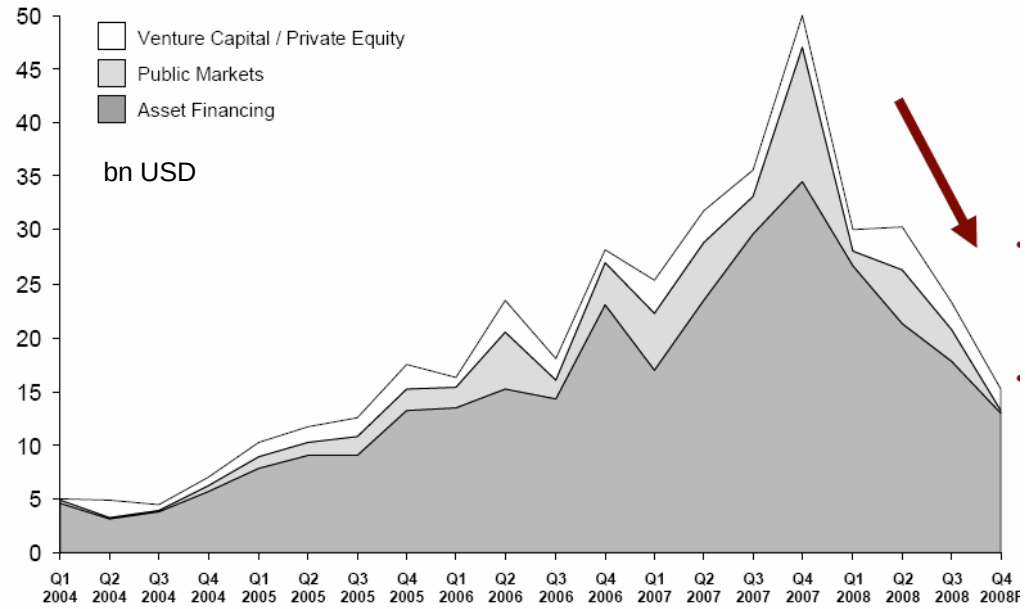

Source: McKinsey, Oriens, A.T. Kearney

- The economics of RES compare unfavourably to conventional energy sources in terms of higher share of investment costs, and higher production costs, a problem which is amplified by falling oil prices.



OMV future energy fund

# Investments in Renewables




- Investments in Renewables dramatically sank in recent months
- Due to lower cash flows many investors are more dependent on debt financing and higher leverage
- The cost structure of renewables (higher investment costs) adversely influences the project economics

Source: New Energy Finance, A.T. Kearney

- **The attractiveness of RES is lower under current conditions**
- **Climate and RES goals on national and EU level might be delayed or softened**
- **Public funding and subsidies will continue to be important for RES**



OMV future energy fund

# Challenges to OMV

**Energy Security** | **Economic Crisis** | **Climate Change**

- Development of renewables portfolio
- Promoting Gas, selectively pursuing gas-related power and renewable power projects
- Clear commitment to decrease carbon intensity of activities which OMV operates
- Carbon Management: Control and Reduction of GHG Emissions



OMV future energy fund

# OMV Future Energy Fund as the Initiator of Change

## Challenges

- OMV wants to contribute to climate protection and to securing the supply of energy
- Develop a profitable business segment in future energy

## OMV Response

- OMV Future Energy Fund was founded in June 2006 to initiate and support projects in renewable energies, emissions reduction and energy efficiency

## Strategy

- Initiate the change from a pure oil and gas group to an energy group with renewable energy in its portfolio
- Commitment to find commercially viable renewable energy sources to build up a new business area
- Focus on future energy sources that can be integrated into the group's core businesses
- Monitoring of new opportunities / technology trends



OMV future energy fund

# Status of the OMV Future Energy Fund

**Overview**

- 24 projects are approved
- Investment of total EUR 30.2 Mio

**Focus**

- Alternative Fuels
- Biogas
- Geothermal Energy
- Energy Efficiency
- Solar (Concentrated Solar Power)
- CCS
- Zero Emission Power Production
- Other Renewables

**Project Examples**

**Geothermal Energy**

- Geothermal reuse of depleted oil- and gas wells: realization of a high efficient borehole heat exchanger system
- Geothermal potential in Austria and Romania
- Improved geothermal energy recovery from brown fields
- First Pilot Plant: old well will be retrofit to a borehole heat exchanger

**CCS**

- Participation in IEA GHG Weyburn $CO_2$ Monitoring and Storage – Phase II
- $CO_2$ Sequestration combined with EOR in Turnu Field, Romania
- ZEERAF (Zero Emission Enhanced Oil Recovery utilising All Fluids)
- Zero Emission Power Plant

**Biogas**

- Biogas Bruck/Leitha
- Biogas Aderklaa
- Evaluation of the Biogas potential in Romania



OMV future energy fund

# Project Example: Virtual Biogas

- **Project**: Optimization of the value-chain from production of raw materials and biogas, purification, feeding-in and transport of biogas to dispensing at filling stations
- **Project period**: 8/2006 – 12/2009
- **Biogas:**
  - Purified biogas as a substitute for natural gas to reduce emissions
  - Feeding into the gas network
  - Use as fuel in CNG vehicles
- Possible follow-up projects: biogas production, feeding into the network, bio-CNG filling stations



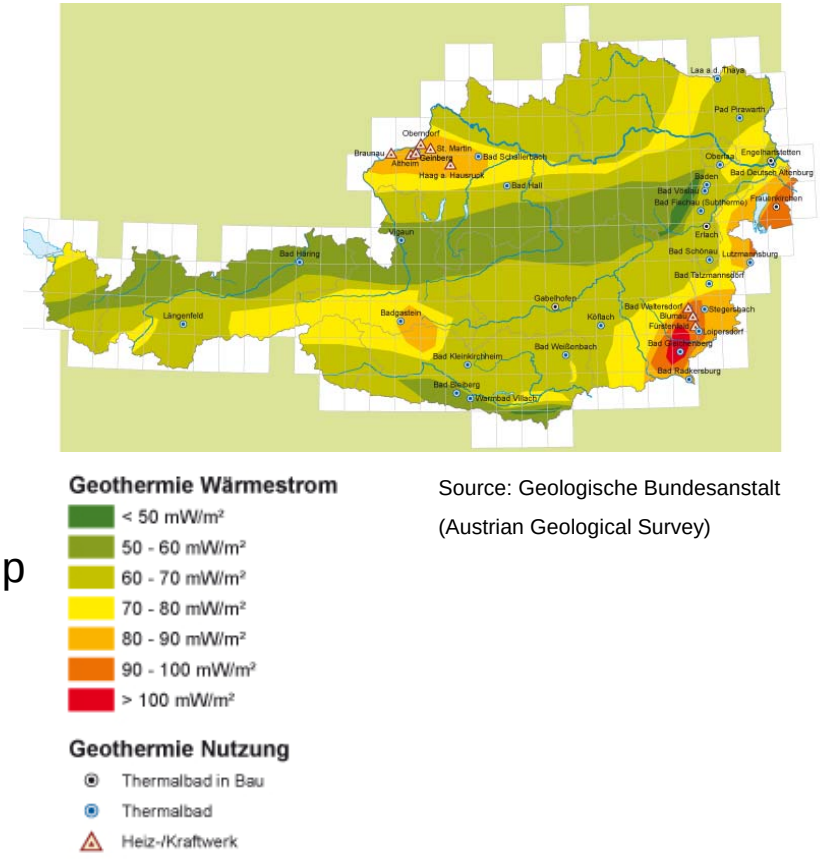
OMV future energy fund

# Project Example: Geothermal potential Austria

- **Project**: The project is designed to survey, evaluate and present the potential exploitability – including environmental and economic aspects – of geothermal resources in the central and northern Vienna Basin

- **Project period**: 8/2008 – 4/2010

- Development of two specific and feasible geothermal projects in the investigated region, and thereby develop the knowledge foundation necessary for the OMV to set up a supplementary business sector while acting as a regional supplier of renewable energy



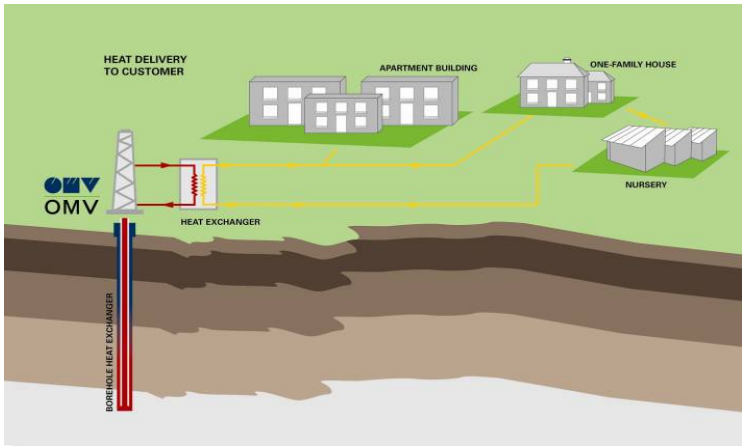

Source: Geologische Bundesanstalt (Austrian Geological Survey)



OMV future energy fund

# Project Example: Borehole heat exchanger

- **Project:**
  - An old well will be retrofit to a borehole heat exchanger by integrating heat pumps for peak-load and absorption cooling for summer time
  - 1st phase: Geothermal heating is implemented in winter
  - 2nd phase: Customers will be supplied with cooling facilities in summer



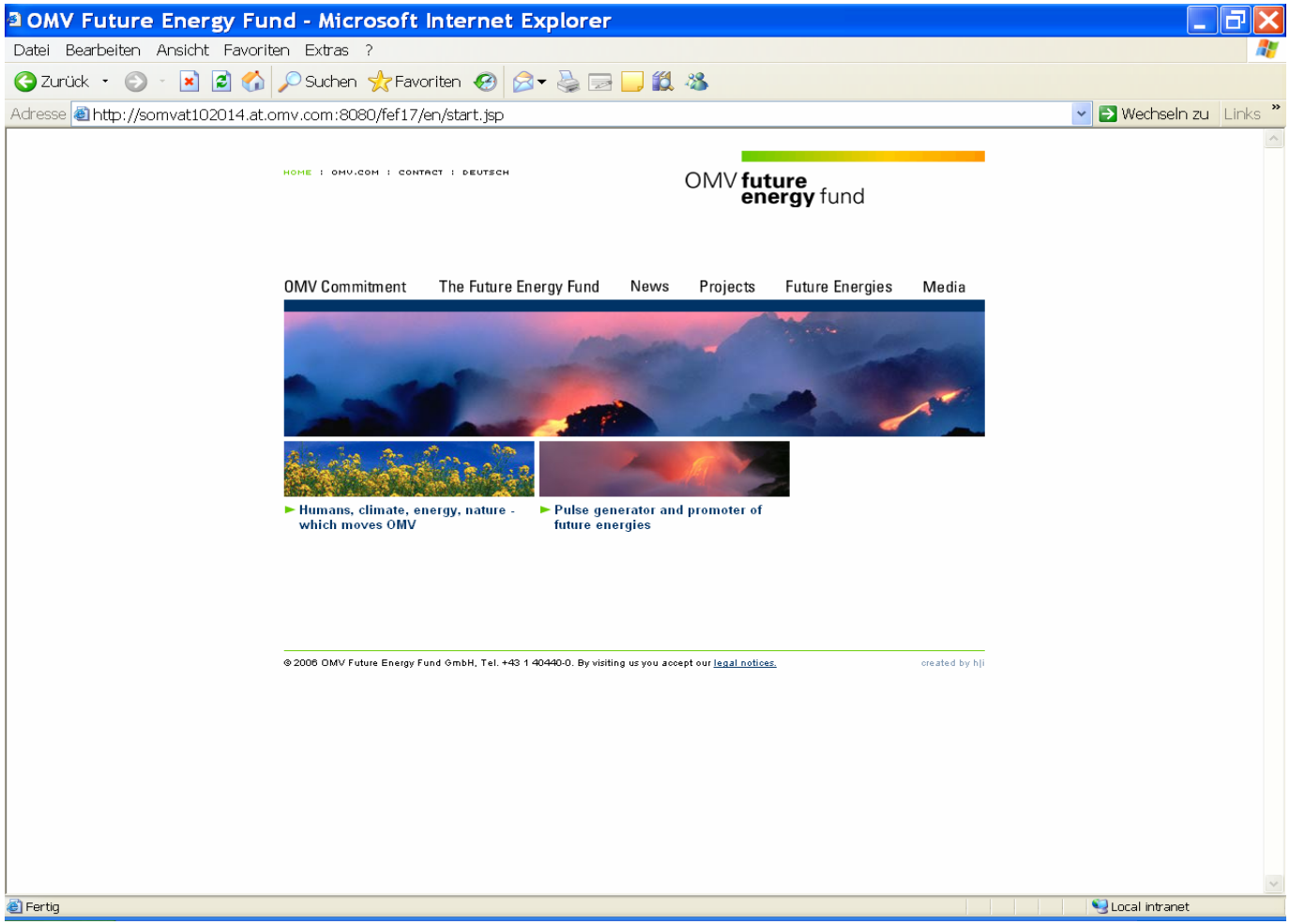

- **Project period**: 8/2008 – 4/2010

- **Expected targets:**
  - An integrated and expanded technical energy solution for future customers will be provided
  - Knowledge in heating and cooling from geothermal wells will be gained
  - Process optimisation and a deeper understanding of the geothermal system



OMV future energy fund

# www.omvfutureenergyfund.com






OMV future energy fund

OMV **future energy** fund



OMV **future energy** fund