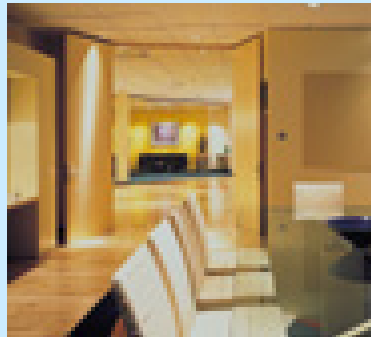
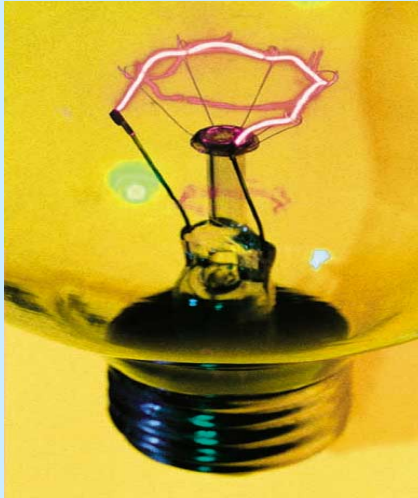




# European Commission



**EC supportive  
action for  
micro-CHP**

**A. Heinz  
National Expert  
Management of RTD  
RES programmes**



# TREN Energy Strategy Triangle of objectives



***Competitiveness  
& Growth***

Internal market for electricity  
and gas, inter-connections

***Security of supply***

Demand side management,  
**energy efficiency**

***Climate change***

Supply side management,  
**diversification of energy mix,  
renewable energy sources**

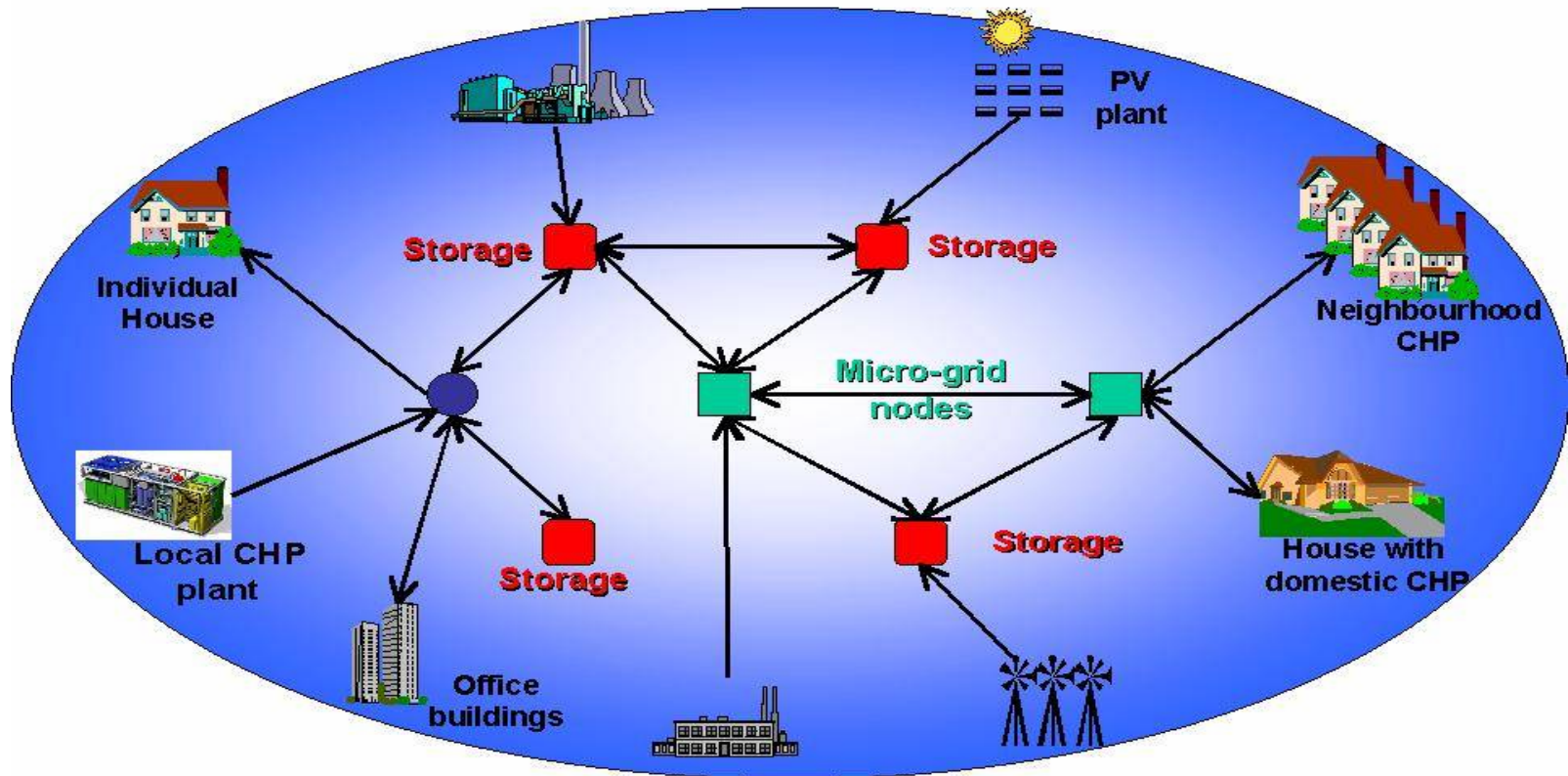
Others (external relations,  
solidarity, **RD&D** etc.)





# TREN Energy Strategy Option for the future

**Decentralised markets with applied principles of energy efficiency and renewables; strong involvement of ESCO**





# EC tools to develop micro-CHP markets



## **EU Policies and Targets** **Directives and Legislation**

### **Research, Development, and Demonstration of Technology, Dissemination Programmes**

**Integrated projects, Specific Targeted Research Projects,  
Co-ordination Actions, Specific Support Actions**

### **Market development, Certification, Standardisation, Financing, Promotion**



# Legislation on EU Level (1/4)

## RES-e Directive 2001/77/EC



Promotion of electricity from renewable energy sources incl. micro-CHP through:



- Quantified national targets for consumption of electricity from renewable sources of energy
- National support schemes plus, if necessary, a harmonised support system
- Simplification of national administrative procedures for authorisation
- Guaranteed access to transmission and distribution of electricity from renewable energy sources



# Legislation on EU Level (2/4)

## Buildings Directive 2002/91/EC



### Promotion of energy efficiency in buildings incl. micro-CHP through



- Promoting the improvement of energy performance of buildings within the EU through cost-effective measures
- Convergence of building standards towards those of MS which already have ambitious levels
- Integrated approach on insulation, heating, cooling, ventilation, lighting, renewable energy installations, passive systems, CHP, district heating/cooling, orientation of the building



# Legislation on EU Level (3/4)

## CHP Directive 2004/08/EC



Promotion of electricity from combined heat and power generation incl. micro-CHP through:

- Informal indicative target: share of CHP-electricity from 11 % in 1998 to 18 % in 2010
- Addressing harmonised definitions, guarantee of origin, access to the electricity grid, elimination of administrative barriers, support systems for high efficiency CHP, analysis of the national potential in MS and statistical requirements
- Focus upon (and criteria for) high efficiency CHP





# Legislation on EU Level (4/4) Energy Services Directive



Promotion of energy end-use efficiency and energy services incl. micro-CHP through:



- A general energy end-use savings target of 1%/ yr in households, agriculture, commercial and public sectors, transport and industry (with few exceptions)
- Exemplary action by the public sector
- Obligatory offers of energy services to customers
- A harmonised method for calculating improvements in energy efficiency



# EC tools to develop micro-CHP markets



## **EU Policies and Targets**

### **Directives and Legislation**

### **Research, Development, and Demonstration of Technology, Dissemination Programmes**

**Integrated projects, Specific Targeted Research Projects,  
Co-ordination Actions, Specific Support Actions**

### **Market development, Certification, Standardisation, Financing, Promotion**



# RD&D on EU level 6th framework programme



Community support programme to establish a European Research Area and to overcome technological barriers in all areas where Europe wants to become most competitive in the medium term

## **Priority 6.1 Sustainable energy systems (810 M€)**

- *Short and medium term impact (DG TREN)*
- *Medium and long term impact (DG RTD)*

### **micro-CHP relevant priorities (DG TREN):**

- Polygeneration
- Eco-buildings
- CONCERTO

### **micro-CHP relevant priorities (DG RTD):**

- Fuel cells incl. their applications



# EU framework programme micro-CHP projects (exmpl.)



NEE5-97-1999	Bio-Stirling	Small-scale chp plant based on a hermetic four cylinder stirling engine for biomass fuels
NEE5-208-2000	Virtual FC Power Plant	System-development, build, field installation and European demonstration of a virtual fuel cell power plant, consisting of residential micro-chps
NEE5-467-2000	BM Screw-Type Engine	Biomass-fired chp plant based on a screw-type engine cycle
FP6 19675	Bio_MGT	Innovative small scale polygeneration system combining biomass and natural gas in a micro gas turbine



# Market development at EU level

## Intelligent Energy for Europe



“Intelligent Energy Europe” is the Community support programme to increase RES and RUE by overcoming the non-technological barriers (legal, financial, institutional, cultural, social)

- IEE is NOT funding costs for investments in demonstration nor in large-scale technology applications
- IEE is NOT funding research on technology
- Four years duration (2003-2006)
- EC budget 250 M€
- Managed by the IEEA





# Market development at EU level

## Intelligent Energy for Europe



### VERTICAL KEY ACTIONS

#### SAVE

- (1) Multiplying success in buildings
- (2) Retrofitting social housing
- (3) Innovative approaches in industry
- (4) Energy efficient equipment and products

#### ALTENER

- (5) Electricity from renewables
- (6) Heat and cooling from renewables
- (7) Small-scale RES applications

(8) Alternative vehicle propulsion

#### STEER

- (9) Policy measures for efficient energy use in transport
- (10) Strengthening the knowledge of local management agencies in the transport field

#### COOPENER

- (11) Energy policies, legislation and market conditions for alleviating poverty in developing countries
- (12) Strengthening local energy expertise in developing countries

### HORIZONTAL KEY ACTIONS

- (1) Sustainable Energy Communities
- (2) Think globally, act locally
- (3) Financing mechanisms and incentives
- (4) Monitoring and evaluation
- (5) Dissemination and promotion

New micro-CHP project:  
[www.cogen-challenge.org](http://www.cogen-challenge.org)



# Conclusions

**High efficiency combined heat and power generation (incl. micro-CHP) is expected to make a significant contribution to a future sustainable energy system in Europe**

**The European Commission supports high efficiency CHP through legislative action and various programmes for technological advances & market penetration**



## Further information

### **EC, DG TREN, CHP-related policies**

[http://europa.eu.int/comm/energy/demand/legislation/index\\_en.htm](http://europa.eu.int/comm/energy/demand/legislation/index_en.htm)

### **EC, DG TREN, Project summaries and studies**

[http://europa.eu.int/comm/energy/res/sectors/polygeneration\\_presentations\\_en.htm](http://europa.eu.int/comm/energy/res/sectors/polygeneration_presentations_en.htm)

### **EC, DG RTD, European energy research**

[http://europa.eu.int/comm/research/energy/index\\_en.htm](http://europa.eu.int/comm/research/energy/index_en.htm)

### **EC, DG TREN, ManagEnergy initiative**

<http://www.managenergy.net/>