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CZECH HEAT PUMP ASSOCIATION

ehpa european heat pump association

# Government support (for heat pumps): Is it really necessary? – An overview

**The Heat Pump in Europe and the Czech Republic**
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# European Heat Pump Association EEIG (EHPA)
# Vision and strategic objectives

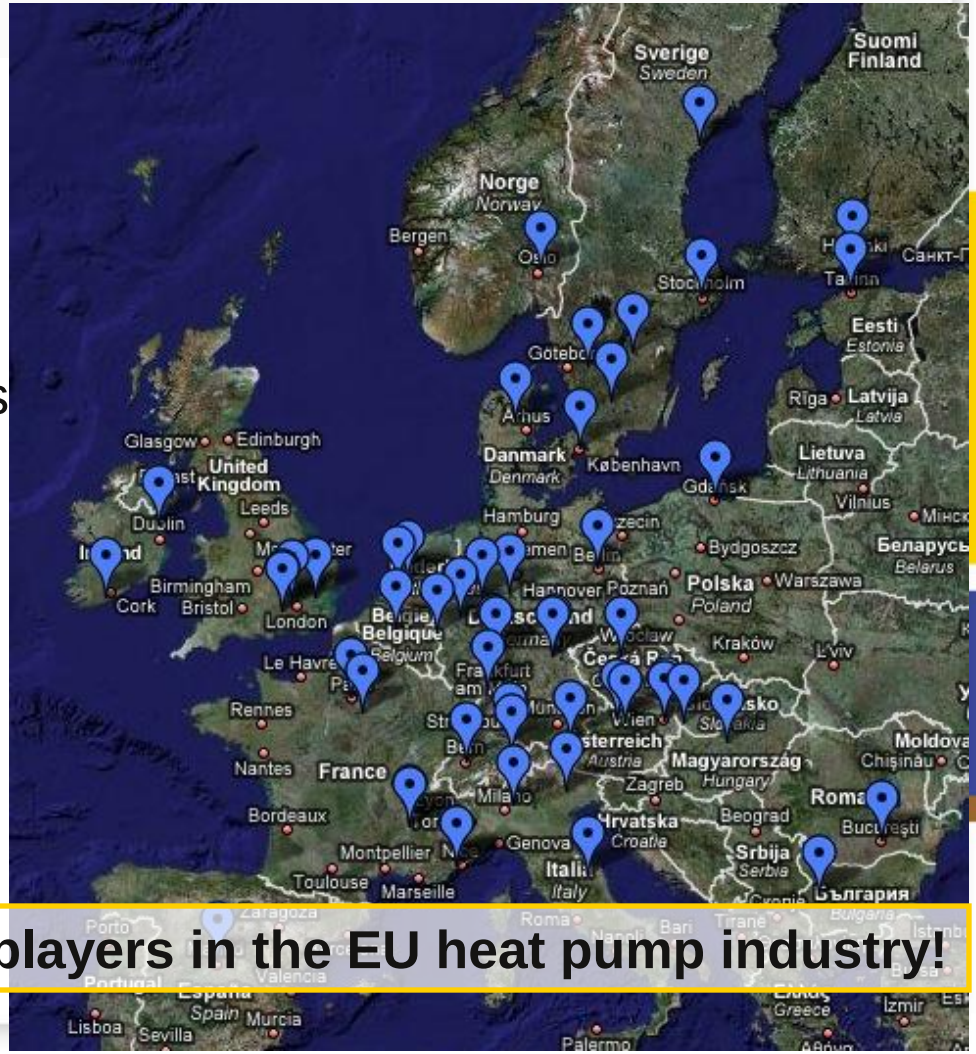
Vision: Establish Heat Pumps as **a core technology** for the efficient, reliable and cost effective provision of heating, cooling and hot water **from renewable energy sources** for residential, non-residential and industrial applications **in all European countries**.

**Major objectives**

- **Promote** awareness and proper deployment of heat pump technology
- **Disseminate** information & educational material
- **Support** European, national and local authorities in meeting their policy objectives on energy efficiency, the environment and security of energy supply.
- **Undertake** strategic studies with the EU and other interested bodies to develop the heat pump market
- **Facilitate** heat pump related research and development
- **Provide** technical and economic information to the market
- **Coordinate** and develop European labelling and certification initiatives

# European Heat Pump Association (EHPA)

- **89 members from 21 countries (status 3/2011)**
  - Heat pump manufacturers
  - Component manufacturers
  - National associations
  - Consultants
  - Research & test institutes
- **EU-wide representative of heat pump industry**
- **Registered in Brussels**

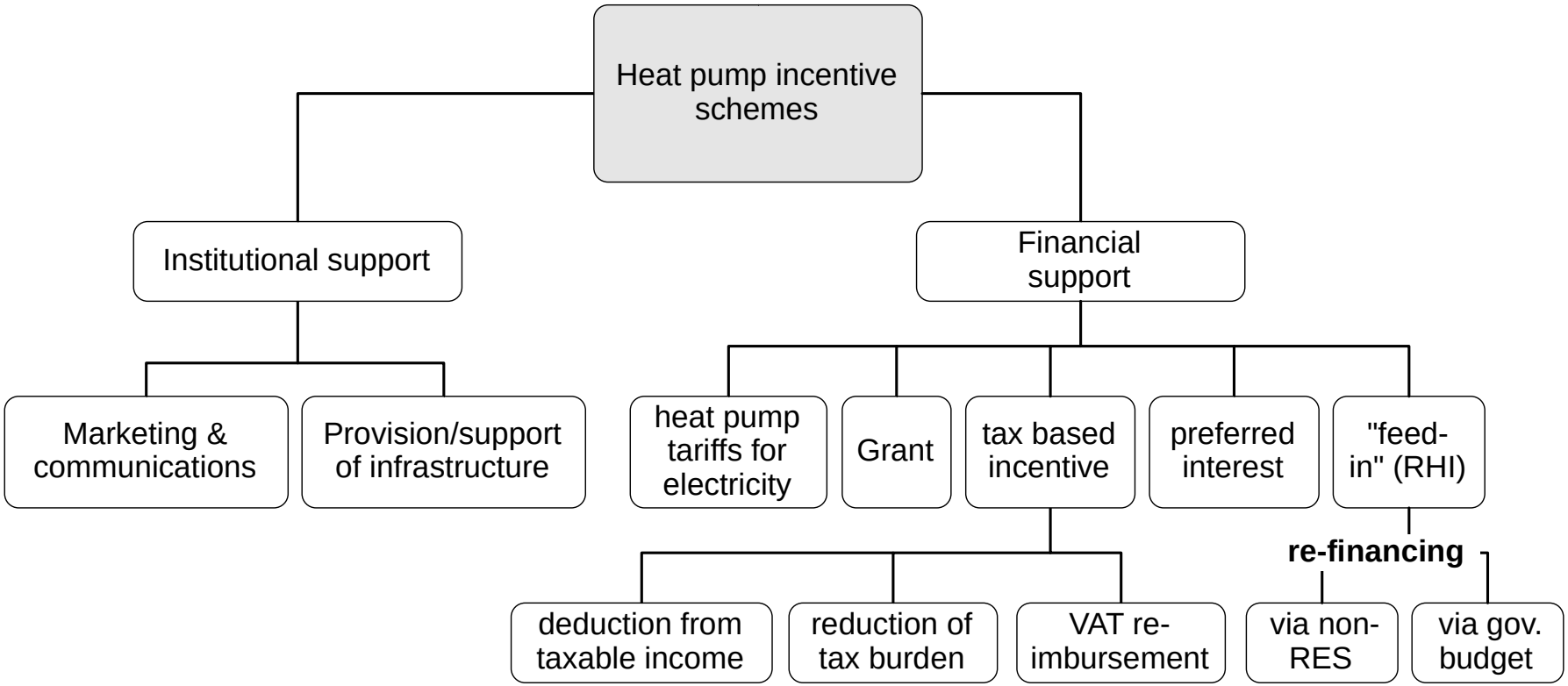



**EHPA represents the majority of players in the EU heat pump industry!**

# Technology development: key factors for success

- **Economic feasibility**
  - Energy price levels
  - Energy price ratios
  - Price level of technology (in absolute and relative terms)
  - Quality of products
  - Efficiency of products
  - Result: impact on total cost of ownership
- **Image and technology awareness**
  - Public
  - Installers, architects and planners
  - Policy makers, politicians and decision makers

# Incentive schemes



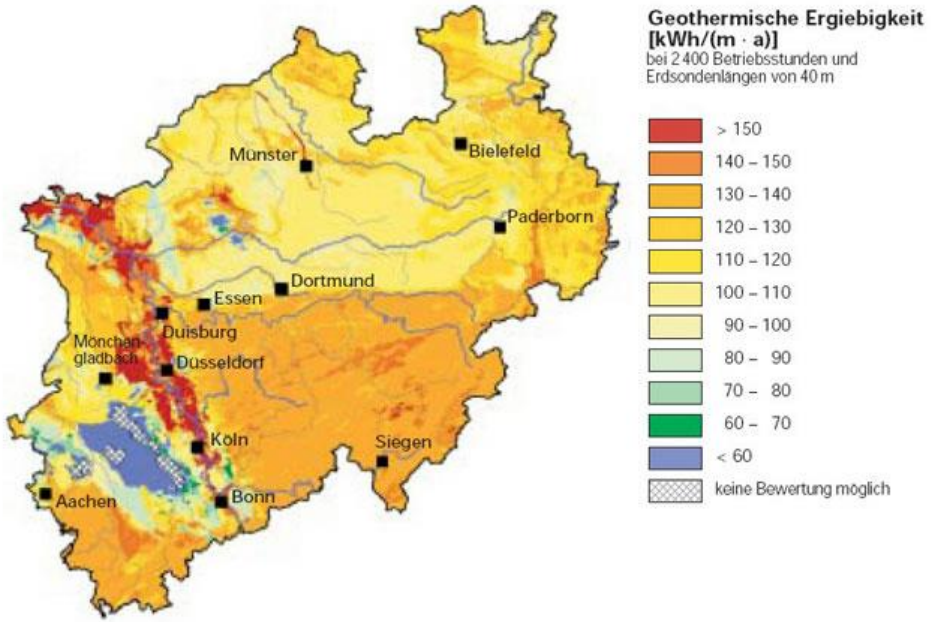

source: EHPA

# Example #1: Provision of information; provision of infrastructure

- **Ministry for the environment website on renewables**
  **http://www.erneuerbare-energien.de/inhalt/4590/**
- **Heat Pump Market Place NRW**
  **(State of North Rhine-Westalia)**
- **Information platform jointly financed by industry and the state (50:50)**
- **Provision of documents**
  - Market guide
  - Planning guide for heat pump installations
  - Information & decision making support for housing industry
- **Information dissemination at fairs and events**
- **More Info in German:**
  **http://www.energieagentur.nrw.de/waermepumpen/**

# Example # 2: Map of geothermal potential

- **Geological survey of NRW**
- **Detailed map of the states geothermal potential**
  - Available as CD-ROM (basic and professional version)
  - Location check online
- **Information on all drillings done in the state**




- **Offered by other states: Bavaria, Baden-Wuerttemberg, Saxony**
- **More Info in German:**
  **http://www.gd.nrw.de/g_details.php?id=1700/**
  **http://www.gd.nrw.de/l_ddabo.htm**

# Example #3: Preferred interest
# Example #4: Special tarif

- **Preferred interest**
  - Private or government controlled bank offering preferred financing conditions (interest, lower security requirement, larger loan)
  - Usully under conditions with regard to a) use of a certain technology, b) achievement of an advanced level of energy efficiency, or c) accomplishment of certain measures

- **Special tariff for electricity for heat pumps**
  - 40 to 60% reduction over usual tariff
  - utility reserves the right to switch of heat pump (usually 3x2 hours a day) => advanced load balancing
  - Common in Germany, Austria
  - Sometimes even offered with 100% green electricity

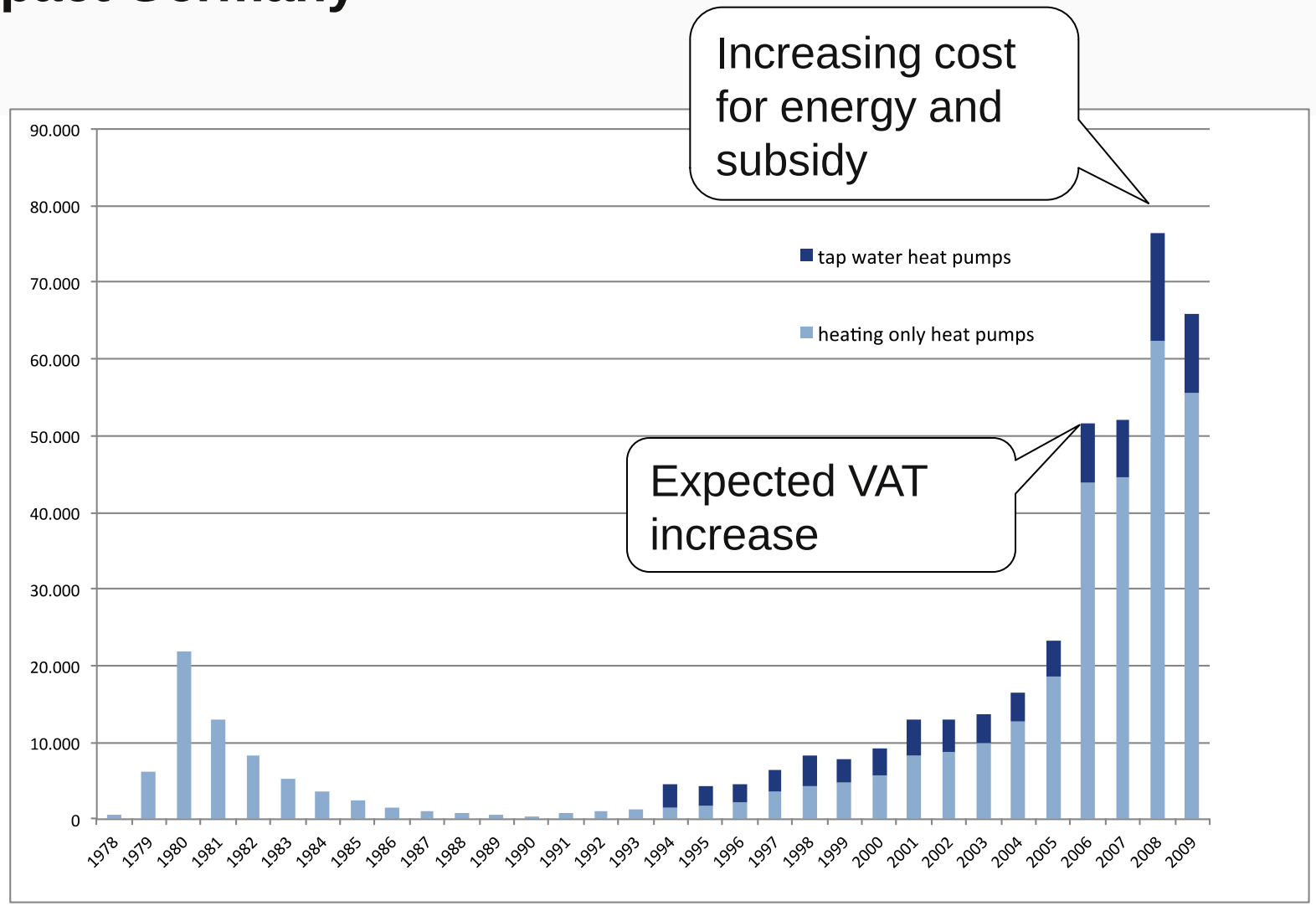
# Example #5: Direct Grant in Germany

- **In operation since 2008**
- **Applicable to new and renovated buildings**
- **Requirement: min. COP according to VDI 4650**

| | New houses built in 2009 or later | New houses built before 2009 | Renovation |
|---|---|---|---|
| Ground-coupled heat pumps<br>• Water/water<br>• Brine/water | • 7,50 €/m² of inhabited area max. 1.500 € for each apartment<br>• Houses with more than two apartments: max. 7,5 % of the net-investment for the heat pump | • 10 €/m² of inhabited area max. 2.000 € for each apartment<br>• Houses with more than two apartments: max. 10% of the net-investment for the heat pump | • 20 €/m² of inhabited area max. 3.000 € for each apartment<br>• Houses with more than two apartments: max. 15% of the net-investment for the heat pump |
| Air source heat pumps | • 3,75 €/m² of inhabited area max. 637,50 € for each apartment<br>• Houses with more than two apartments: max. 7,5 % of the net-investment for the heat pump | • 5 €/m² of inhabited area max. 850 € for each apartment<br>• Houses with more than two apartments: max. 10% of the net-investment for the heat pump | • 10 €/m² of inhabited area max. 1.500 € for each apartment<br>• Houses with m… apartment… the net-inv… …he heat pump |

Updated in 2010

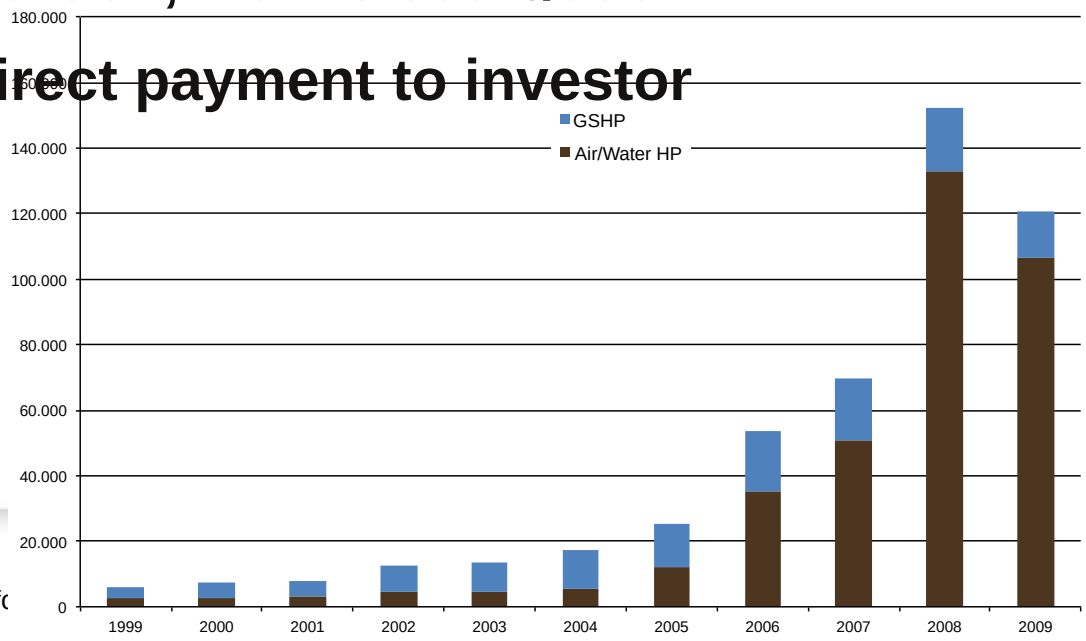
# Impact Germany




source: German Heat Pump Association (BWP)

# Example #6: Tax based incentive in France

- **Basis: Cost of heat pump unit**
- **Subsidies vary according to year of purchase and type of HP, min. COP applies**
- **2009: 40% of cost for GSHP or air-water unit deductable from income tax burden, max. 8.000 €/adult**
- **If no tax is paid: direct payment to investor**




Source: French Heat Pump Association (AFPAC)

Government support (fo

# Example #7: Incentive development in Ireland

- Greener homes scheme for residential buildings(s. table)
- ReHeat for commercial buildings (up to 30% of investment)
- Aim: increase the uptake of renewables in the heating of buildings: GSHP, Biomass, Solar thermal
- 2008: RES in new buildings mandatory!
- Responsible: Sustainable Energy Authority of Ireland (www.seai.ie)

| | GHGS I | GHGS II | GHGS III (only retrofit) |
|---|---|---|---|
| Air-water units | 4.000 | 2.000 | 2.000 |
| Ground source (horizontal) | 4.300 | 2.500 | 2.500 |
| Ground source (vertical) | 6.500 | 3.500 | 3.500 |
| Water-water | 4.300 | 4.300 | 2.000 |

# Success factors for feed-in incentive schemes

**A feed-in tarif is a tool to develop a given technology for a limited amount of time/until a technology penetration in a market is reached.**

- **Defined target (ie % of market share per technology etc.)**
- **Minimum efficiency requirements, real performance**
- **(usually) independent of the tax system and thus independent of govt. budget consideration**
- **Proper evaluation of program (fees paid, efficiency)**
- **Adjustment of support level according to success "safety break", floating cap**

# Example #8: The UK renewable heat incentive (RHI)

- **Incentive to invest in renewable heating systems**
- **Guaranteed compensation per $kWh_{thermal}$ of (renewable) heat produced (€/$kWh_{th}$), fixed duration, ie 20 years**
- **Two phased approach**
  - 2011: feed-in for big emitters in the non-domestic sector, direct subsidies (premium) to households (budget £15 mio, conditions apply)
  - 2012: feed-in for domestic applications + Green deal
- **Only ground and water source heat pumps included other, like air source possibly in the future**
- **Installers/equipment certified under MCS or equivalent**

# Pro & contra incentive schemes

- ⊕ Publicity
- ⊕ Official focus on market
- ⊕ Reduced investment cost
- ⊕ Triggers activity of stakeholders
- ⊕ Increasing demand
- ⊕ Efforts towards standardization
- ⊕ “me too” investment

- ↯ Stress on the market
- ↯ Lack of certified personnel
- ↯ Supply issues, issue of “on”-”off”-demand

# Requirements to good incentive schemes

- **Transparency**
  - Type of support / applicable technology
  - Duration (start and end) of program
  - If financial: amount of money available
  - Requirements
- **Support of quality, yet simple administration**
- **Long term existence instead of budged based**
- **Appropriate amount (not too large/not too small) sufficient impact on investment cost ratio and total cost of ownership**
- **Technology neutral**

# The European Heat Pump Association
# History

EHPA was established in the year 2000 as a European Economic Interest Group to promote awareness and proper deployment of heat pump technology in the European market place for residential, commercial and industrial applications. EHPA aims to provide technical and economic input to European, national and local authorities in legislative, regulatory and energy efficiency matters.

EHPA coordinates the **Quality label for heat pumps** a well as the **EUCERT** training and certification scheme for installers and compiles the annual European heat pump statistics.

All activities are aimed at overcoming market barriers and dissemination of information in order to speed up market development of heat pumps for heating, cooling and hot water production.

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