



The 34<sup>th</sup> Congress of Euroheat & Power

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Hilton Molino Stucky, Venice

*34th Euroheat & Power Congress  
Climate talks, climate action – DHC leading the way to Copenhagen*

*Hera Group development in District Heating:  
track records and perspectives*

**Dr. Roberto Barilli**  
*General Manager, HERA Group*

*Venice, 26 May 2009*

- **The HERA Group**
  
- **District Heating in the HERA Group**
  
- **HERA's District Heating development strategies**
  
- **The PRF and the principal development projects**

## *The HERA Group*

**HERA (Holding Energia Risorse Ambiente) is one of the leading Italian multiutility companies in the energy, water and environment sectors:**

- *HERA was founded on 1 November 2002 by the merger of 12 local Public Services Companies, giving rise to one of the most significant aggregation operations ever conducted in Italy in the public utility sector;*
- *As of today HERA serves 2.5 million customers;*
- *It is present in 196 municipalities in the Provinces of Bologna, Ravenna, Rimini, Forlì-Cesena, Ferrara, Modena, Florence and Pesaro-Urbino;*
- *HERA gives employment to approx. 6,500 persons;*
- *Since June 2003, HERA has been listed on the stock exchange.*

## *HERA's Activities*

### **Energy:**

*In the energy sector, HERA's principal activities are represented by the **distribution and sale of methane gas** (it is the third biggest operator in Italy), **electricity and the District Heating service**. The Group also favours **energy recovery** initiatives by means of waste-to-energy plants, energy production from biogas and **plants powered by renewable resources** (geothermic, photovoltaic and wind energy).*

### **Environment:**

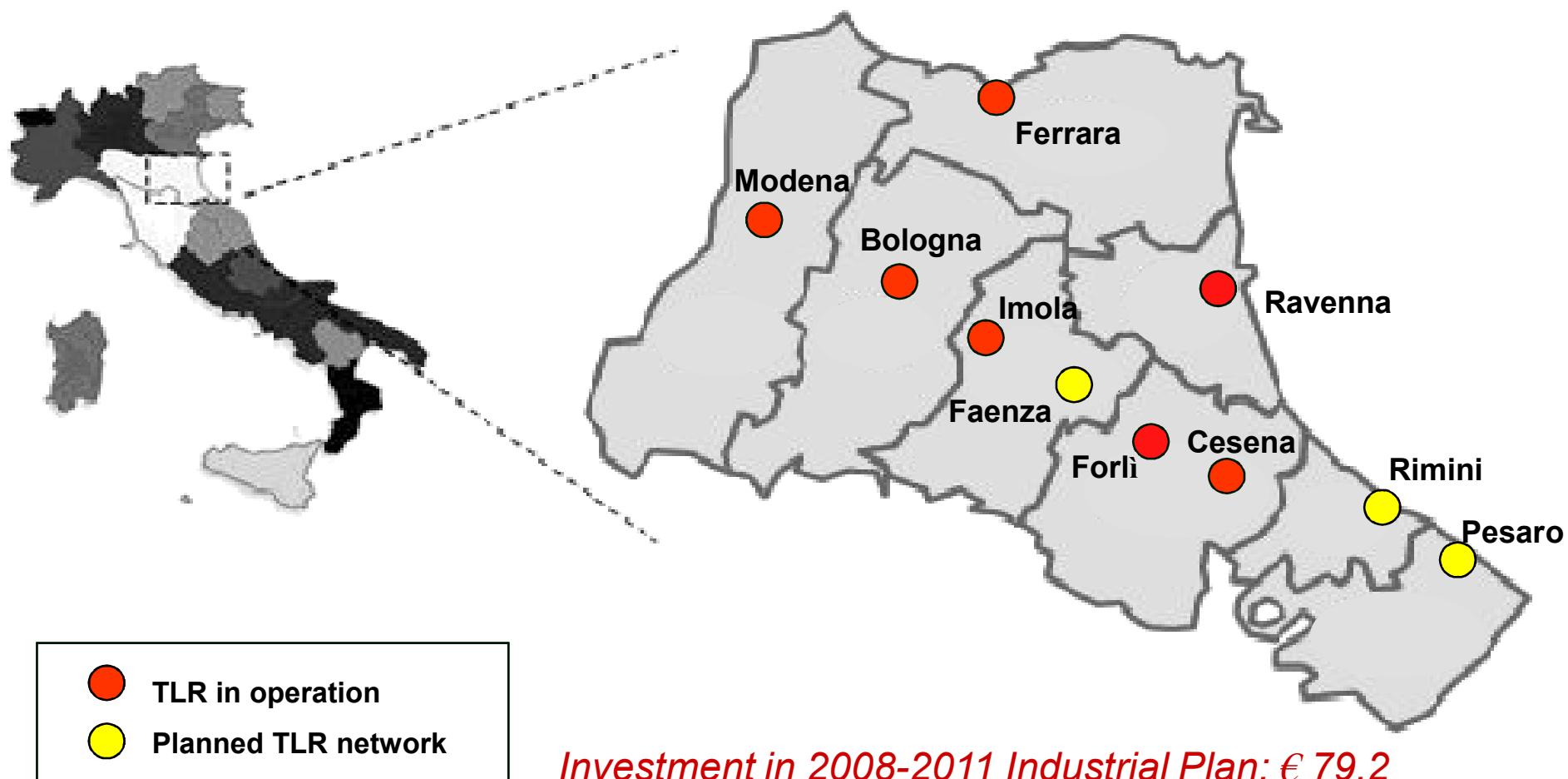
*In the environment sector HERA is the **biggest operator in Italy** that manages the entire cycle of recovery and recycling of materials, thanks to the **synergy between the environmental operating services and the waste treatment services** (recovery and disposal).*

### **Water:**

*In the water sector HERA is the **second-biggest operator in Italy** that manages the entire integrated water cycle.*

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## Geographic region of operation



*Investment in 2008-2011 Industrial Plan: € 79.2 million*

*Reference framework as at 31/12/2008*

**Volumes Served**

**16,010,000 m<sup>3</sup>**

*Length of network in double-tube*

*225 km*

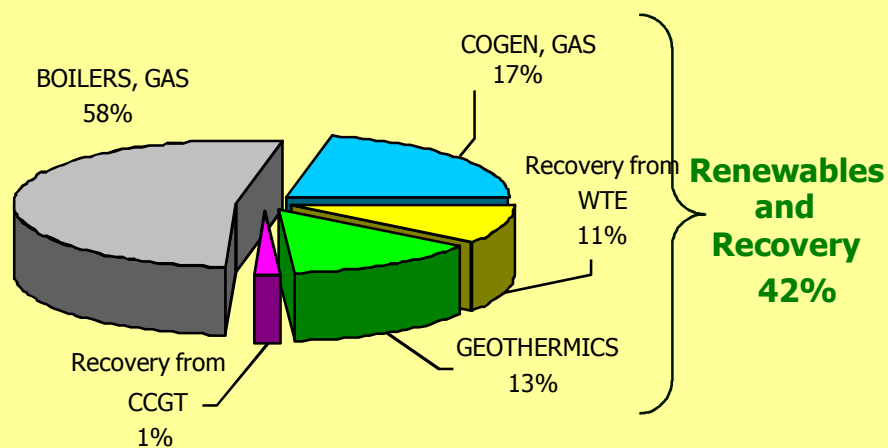
*Thermal Energy Produced*

*495 GWht*

*Electricity Produced*

*74 GWhe*

**Mix of sources for District Heating**



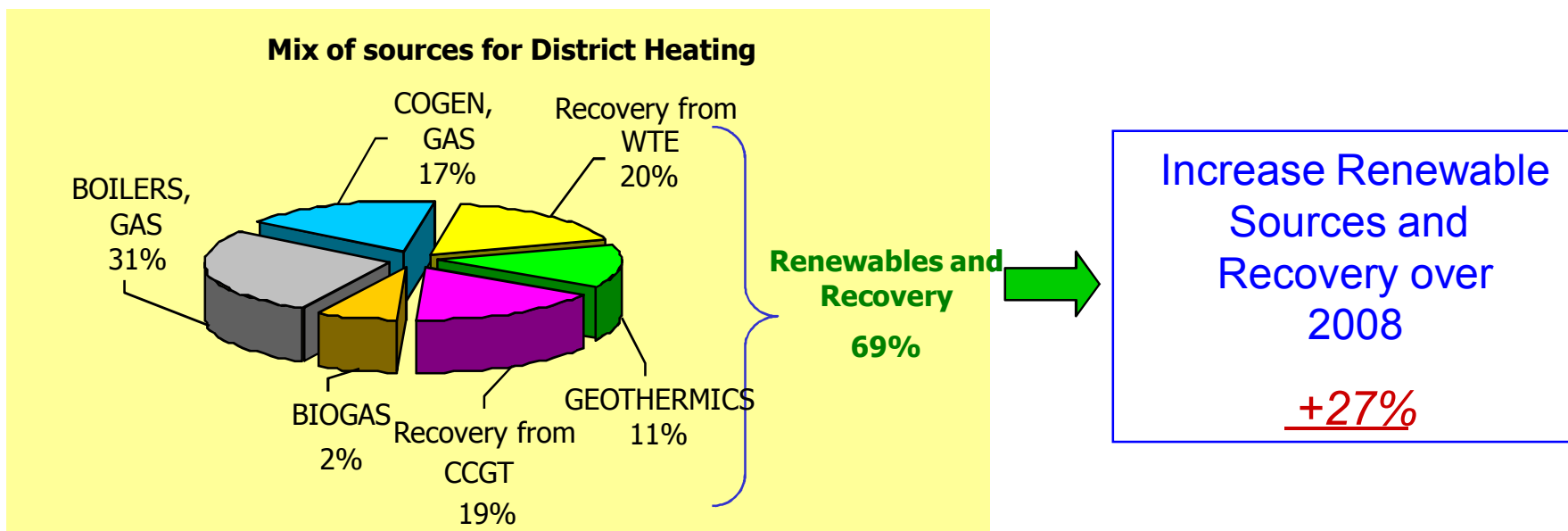
**Energy/environment benefits**

- **13,033 TOE saved**
- **56,382 t CO<sub>2</sub> avoided**
- **135,718 kg SO<sub>x</sub> avoided**
- **72,004 kg NO<sub>x</sub> avoided**

## Development of District Heating (TLR) in the 2008-2011 Industrial Plan of HERA Group

**Planned as at 31/12/2011**

<b>Volumes Served</b>	<b>21,000,000 m<sup>3</sup></b>	<b>(+31%)</b>
<b>Thermal Energy Produced</b>	<b>766 GWht</b>	<b>(+54%)</b>
<b>Electricity Produced</b>	<b>108 GWhe</b>	<b>(+46%)</b>



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## *The evolution of the Energy Context*

- ❑ Adherence to international accords (Kyoto Protocol);
- ❑ EU Regulatory Framework:
  - 2004/8/EC Directive**                      Promotion of Cogeneration
  - 2006/32/EC Directive**                      Efficiency of end use of energy
  - 2002/91/EC Directive**                      Energy yield in construction
- ❑ Growing awareness of sustainable development and energy saving;
- ❑ Volatility of oil/methane prices.



**Actions to achieve the efficiency and energy saving objectives as part of a long-term, integrated strategy shared with all stakeholders in the urban area**

## *Development Strategy*

### **Design based on an "Energy District" logic**

- ❑ **Integrated management of the energy and environment system in urban areas, consistently with the actions of the local administrations, and with the Local Planning instruments (PEAC and PSC);**
- ❑ **Particular attention to selecting and optimising the SOURCES and technology of energy production.**



### **Development Strategies:**

- *Increase renewable sources;*
- *Favour energy recovery in urban settings;*
- *Diversify sources of provisioning;*
- *Integrate management of energy & environment services.*

## *The Value of the Sources - The Integrated Energy Systems*

### **□ Recovery of the regional energy sources:**

Energy from electricity generation plants;

Low-enthalpy geothermic sources.

### **□ Generation technologies with high energy efficiency:**

High-yield cogeneration;

Energy recovery from waste-to-energy plants;

Industrial-dimension heat pumps.

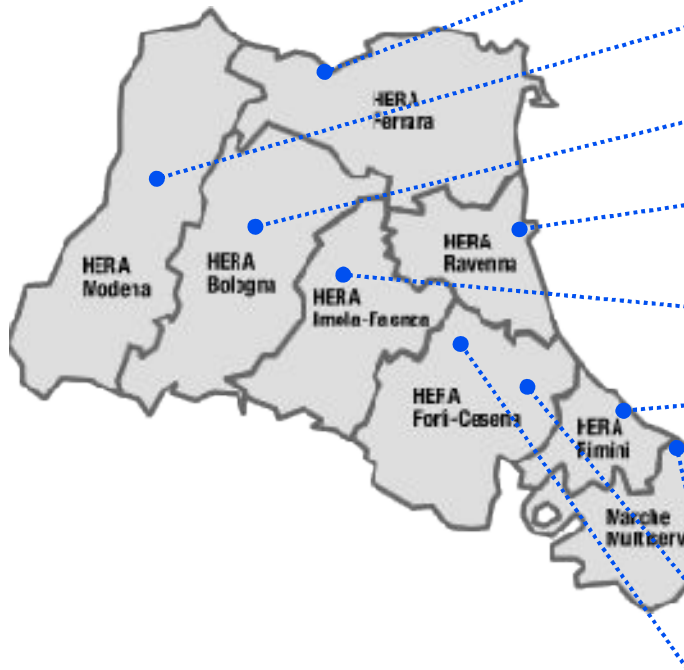


### **Externalities:**

- *Greater independence from fossil fuels;*
- *Energy saving;*
- *Reduction of emissions.*

## Principal projects planned

HERA Group's "territory"



Town	cubic measure heated at 2008	cubic measure planned	incr.	prevalent sources of energy
	m3	m3	%	
<b>FERRARA</b>	5,170,000	3,550,000	69%	Geothermal WTE
<b>MODENA</b>	937,000	2,070,000	221%	WTE CHP
<b>BOLOGNA</b>	6,058,000	530,000	9%	WTE CHP
<b>RAVENNA</b>	112,000	4,381,000	3912%	WTE CHP-CCGT
<b>IMOLA</b>	3,280,000	4,350,000	133%	CHP-CCGT
<b>RIMINI</b>	0	1,245,000	new	WTE
<b>PESARO</b>	0	2,723,000	new	CHP HEAT PUMP
<b>CESENA</b>	477,000	3,448,000	723%	CHP HEAT PUMP
<b>FORLI'</b>	75,000	4,370,000	5827%	WTE HEAT PUMP
<b>Total</b>	<b>16,109,000</b>	<b>26,667,000</b>	<b>166%</b>	

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## *The Primary Resource Factor*

The **Primary Resource Factor** is the index that assesses the “global” yield of heating/cooling systems.

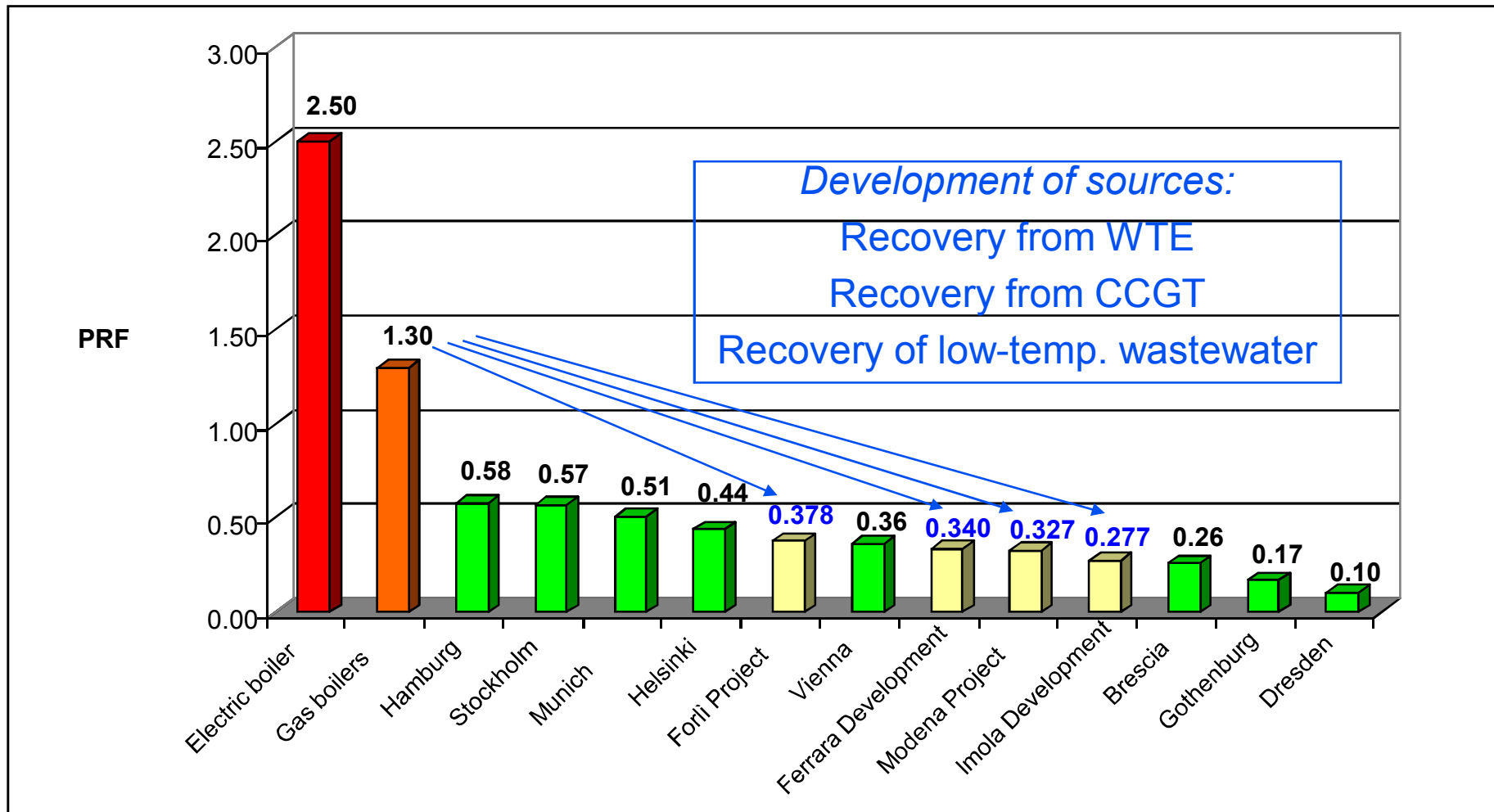
**The calculation method**, proposed by EHP, is being progressively incorporated into EU law.

- The PRF is calculated as the **ratio of fossil energy required to energy consumed**.
- The PRF assessment includes **the entire energy process** and is not limited to assessing only the building where the energy is consumed.



**HERA is already adopting the PRF as a tool for assessing its projects, since the Group considers it an innovative and effective instrument for making the energy sector more efficient, by rewarding the effective “quality” of the energy production processes.**

*The PRF and the HERA Group's District Heating Development Plans*



***Thank you for your attention***

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***Dr. Roberto Barilli***  
***General Manager – HERA S.p.A.***