Mini-CHP

A new look at Combined Heat and Power
Massive heat losses, energy bottlenecks, uncertain supply, ...
“In many ways energy efficiency can be seen as Europe's biggest energy resource.”

EU Energy Efficiency plan (08/03/2011)
There is a need to move from the current system of centralized energy supply ...

... to a decentralized system in which consumers also become suppliers.
Using dissipated heat locally and efficiently (for heating or domestic hot water) will avoid unacceptable heat losses.

CHP generates electric power locally at 90% efficiency!!
1993: First cogen unit for WVEM (West Flemish Electric Utility)
1995: First cogen unit at Sacred Heart Hospital (now Alma) in Eeklo
1996: First biogas engine installations
2004: First experiments with pure plant oils
2007: 30MWe output capacity with EVW cogen units in Belgium
2007: ECOPOWER, first CHP on rapeseed oil
2008: 7 MWe new biomass projects (biogas and PPO), the bio breakthrough!
2010: 50MWe output capacity with EVW cogen units in Belgium
2010: Introduction of **Mini-CHP** into the Belgian market
2011: First EVW biogas conversion cogen unit in Germany
2013: 60MWe output capacity with EVW cogen units
More possibilities to create a positively green energy landscape:

Total output of multiple small cogen units > Total output of fewer large cogen units

Energy efficient heat and power from a system made in the EU by EU employees for EU citizens
A new series of mini-CHP on natural gas or plant oil in the power range of 9 kWe to 12 kWe.
20 years of experience with cogeneration brought together into one new reliable system featuring extraordinary properties.
Mini-CHP

- 20 years of expertise with CHP brought together into a new concept!
  - modular (increased flexibility and energy savings)
  - serial production
  - fixed maintenance cost
  - high reliability
  - baseload applications
  - the green heart of your building
  - online system management via PC, smartphone, tablet (web based)
  - ...

…
Hotels, sports centers, garages, horticulturists, businesses, dispensaries, heating networks, nursing homes, museums, office blocks, fire stations, swimming pools, police stations, supermarkets, abbeys, saunas, B&Bs, breweries, developers, pig farmers, distribution centers, rehab centers, apartment blocks, schools, universities, business parks, car dealers, horse breeders, training centers, warehouses, soup kitchens, townhalls, dairies, municipal departments, tool grinding shops, hostels, campgrounds, tulip farms, bakeries, car wash, environmental services

FOR WHOM?
Mini-CHP, the most efficient energy transformer.

To yield **30,000 to 70,000 kWhe annually** it only takes +/- 3 m² in surface and +/- **35,000 Euro** of investment.

Savings possible up to **10 T CO₂/year** when using natural gas.

= effect of a forest of approx. **10,000m²**.

= effect of a solar power installation of **135m²**.

So, also **cost efficient and space saving**.
Energy cost comparison after 12 years

- Electricity consumers
  - € 2,000,00
  - € 4,000,00
  - € 6,000,00
  - € 8,000,00
  - € 10,000,00
  - € 12,000,00
  - € 14,000,00
  - € 16,000,00
  - € 18,000,00

- Mini-CHP owners
  - Fuel
  - Investment + Maintenance

YOUR BENEFIT
Renewable energy generated by a cogen unit running on pure rapeseed oil from local farmers. Low carbon produce, limited transportation, no refining = up to 5 times higher CO$_2$ savings than with natural gas!
“...also biofuels must not be wasted and should in the first place be used in the most energy efficient applications...”
SO : use biofuel for cogeneration and not for vehicles!
Electric power needed to charge our first e-vehicles is a by-product of our in-house heating installation = the Mini-CHP
Electric mobility is the perfect stepping stone towards untapped energy savings when combined with energy efficient, affordable, decentralized power generation (= Mini-CSP).
12 kWe on natural gas in a car workshop in Kuurne (B): The Mini-CHP unit generates electric power and dissipates heat to the workshop’s air heater.
12 kWe on natural gas in a car workshop in Kuurne (B): Using the heat locally results in maximum efficiency power generation to meet local needs.
9 kWe on rapeseed oil at Siemens Huizingen (B): The heat dissipated by the Mini-CHP is used for hot water supply to the kitchen and canteen. The electric power is used locally on site.