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Mureck, Styria, Austria
100% renewable
based on different biomass technolgies and PV

Dr. Heinz Kopetz
World Bioenergy Association
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Mureck 100% renewable

- Mureck, a community in the South of the province Styria (Austria), 40km South of Graz with 3000 inhabitants.
- Farmers and citizens founded different companies to deliver heat, electricity and transportation fuels from renewable sources, mainly biomass. The different technologies offer interesting synergies. They operate now
- A biodiesel plant (15 Mio. liter) based mainly on used citchen oil
- a district heating plant 4 MW (9GWh heat)
- a biogas plant 1 MW electricity (8GWh electricity)
- 25 000m² PV, partly integrated in a glasshouse (3 GWh electricity)

Mureck: 100% renewable

The situation: 3000 inhabitants
1 biodiesel plant
1 district heating plan
1 biogas plant
25 000m² PV in combination with a glass house

Synergies: glycerin > biogas
waste heat from gas engine > district heat
district heat to glass house

Impacts: 10 Mio.l biodiesel, 11 GWh electricity, 9 GWh heat
70 Jobs,70% less CO2

Lesson: local, private initiatives build a new decentral energy structure!

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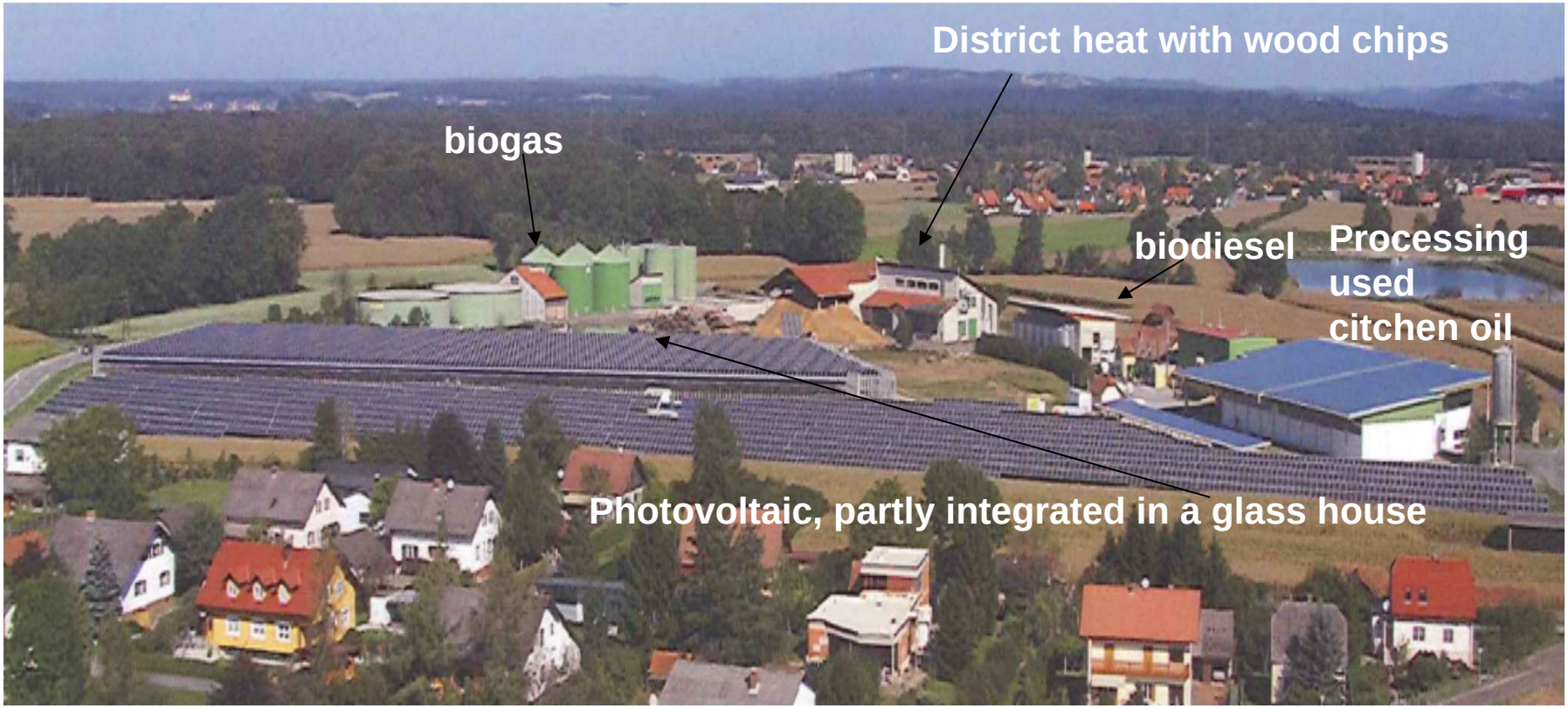
Synergies by integration of different RES technologies,

Mureck, Austria: 11GWh el, 9 GWh heat, 15 mio.l biodiesel



Mureck: 100% renewable, synergies

The synergies:

- Glycerine from the biodiesel plant goes as feedstock to the biogas plant
- The gas engine using biogas to produce electricity is located in the district heating plant. the waste heat of the electricitiy production is used for district heating.
- A part of the heat is used in the glass house.
- In the future the biogas plant will be used to compensate partly for the fluctuations of the PV electricity production,

Mureck: 100% renewable, effects

The impacts on:

Jobs: all together 80 new jobs were created, including the vegetable production in the glass glass house

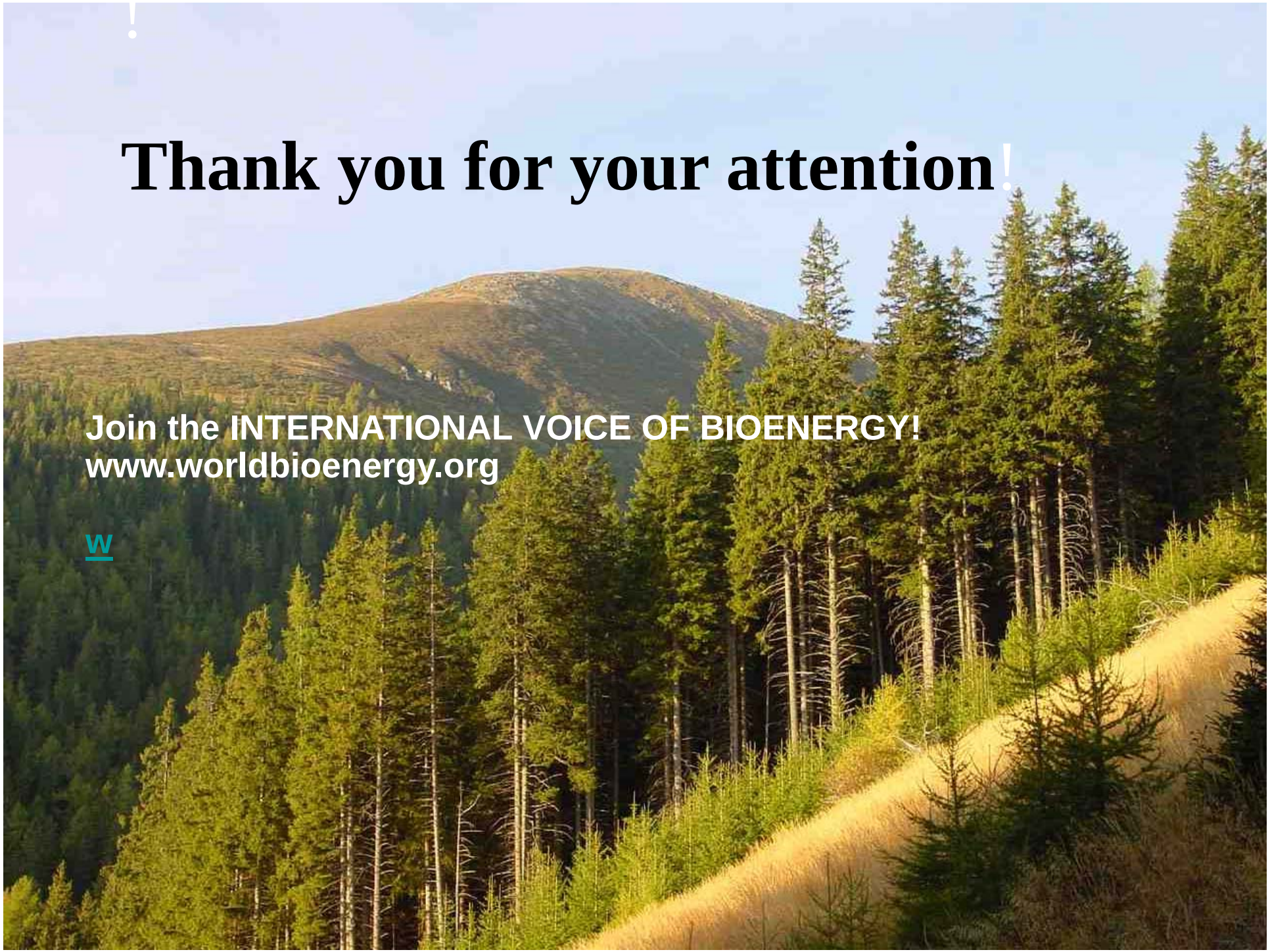
Air quality: replacing many small boilers in the houses by district heat improved the local air quality

Regional economy: almost all expenditures fur energy now remain in the region

CO2 emissions: are now 70% lower than before!

Energy security: the supply of biodiesel, electricity and heat comes from the region, only petrol comes from outside. Alltogether more renewable energy is produced than consumed in this small city.

Mureck demonstrates: 100% renewable is possible!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