

# Authorization process of a new biogas plant in Hungary

## *case study*

*10-13 June 2008*

*Bruxelles*

*Benchmarking and guidelines for  
streamlined authorisation processes  
for bioenergy installations*

# PILZE-NAGY Ltd.



# Introduction

The Pilze-Nagy Ltd. is in the business of oyster mushroom substrate production, growing and trade. It is a family run enterprise, which started its operation in the vicinity of Kecskemét in the beginning of the 1990s.

The company is the country largest oyster mushroom producer and exporter. The company is also considered as one of Europe's largest oyster mushroom plants based on plant size and annual revenues.

# Problems addressed

- ❖ Energy cost increase in mushroom growing
- ❖ Utilization of spent mushroom substrate – over 3000 tons of biomass per year
- ❖ Sustainable development
- ❖ Meet the environmental standards

# Project

The Pilze-Nagy Ltd. during the project development has established a biogas power plant with 330 kW electric and 400 kW thermal capacity biogas-engine (cogen-set) utilizing agricultural residues.

The produced thermal energy will be used in the mushroom – production – facilities.

The whole procedure works full – automatically, just the input and output –activities have to be done manually.

# The biogas power plant

- ❖ Agricultural residues: 3200 tons of spent substrate, 4000 tons of corn waste from canning industry
- ❖ Other biomass: 3000 tons of pig manure
- ❖ Biogas production: 1 230 188 m<sup>3</sup> per year
- ❖ Total electrical energy: 2 580 MWh per year
- ❖ Available thermal energy: 2 658 MWh per year
- ❖ Digested liquid material: 12 814 m<sup>3</sup> per year
- ❖ Project budget: 350 M Ft (1,4 M Euro)
- ❖ Estimated Payback period: 12 years
- ❖ 33% of the budget covered by subsidy (Hungarian Government and EU co-fund)



# Authorization process

Our biogas power plant is below

- ❖ 500 kW electric capacity – no need to get SIMPLIFIED LICENSE from Hungarian Energy Office.
- ❖ 10000 t of not dangerous waste material – we were not asked to apply for the INTEGRATED PERMIT FOR THE USE OF THE ENVIRONMENT (National Inspectorate for Environment, Nature and Water).

314/2005. Government decree

# Authorization process

Licences and/or permits:

- ❖ Quota permit for obligatory electric energy acceptance - Hungarian Energy Office (40 days)
- ❖ Building permits for:
  - Gas-engine - Hungarian Trade Licensing Office (3 months)
  - Other buildings of the power plant – Kecskemét City Municipality (3 months)
  - Transformer - Hungarian Trade Licensing Office (7 months)
  - Electrical wiring - Hungarian Trade Licensing Office (7 months)

# Authorization process

- ❖ Permit for establishing PB gas tank –Szolnok Mining Captaincy – (30 days)
- ❖ Permit for establishing ground water pump – Alsó-Tisza-vidéki Environmental Inspectorate (5 months)
- ❖ Permit for establishing monitoring pumps Alsó-Tisza-vidéki Environmental Inspectorate (5 months)

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# Authorization process

Other necessary documents, contracts:

- ❖ Connection the power plant to the grid
  - Contract for connecting to the grid
  - Operational agreement
  - Trade contract

Contractor: owner of local distribution network.

Started: December 2005.

Completed: December 2007.

# Authorization process

Other necessary documents, contracts:

- ❖ Balance circle contract with MAVIR Hungarian Transmission System Operator Company Ltd.

Based on a new Government decree 389/2007. accepted last December, put in force 1st January, 2008. It regulates both RES power plants and fossil energy cogeneration power plants.

Power plant operators have to keep the energy schedule (every 15 minutes), if 5% difference occurs they had to pay penalty based on the total produced kWhs per 15 minutes. Penalty is 5 Ft – it is 1/6 of the highest and 1/2 of the lowest feedin-tariff.

# Balance

- ❖ Permits: we have made 8 applications, worked with 5 approving authorities within 16 months. Total cost of the authorisation was 5000 Euro (Exclusive the documentation for the building permit – it was integrated into the budget of the construction. )
- ❖ Contracts for Connection to the grid: it was implemented in 24 months, involved two energy organizations. Total cost was 42.000 Euro including documents and those equipments which had been built into the distribution network.
- ❖ Cost of the authorization process was 3,4% of the total project budget.

# Conclusion

## Negative experiences:

- ❖ Legislation still not standard, over 50 different laws, decrees regulates the authorization process.
- ❖ As many authorisation bodies as many interpretations of the regulations. Contradiction between offices. There is no superior body, who immediately can make decision. (which permit falls within which office cognisance)
- ❖ Energy policy has changed – there is no stable economic circumstances.
- ❖ Lack of „ECO-POWER-ACT“. There is now legal frame for a clear, transparent regulation of biogas power plants in Hungary.

# Conclusion

Positive experiences:

- ❖ Easier authorization process for small sized power plants.
- ❖ Duration of the authorization process is limited within 60 days in most cases.
- ❖ Clerks positive attitude with some exceptions.
- ❖ More experience creates more knowledge.

## Lessons learned

Early birds build the path, but without strong governmental support through different instruments, the share of RES in the Hungarian energy system would not increase in the near future.

Thank you for your attention.

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