



Waste heat rail Hallein-Salzburg

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Program ÖKO remote heating Salzburg

Overview of the most important points:

- vapour network changeover in the city Salzburg
- M-real Hallein
- MDF Hallein
- BMHKW Siezenheim

vapour network changeover

The changeover of the vapour network at the ecological region Hallein – Salzburg is an important contribution to a lasting development in terms of the program “energy systems of the future”

- through reduction of CO₂ of about 65,000 tons/a
- forced usage of renewable energy sources
- economical remote warmth supply for more than 17,000 living units, hotels, public buildings etc.
- more secure remote heating (problems of inundation)
- more efficient linking of power and heat
- possibility to feed with industrial waste heat
- easier and more cost efficient operation of the network (cancelling of 90 % of the shafts, no costly condensation economy)

ecological rail Hallein – Salzburg

technical data and information in general:

- energy sale (about 80,000 MWh/a along the rail
- investment costs: about 14 MEUR
- furtherance: 30% (already approved by the ÖKK)
- developer: alternative energy Salzburg limited liability company
- completion of part 1 until Urstein: at the end of 2004
- completion of part 2 until Salzburg/South: until the end of 2005

M-real Hallein paper factory

technical data and general information:

- lye burning (already realised) wattage rating: 3.7 MW
- BHKW wattage rating: 1.15 MW

- Economiser wattage rating: 1.8 MW
- heat transformer/ absorption heating pump wattage rating 7 MW
- developer: AESG
- investment sum exclusive lye: about 6 MEUR
- beginning of the feed: 2006

use of waste heat M-Real technically:

- M-Real is building now a 30 MWth vortices layers bio mass boiler. This boiler burns wood chipping and whitewashing from the paper factory. This produces with the help of a back pressure steam turbine ecological current with an output of 5.1 MWel.
- The vapour is used as process vapour in the company. The waste heat of this flue gas will be used for the de-coupling of the remote heat.
- Economiser: The flue gases will be cooled down from 185 to 85 degree Celsius and 1,700 kW will be delivered to the remote heat
- condensation of the flue gases and heat transformer: in the flue gas condensation, there is a further cooling down to 45 degrees Celsius and further 2,800 kW are made for using.
- To use this heat, it is necessary to raise the temperature level to 80 degrees. For that reason there is used an absorption heating pump.
- The lye burning with a thermic output of 3.7 MW
- the whitewashing from the paper factories are transformed to microbiological natural gas and finally transformed to current (850 kWel) and heat with the help of a BHKW. The waste heat (about 1.15 MW) is de-coupled into the remote heating network
- So the company remnants can be recycled optimally and wooden chopping and can be used, and the fossil energy of the factory can be strongly reduced. 13.55 MW can be foreseen to be used as remote heating.

bio mass current production plant MDF

general information:

- the negotiations between the AESG and the MDF are running
- the ORC-module output: 4.6 MW
- energy sale: until maximum 30.200 MWh/a
- fuel: 67 % chopping, 33 % rind, spangles and wooden rests for all together 52,000 srm.
- investment costs: about 3,7 MEUR
- furtherance: 30 %
- constructor: project society (AESG 49 %, mdf 51 %)

bio mass current producing plant Siezenheim

technical data and general information:

- output of the bio mass boiler: 10 MW
- ORC-module output: 1.5 MW
- energy sale: until the year 2009 about 28,200 MWh/a
- After the change to a vapour network in the city Salzburg: that means: until 2010 rd. 42,000 MWh/a
- fuel: 67 % wooden chopping, 33 % rind, span, waste wood for all in all 52,000 srm.
- investment costs: about 5,4 MEUR
- furtherance: 30 %
- constructor: AESG
- implementation is planned until the end of 2004