

## Cleaner air in Arvidsjaur

**A new biomass-fired district heating boiler in Arvidsjaur means that the municipality's population now has significantly cleaner air. The boiler mainly replaced electric and oil heating, and also reduced annual carbon dioxide emissions by 2 600 tonnes.**

With support from the government Local Investment Programme (LIP), in 2002–2005 Arvidsjaur built a district heating plant with a biomass-fired district heating boiler that replaced heating with electricity, oil and wood. With this action, the municipality aimed to eradicate the poor air that emissions of soot and volatile hydrocarbons were causing. The action also led to a sharp decline in the consumption of fossil fuels and electricity for heating.

At the end of 2008, 207 houses and 89 larger properties were connected to the newly built plant.

### POSITIVE ENVIRONMENTAL AND ECONOMIC IMPACTS

- Renewable energy replaced 930 m<sup>3</sup> oil/year.
- Carbon dioxide emissions decreased by 2 600 tonnes/year.
- The quantity of volatile organic compounds (VOCs) has fallen by around half.
- Particulate emissions decreased by 7.9 tonnes/year.
- The expansion of the heating plant has created long-term employment in the municipality.

Photograph: Arvidsjaur's Energi AB



## IMPLEMENTATION

The Municipality built a conduit network and installed a biomass-fired boiler with proven technology in the urban area of Arvidsjaur. The boiler runs on solid fuel that comes from regional forestry. The ash from combustion is mixed with digestion sludge and becomes soil that is used for lawns.

The municipality conducted an inventory of how properties in the municipality were heated and which of them were interested in being connected to a district heating system.

Contractors then built the district heating network and the boiler plant. Arvidsjaur Energi AB had overall responsibility for the project. The municipality started the company to implement the project. However, procurement and applying for all the permits required took longer than anticipated.

Since the LIP project, the Municipality has expanded district heating and today supplies approximately twice as much heat. This expansion has partly replaced pellet firing in detached houses.

## POTENTIAL AND FUTURE BENEFIT

Biomass fuels replacing fossil fuels has substantial positive climatic effects. The use of biomass fuels, which would otherwise be waste without any natural alternative use, for example digestion, is both economically advantageous and beneficial to the environment. District heating systems reduce air pollution locally, make it possible to utilise waste heat from other activities and produce combined heat and power. The prospects for expanding district heating are improving as urbanisation advances globally.

## WHY BEST PRACTICE

The project is of great significance to the municipality during a time when a declining population base, a tough labour market with many layoffs and worries in the run-up to the parliamentary defence resolution are causing great anxiety and pessimism.

Arvidsjaur Energi AB gained an opportunity to grow substantially as a company. It has added expertise to the municipality that did not previously exist. The company can now act as a referral body for the Municipality.

## FOR FURTHER INFORMATION

### Contact

Anders Åman, CEO Arvidsjaur Energi AB,  
+46 (0)960-15 714, +46 (0)70-353 35 34,  
anders.aman@arvidsjaur.se.

### Contractors/providers

KMW Energi AB supplied and installed the boiler

The project on the Internet:  
[www.arvidsjaurseenergi.se](http://www.arvidsjaurseenergi.se)

## Further information on Best Practice

[www.swedishepa.se/bestpractice](http://www.swedishepa.se/bestpractice)  
[www.naturvardsverket.se/mir](http://www.naturvardsverket.se/mir)

## FACTS

LIP Arvidsjaur 2002  
Action 01  
Environmental investment: SEK 79.6m  
Grant: SEK 17.9m

