

BIOMASS IN ABERDEEN CITY AND SHIRE

MAY 2007



The Aberdeen Renewable Energy Group (AREG) is an innovative public-private partnership, working to promote the capabilities of Aberdeen City and Shire in renewable energy, helping to put Scotland firmly on the global renewable energy map and contributing to the achievement of green energy targets.

AREG also has a key role in assisting the diversification of companies into competitive renewable energy markets. The Group has some 100 members comprising a diverse range of energy interests. AREG members are actively involved in every type of renewable energy resource and meet regularly to discuss industry developments and opportunities.

AREG has been working with stakeholders for several years to promote the potential for development of biomass

in Aberdeen City and Shire, and encouraging the development of specific opportunities.

AREG's objectives in biomass are to:

- Create new employment opportunities
- Meet the demands for heat and power in the region in the most sustainable way and help combat fuel poverty
- Secure associated financial and environmental benefits

Engagement with stakeholders has established that the first priority is the development of the wood fuel supply chain from wood chips or wood pellets to equipment installers and maintenance engineers. In parallel the potential for farm crops to produce bio-fuels for transportation and other uses is promoted, principally the growth and use of rape seed for biodiesel.

The recent announcement of the Scottish Executive's financial support for eight wood chip and pellet projects in our area has validated this approach, and given local biomass development a major boost with the supply side now well prepared for catering for a step change in demand.



Grampian Bio-Energy Working Group



Iain Todd - Aberdeen Renewable Energy Group



Dan Gates - Forestry Commission

The Grampian Bio-Energy Working Group was set up in 2007 to stimulate the development of biomass projects in Aberdeen City and Shire. The working group is chaired by AREG's Renewables Champion Iain Todd, and the secretary is Dan Gates of the Forestry Commission.

Iain explains: "AREG is determined to help promote the take up of biomass renewables in this region, which has great resources in forestry and farming. This note describes some excellent first steps, supported by grants from the Scottish Executive. There is much more that can be done and we look forward with enthusiasm to developing further opportunities."

Meetings will be held regularly, and the Group has already discussed operational issues, shared information on the Executive's biomass grants scheme, and received a presentation about Aberdeen City Council's plans to convert the Seaton Flats from electric heating to a biomass fuel Combined Heat and Power scheme. Future meetings will feature information sharing, practical options for opportunity and presentations on current projects.

If you wish to register your interest in attending these meetings or for further information on the Group, please contact Roddy Matheson, Industry Sector Manager, Aberdeenshire Council on 01224 664922 or roddy.matheson@aberdeenshire.gov.uk

Why Biomass?

- Technology is well established
- Provides significant employment in fuel growth, harvesting, transportation, preparation, energy plant
- Affordable energy, not affected by fluctuating fossil fuel prices
- Can provide heat and power
- Environmental benefits – reduction in carbon emissions
- Continuous energy – does not suffer from intermittency

Why Aberdeen City and Shire?

- Opportunity for rural diversification and job creation
- Plentiful resources from forestry and farming
- Good transport infrastructure
- Relevant skills available
- Need for heat and electricity
- Stakeholder enthusiasm and commitment at all levels
- Reinforces our position as an Energy Capital

LOCAL PROJECTS:

Macphie of Glenbervie

Macphie of Glenbervie Ltd plans to install a biomass boiler to provide steam for their food ingredients manufacturing process. The proposed installation is a 1.6MW plant that will supply the bulk of the steam used in the production processes and will replace the existing kerosene fuelled boilers. The boiler will be designed to take woodchips up to a moisture content of 60%, and these will be sourced from local suppliers. Installation of the biomass plant is expected to save approximately 2,100 tonnes of CO2 per annum and is only one element of Macphie's corporate approach to sustainability and minimising its carbon footprint.

This project is supported by the Scottish Executive Biomass Support Scheme.

For further information contact Philip Annandale, Macphie of Glenbervie Ltd on 01569 740641 or Phillip.Annandale@Macphie.com



Nicol Stephen at the opening ceremony on 19th March 2007

Aboyne Academy

Aboyne Academy serves a vital role in the local community. It has a roll of over 650, a 280 pupil primary school, an indoor swimming pool, a library, theatre and community centre. The site is extremely well used, and some parts of the complex are open seven days a week, 350 days a year, with associated high energy costs.

When the existing oil fired boilers reached the end of their useful life it was decided that the site presented an excellent opportunity to install a biomass system to provide heat and hot water. The system that was installed comprises a 600kW woodchip fired Kohlbach boiler installed by Buccleuch BioEnergy and

meets the standards of the Clean Air Act. The woodchips are delivered into the storage area, which has a moving floor to self feed the boiler with a continuous supply of fuel according to demand. Wood chip was chosen for the fuel because of the school's proximity to two sawmills.

It is expected that the school's greenhouse gas emissions will be cut by 600 tonnes a year and CO2 emissions are expected to be reduced by 15,600 tonnes over the lifetime of the system. It is also anticipated that running costs will fall by £20,000 per year (including all maintenance and operational costs)

and that the local economy will also benefit through the supply of woodchips and maintenance services to the Academy.

This project was supported by the Energy Savings Trust (EST) and the Scottish Community and Householder Renewables Initiative (SCHRI).

**For further information contact:
Roddy Matheson, Industry Sector
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on 01224 664922 or
roddy.matheson@aberdeenshire.gov.uk**



Burnroot Sawmill

James Jones and Sons are investing in a biomass plant at their Burnroot Sawmill, Aboyne, to provide heat for the kiln drying process. This project will displace burning 940,000 litres of gas oil fuel per year with sawmill co-products and is a strategic move into the Biomass Energy market. The outcomes from this project, both financial and environmental, will form the basis for a rolling program of fossil fuel displacement from other sites within the group. This could reduce CO2 emissions from sites in Scotland within the group by 6,000 tonnes per annum.

This project is supported by the Scottish Executive Biomass Support Scheme.

For further information contact Francis Wilbur, James Jones and Sons on 01339 885263

Seaton Flats

The Seaton area in Aberdeen has over 1,000 high rise Council owned dwellings which are all heated by electricity. Work has started on a Combined Heat and Power (CHP) district heating scheme which will upgrade the supply of heating and hot water and provide affordable warmth to these housing tenants and Council buildings. This project involves the conversion of the CHP scheme to wood chip fuel

The CHP district heating scheme has been planned in phases. The first phase will provide a heat network for 500 dwellings. The second phase will introduce a woodchip gasification reactor to power a CHP engine generator. It is also planned to expand the heat network across the

sea front area to existing sports and recreation facilities and from there into the City Centre to connect all types of public and private sector buildings and serve up to 1000 further dwellings. Provision will be made for a second gasification reactor and CHP generator to meet this expanding heat load.

The project is led, developed and managed by Aberdeen Heat and Power (AHP). AHP is a special purpose "not for profit" company set up by Aberdeen City Council to implement CHP district heating schemes in the City. This is the third CHP project to be developed in Aberdeen in the last four years.

The main objectives of this planned biomass fuelled combined heat and

power (CHP) scheme are to improve energy efficiency, reduce the cost of energy to consumers, improve self sufficiency and sustainability, secure existing industry and establish a renewable industry and supply chain in the region

The first phase of this project has received capital support from the Energy Saving Trust's Community Energy Programme and from Aberdeen City Council's Warm and Dry programme. Further support was recently awarded from the Scottish Executive Biomass Support Scheme.

For further information contact Patricia Newman, Aberdeen Heat and Power on 01224 523512 or pnewman@aberdeencity.gov.uk

Dalfling Farm

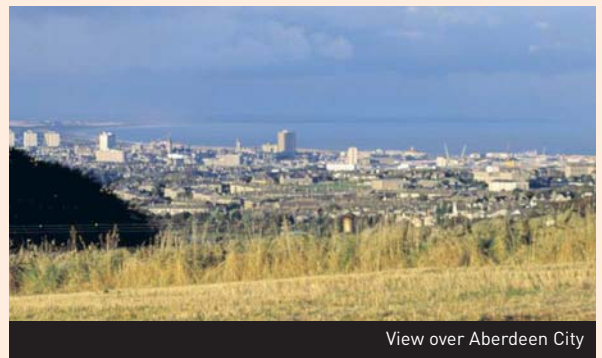
This project will install a biomass heating plant at Dalfling Farm, Blairdaff. The farm comprises a mix of arable land, commercial and amenity forestry and a number of residential and commercial units in a recently converted traditional farm steading, built in 1896.

The biomass plant will incorporate a 65W automated self feeding wood fuel boiler to heat four commercial and four residential units. It will use wood fuel from the farm woodlands, chipped and dried on the farm. Heat will be distributed to the units using insulated underground heating pipes.

The scheme will use 40 oven dry tonnes of wood chips each year, replacing predominantly electric space heating, and will save some 60 tonnes of CO2 emissions annually. The project is a partnership venture between JB and JA Hudson farmers, who will develop the biomass plant and B Hudson of Treelogic who will supply the wood fuel.

This project is supported by the Scottish Executive Biomass Support Scheme.

For further information on the biomass installation contact Barrie Hudson on 01467 651770 or barrie@hudsonconsulting.ltd.uk. For further information on wood fuel supply contact Ben Hudson, Treelogic on 01467 651498 or hudsonben@btinternet.com



View over Aberdeen City

Ritchie Hall, Strichen

Ritchie Hall is the main community building in the village of Strichen and is used to provide a function hall, indoor sports hall and changing rooms for local events.

The Strichen Gala Committee runs the Ritchie Hall and is a registered charity which has to raise funds for all improvements and upkeep of the building. The existing heating was electric, expensive to run and generally inadequate. It was therefore decided that a replacement heating system was required which would be environmentally friendly, automatic and more cost effective. After research, the Committee appointed Hutchesons of Portsoy to install a wood pellet fuelled heating system. In addition to financial savings and greater efficiency, it is expected that the project will support the development of a local supply chain.

This project is supported by the Scottish Executive Biomass Support Scheme

For further information contact Neil Hutcheson, Hutchesons of Portsoy on 01261 842396 or neil@hutchesonsofportsoy.co.uk

Haddo Estate



Little Methlick Farm



Raxton Farm



The Old Laundry

A District Heating Scheme will be managed by Haddo Estate as part of their existing property refurbishment programme. Natural gas is not available to Haddo Estate and this has resulted in a reliance on oil, coal and electricity – all of which have seen significant price increases in recent years.

This, combined with the fact that energy from wood fuel for heating is one of the lowest cost renewable energy technologies, led to the decision to select biomass as a source of fuel. It also offers the end user affordable energy at a cost that is not affected by increases in fossil fuel prices. The Estate also has the advantage of a supply of timber suitable for wood chipping and this offers a market for the lower grade outputs from harvesting. All Haddo Woodland is a group member of the Scottish Woodlands Certification Scheme and has a 20 year Forest Plan with FC Scotland.

It is proposed to refurbish several properties to incorporate a 30kW woodchip boiler into two large properties at Little Methlick Farm, a

50kW woodchip boiler into four variously sized properties at Raxton Farm and a 30KW woodchip boiler into three small properties at the Old Laundry.

The Haddo District Heating Scheme aims to increase local business opportunities, reduce greenhouse gas emissions, improve energy supply security and encourage the uptake of similar systems in the area. It is estimated that the Haddo District Heating Scheme will produce 216 tonnes of CO₂ savings per year.

By providing timber for chipping, the estate is also improving forest management by upgrading the quality and value of harvested timber, future productivity and asset value and habitat value and biodiversity.

The Haddo Estate scheme is supported by the Scottish Executive's Biomass Support Scheme to establish wood fuel heating systems at three sites within the Estate which are presently being renovated.

For further information contact Susan Bicknell, Haddo Estate on 01651 851664 or susan@haddo.co.uk

Arbuthnott Wood Pellets

Arbuthnott Wood Pellets Ltd will build a wood pellet production facility capable of manufacturing 3,000 tons of wood pellet fuel per annum for the domestic and overseas biomass heating market.

The wood pellets will be made at Arbuthnott Home Farm, some 22 miles south of Aberdeen. This is a farm diversification project that will use conventional wood pellet production

equipment. Arbuthnott Wood Pellets Ltd has been set up to lead this innovative renewable energy project and it is intended to start production of wood pellets in autumn 2007.

Marketing of the wood pellets will be carried out principally by DWP Harvesting, a timber growers' co-operative run by Andrew Nicol, Chartered Forester in Aboyne. In addition

to environmental benefits, the project will provide two new 'green' jobs as well as securing other related jobs in the community.

This project is supported by the Scottish Executive Biomass Support Scheme

For further information contact Andrew Nicol, Chartered Forester on 013398 85335 or andrew@andrewnicol.com

Puffin Pellets

Puffin Pellets are to build a wood pellet production plant north of Aberdeen at Howegarden, near Turriff, which is expected to be commissioned by the beginning of 2008. The project will use conventional wood pellet production equipment and with estimated

production at 25,000 tonnes per annum, is expected to be sufficient to heat in excess of 5,000 homes. Wood pellets are a convenient and economical fuel for domestic and industrial boilers, and their use will displace significant quantities of fossil fuels.

This project is supported by the Scottish Executive Biomass Support Scheme

For further information contact Julie Harper, Puffin Pellets on 07818 417538 or mail@puffinpellets.com



**FOR FURTHER INFORMATION
PLEASE CONTACT:**



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