Donegal Woodland Owners Business Trip to Black Forest, Germany

29/05/2012 – 02/06/2012 John Jackson, Raymond Treacy & Thomas Becht

Tuesday 29th May 2012

Departed Knock (Development charge at Knock Airport of €10 per person.) to Frankfurt-Hahn, arrived at 2pm. Drove to Bavaria, with two stops to view different community and private forestry along the route. Contacted Lopper Company.

Wednesday & Thursday 30th/31st May 2012

7am - Meeting with CEO Lopper – Dieter Schlothman. Went to the Lopper Factory and viewed gasifiers and wood chip gasifiers at all stages of the manufacturing process on the factory floor.

10am - Went on field visit to Joinery Manufacturer (window, door and kitchen units) to view their 120 kilo watt log gasifier and their 130 kilo watt wood chip gasifier boilers, both from the Lopper factory. The owner of the joinery company spent 2 hours showing and explaining both systems and indicated his approval of Lopper.
Lopper wood chip gasifier heated by wood chip from timber and waste sawdust shavings and chips.
Lopper wood gasifier heated by timber and off cuts of boards and waste wood.
All waste from returned work projects (windows, doors etc.) were taken back by company and converted into timber energy.
The heat energy produced, heated the factory floor, spraying area, offices and his home.
These entire premises had no backup oil or gas heating systems.
Vast savings achieved as the waste wood fuel is free and saved customers the cost of disposing of their old windows, doors, kitchen units etc.
The flue gases are measured on leaving the chimney by the State Environmental Inspector and it is well below legal requirements due to the gasification process.
We took note of boiler room and wood storage areas measurements and layout to compare with our design and wood storage areas.

1pm – Travelled on Autobahn in a 10 cylinder 6 litre Audi Quattro Turbo for 130km, at a speed reaching 240km/h.
Visited building contractor's yard with new offices, driveway, car park and private house all heated by 350kw gasifier with an extended loading area to 3cu meters (Total volume now – 5 cubic metres). This system was recently installed by the contractor (self installer).
Mistakes were made in the design and layout of the buffer tank. This was because the contractor, not Lopper, was in charge of the entire installation and set up.
Surface area of: Office – 500 square metres
House – 3 storeys large
Car Park & Driveway – frost free during winter; no salt allowed on roadway and car park due to Granite Flooring in the new offices

Boiler fed with timber and old recycled construction timber. Beside energy savings, also saves on waste wood disposal.
All logs and waste wood is shattered by digger and fed by conveyor belt (being constructed) into the gasifier holding area.
Examined boiler house layout which has, at present, 5 water heat circuits going to the various areas.
Also Inspected insulated pipes and boiler room layout.

5pm – Briefing on the day's events.
Returned to Lopper headquarters and had extended negotiations with CEO and staff re our requirements regarding gasifiers for the Rockhill project, large houses and private nursing homes.
Further information and training re types of gasifiers which are all built to order. Shown the designs of various log and chip gasifiers, their air intake devices, grates and heat output. Shown the on-site testing area for the gasifiers before they left the factory. Instructed in boiler house layout, installation, buffer tank ratings, commissioning, ongoing monitoring, maintenance and repair. Also talk on quality and amount of wood fuel needed and storage area.

Friday 1st June in Black Forest Valley (4th generation)

Visited a Garden and Outdoor Exhibition Area. Viewed outdoor high wire play areas, kids play areas and various outdoor recreational ideas with the whole family in mind, a day long experience for the entire family in a safe environment. This entire area was constructed in a large town and will remain in place over the summer drawing in high number of tourists. (From 27th April to 7th October)

Visit family-run 84 years old established sawmilling company with an output of 35,000 cubic metres of logs annually. Processing to the finished products of log houses, sheds, car ports, decking, park benches, fencing and gardening timber products. Customers can give the sawmill detailed specifications of their requirements. The sawmill also designs and tests interior and exterior wall cladding.

All timber waste, chips, off cuts and sawdust, is converted to fuel in the wood chip boiler. This supplies energy to 2 kiln dryers and heat for the pressure treatment of the timber. Photo voltaic panels on the roofs of the sawmill have an output of 500 kilo watt (80% of his electricity demand). This system is connected to the grid. The site size of the entire sawmill is about 4 hectares, which includes the log yard, offices, wood processing sheds, wood energy storage and a large timber products display area.
This very successful and thriving sawmill with 20 employees is under severe threat due to the area being designated as a National Park. This will severely limit the amount of timber the sawmill can buy and the types of trees grown in the locality.

Afternoon visit to a combined Heat and Power Station(C H & P) in the town of Pfalzgrafenweiler. Winner of a Federal award for the most sophisticated bio-energy C H & P plant in Germany in 2009.

This plant produces 600 kilo watts grid connected electricity and 1200kw thermal heat output which is pumped to provide heat to 500 private houses plus all local community buildings (schools, council offices, swimming pool, library etc.) and to a neighbouring industrial estate.
Heat distributing circuit has a current length of 15kms, and is presently being extended and doubled in the 2nd phase to meet demand.
Local community charged 4 to 7 cents per kilo watt and €2500 connection fee.
The 600 kilo watt at 21 cent per kilo watt grid connected.
The C H & P burns 30-50 cubic metres (dumped volume wood chip) per day.
Also sell high quality seasoned logs and dried wood chip to the local community.

All wood waste and garden waste from thinning, pruning and recycled construction waste is chipped on site and used as fuel.
Total investment cost is €4.5m – plus the civil engineer part (pipe laying and connections) was contracted out. The heat station is operated by 2 people on a 2 hectare site.

Viewed log and wood storage areas and heated wood storage areas. Viewed boiler and heat distribution system. Different form smaller heating systems as the heat energy is stored in oil which is kept at 320 degrees Celsius max.

Black Forest DWOSL Study Tour 29th May to 2nd June 2012

Also visited numerous forests, Community and privately owned in various locations through the Black Forest Region. Many of the forests had play areas set aside for children and families. Some had marked adventure trails for nature, wildlife and various sporting activity.

The tree species and under storey species were as follows:
Main Tree species - Norway spruce, Silver Fir and Douglas fir.
Walnut, Cherry, Ash, Oaks, red and pedunculate. European Larch, Hornbeam, Beech, Scotch Pine, Aspen, Mountain ash, Birch, Whitebeam, Maple, Sycamore, Willow, Alder, Lime along the roads.

Hazel, Elderberry, dogwood, boxwood, privet, Wayfaring tree, blackthorn, Spindle bush, Knotted Pine

The tree line height extended up to 1030 meters. Yield class between 4 and 7 cu meters per hectare per year in the Black Forest region.

Silver Fir grows up to 45 meters high and a breast height diameter of up to 500mm. There can be between 5 to 10 cu meters of timber per tree.

26 meter high, straight, knot free could value €500 to €1000 standing, or up to €100 to €200 for veneer per cu meter.

Growing days per year in the Black Forest is about 90 days; growing days per year in Ireland is about 280. END