

**Harrison, Neil**

Living Energy Limited

Auckland Business Centre, 6 Clayton Street, Newmarket, Auckland

p : 00 64 (0) 27 257 9002 e : [neil.h@livingenergy.co.nz](mailto:neil.h@livingenergy.co.nz)

The Contribution of Woodfuel to Delivering a Sustainable New Zealand

Category : Delivering Sustainable Infrastructure / Energy

Energy Solutions For Industry



**LivingEnergy**

Dependable • Sustainable • Cost Effective

**“At a world level, biomass energy use represents nearly one billion tonnes of oil equivalent, a level comparable to the consumption of natural gas, coal and electricity. Biomass is the largest renewable energy source in use today.”**

**Domac, J., Richards, K.M. & Segon, V. (2005)**

**Questions we'll address...**

**Why is woodfuel the Cinderella of renewable energy in New Zealand?**

**Why was woodfuel in a similar position in the UK until very recently?**

**What changes occurred in the UK to bring woodfuel to the fore?**

**Why should New Zealand bother?**

# Woodfuel - The State of Play

**Woodfuel uptake in NZ currently sits at a level the UK was at 5 years ago & where Northern Europe was 25-30 years ago.**

**That said, wood already provides some 20% of the renewable energy produced in New Zealand.**

**Wood is currently well deployed as a fuel in a domestic setting and throughout the timber processing industry (sawmills, panel mills and pulp mills).**

**Unfortunately, installations at these scales bear little or no relation to the types of commercial and industrial systems which make up the backbone of the European woodfuel industry.**

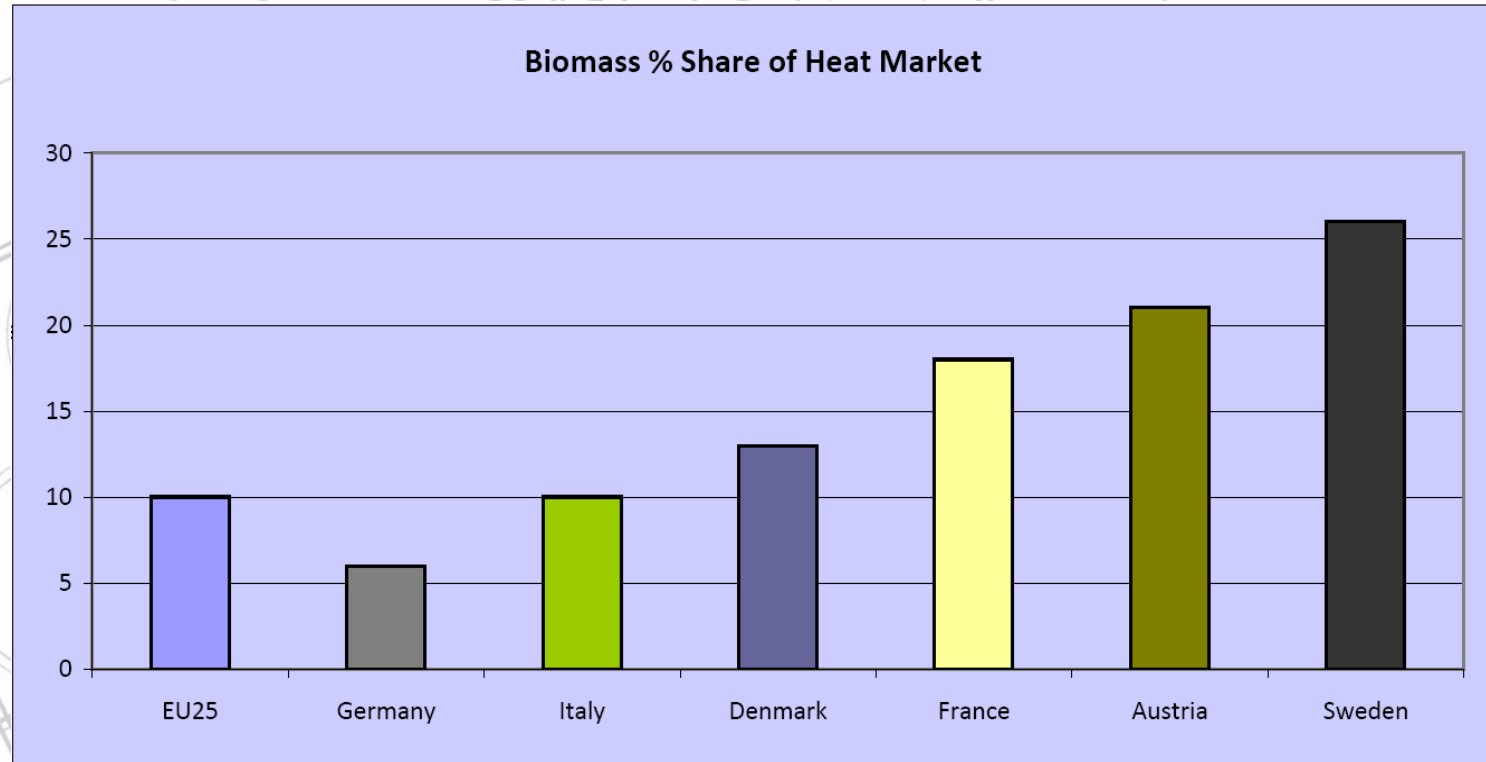
**= virtually no exemplars**



**Dependable • Sustainable • Cost Effective**

# Woodfuel - The State of Play

In Europe, particularly northern European states, wood accounts for a very significant proportion of their energy provision.



Source: One NorthEast

**Dependable • Sustainable • Cost Effective**

# Woodfuel - The State of Play UK

In a target-driven economy like the UK with a historic focus on electricity from renewables, heat from biomass was seen as a sideline.

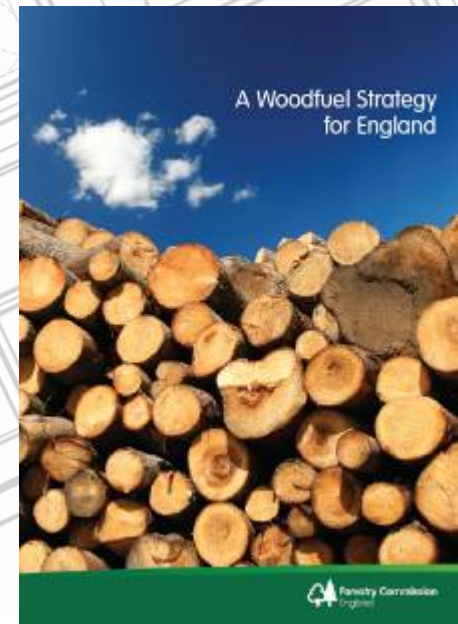
Low priority also resulted from the ease of monitoring production of (centralised) electricity when compared to heat.

This is all perhaps surprising given that energy consumed for heating accounts for just under half of the UK's total energy consumption!

The production of the Royal Commission on Environmental Pollution report on Biomass as a Renewable Energy Source triggered a chain of Government activity.

There are now programmes putting well over NZD\$50m eq. into supporting the development of woodfuel as a source of renewable heat in the UK. Still more if electricity from biomass is factored in.

Woodfuel has now taken off in the UK, with installers posting figures of 2000% + growth in sales in recent years.



Dependable • Sustainable • Cost Effective



# Woodfuel - State of the Art

Woodfuel is traditionally regarded as old, dirty, labour intensive and expensive.

30 years of investment in research, production and market development have led to the creation of woodfuel industries in some EU states worth hundreds of millions of Euro's.



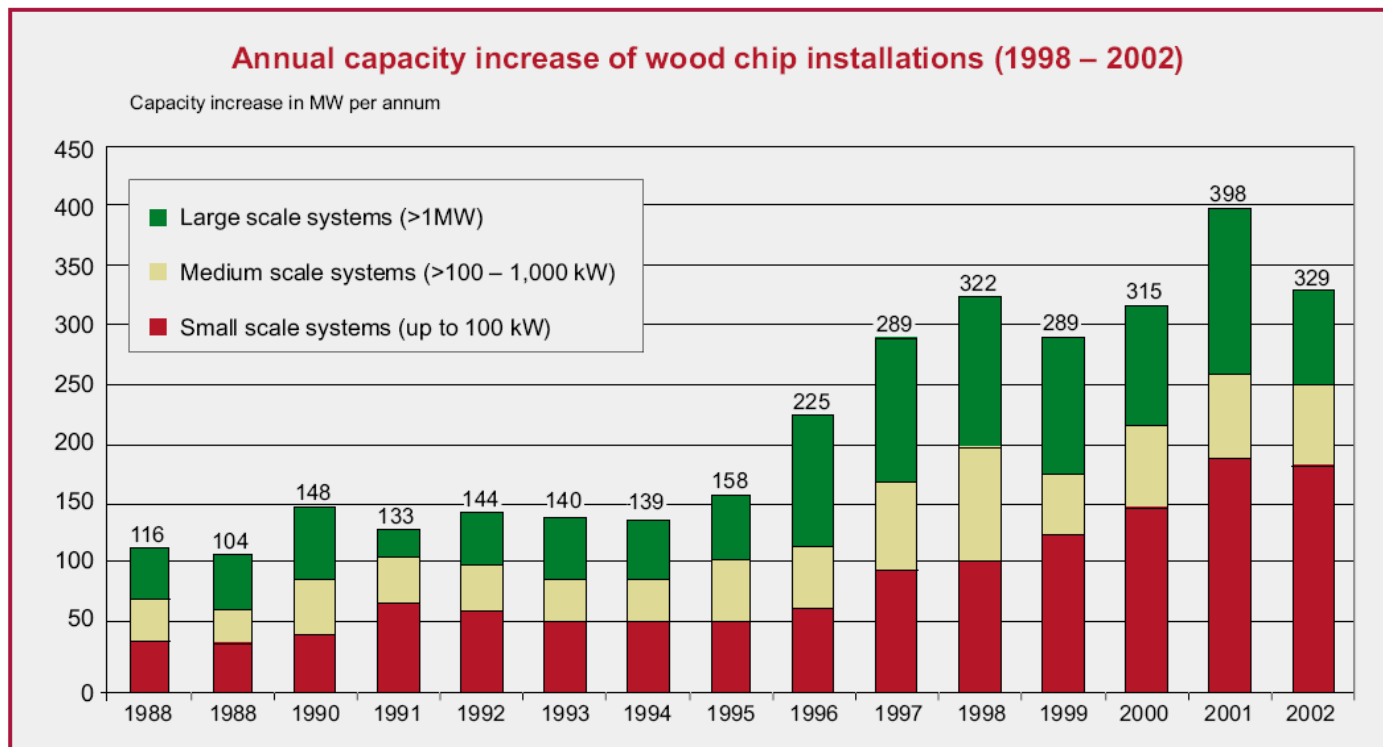
- Fully automatic feed
- Electric ignition
- Capacity control
- Remote system control & monitoring
- Automatic cleaning
- Automatic ash extraction
- Typical efficiency 90% +
- Very low ash remains - c.0.5%
- Very low particulate emissions
- As close to a fossil fuel boiler as possible!

**Dependable • Sustainable • Cost Effective**

# Woodfuel - State of the Art

Woodfuel is essentially “stored sunlight” and is the only renewable energy technology which is both schedulable and free of geographic constraints.

In the middle ground (i.e. bigger than a house, smaller than a pulp mill) there is huge potential for the deployment of woodfuel boilers...



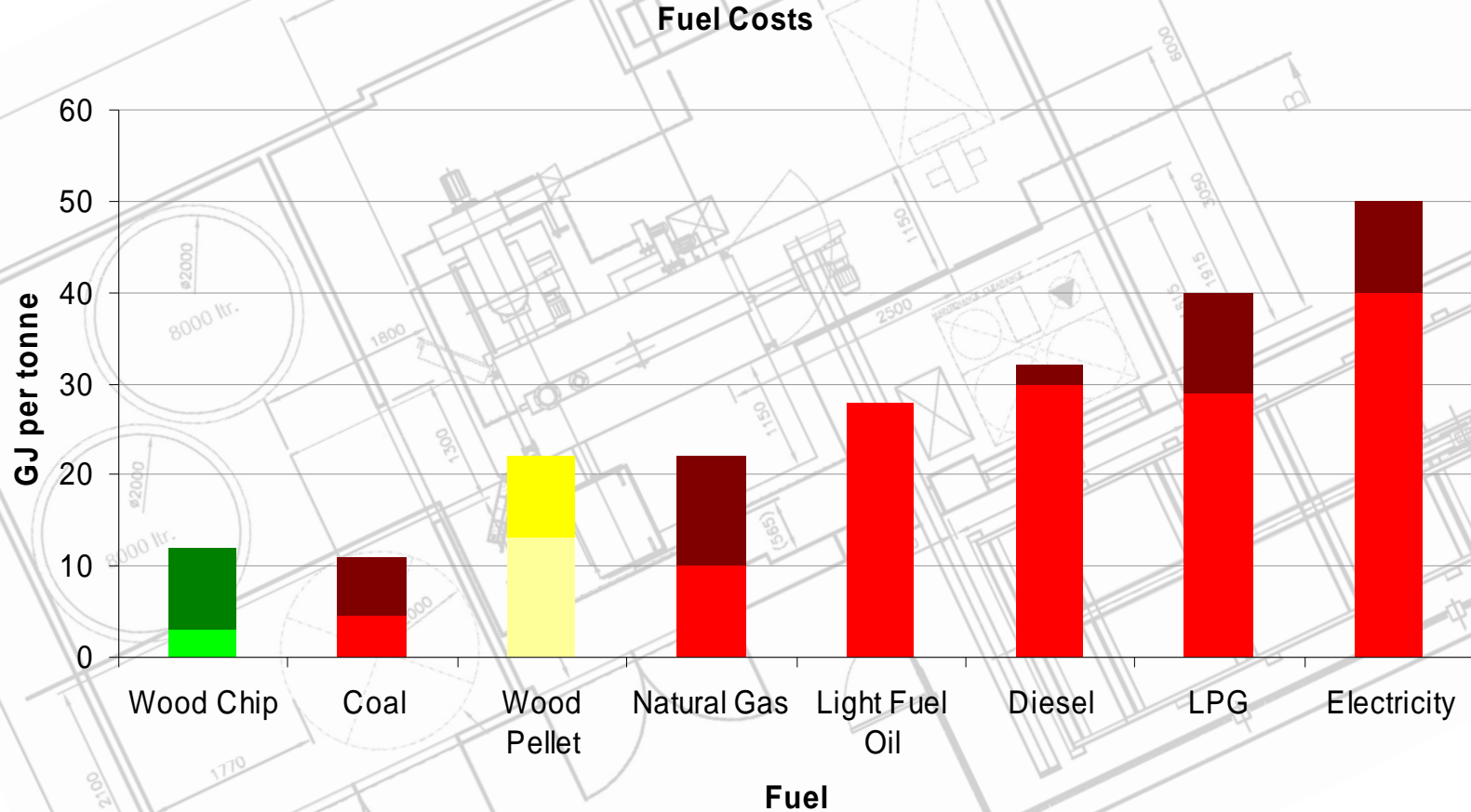
Source: Lower Austrian Chamber of Agriculture

**Dependable • Sustainable • Cost Effective**



# Woodfuel - Why Should NZ Bother?

Significant cost savings are available when compared to fossil fuel prices.



Dependable • Sustainable • Cost Effective

# Woodfuel - Why Should NZ Bother?

- A lot of woody biomass is produced in NZ, most is good fuel :
  - 5 million tonnes of wood chip;
  - 5 million tonnes of branchwood;
  - 1 million tonnes of log making residue;
  - And the rest (urban forest, wood chipping activities etc...)

**We have no excuses !**



**Dependable • Sustainable • Cost Effective**

# Woodfuel - Why Should NZ Bother?

- Significant reduction in energy costs for users;
- NZ Air Quality Standards (PM10 from coal);
- Sustainability;
- Energy Security;
- Local jobs;

## PR and PERCEPTION :

- “Carbon Intensity” of products;
- Food Miles;
- Clean Green image.

