

“Opportunities for Farmers”

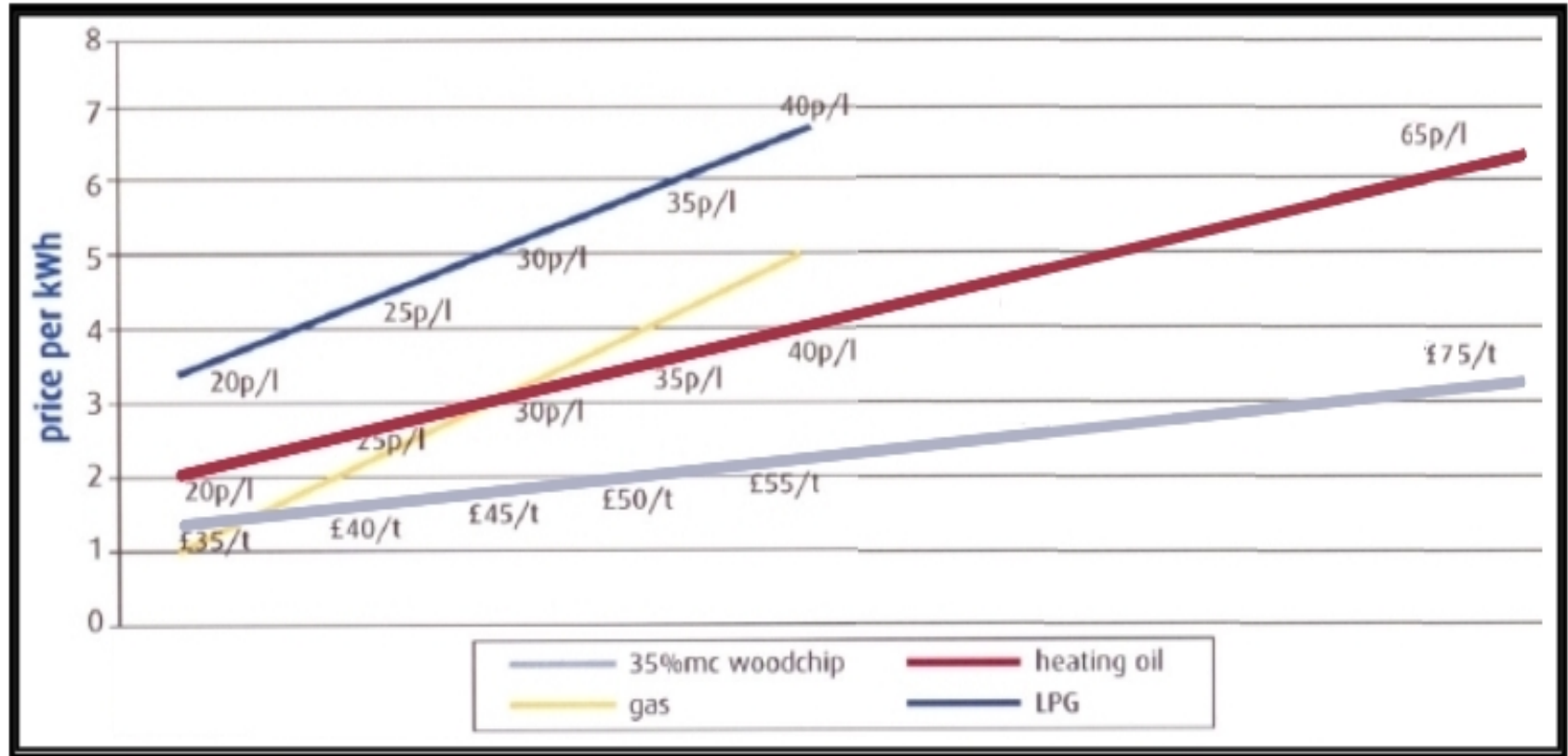


John Gilliland, Rural Generation Ltd
Teagasc Energy Crops Information Day
February 2010



Why Bioenergy - Save Money !!

Heat Cost Comparison for different fuels

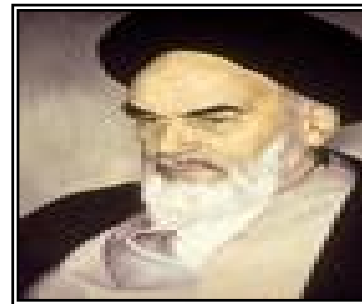


SDC "Wood Fuel for Warmth" - Wood prices @ 35% Moisture Content

Wood Chip is a Competitive Fuel – Oil @ 45c/l = €182/odt

Why Bioenergy - Energy Security!!

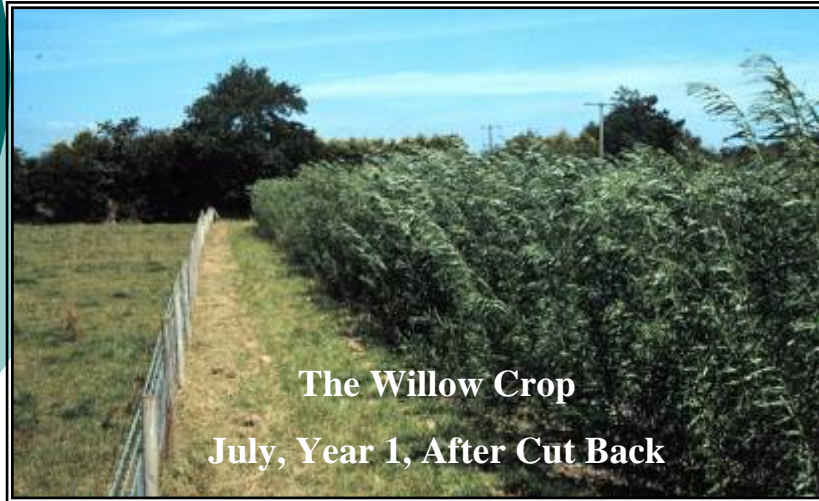
Who do you trust?!!



Ireland imports 90% of energy it consumes!!

Why Willows?

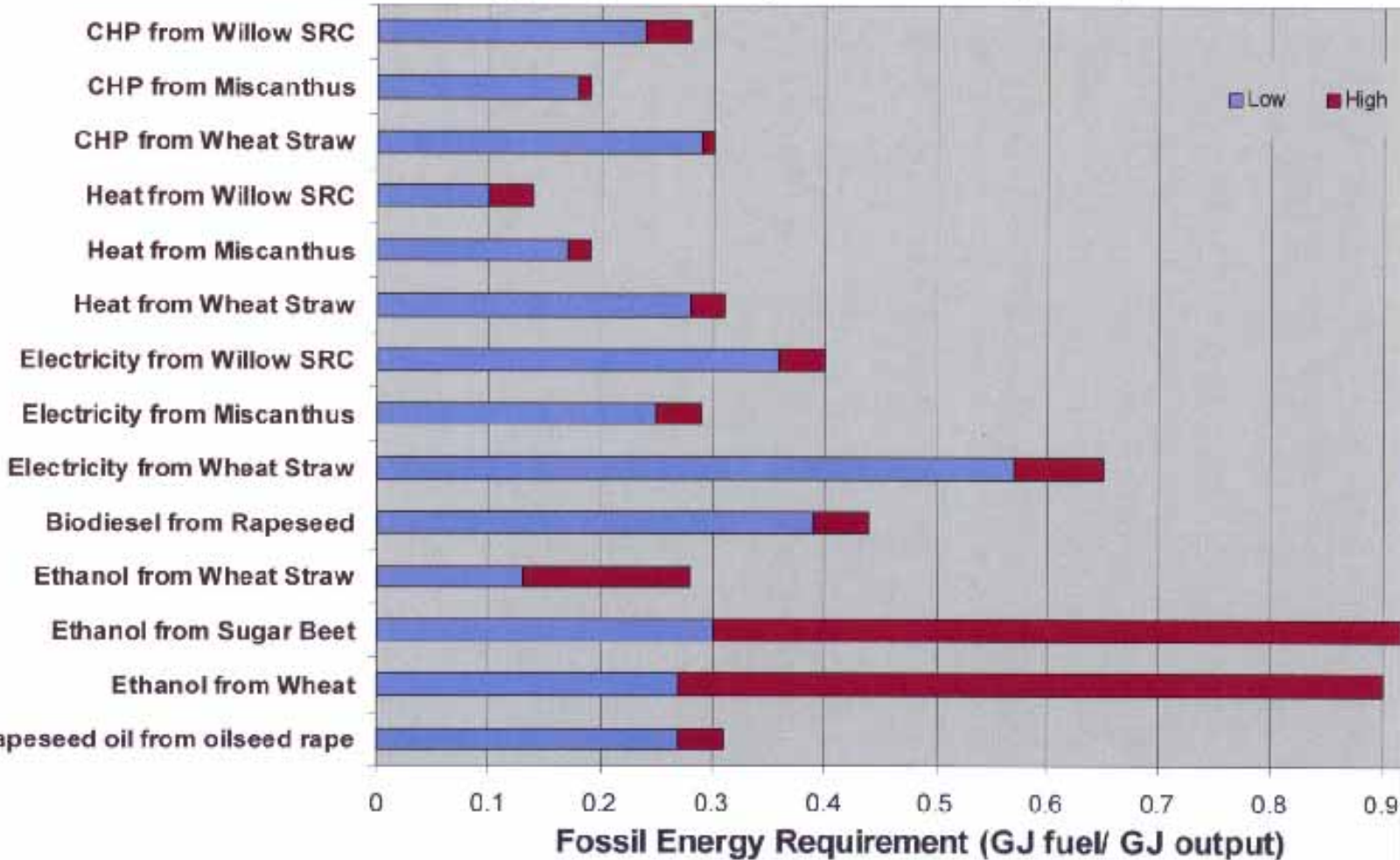
Short Rotation Willow trees, trialled in Ireland since 1977



- Indigenous, found in most parts of the World
- Quick Growing, 3 year harvest, then re grows
- Woody species, no problems burning for Heat
- High Yielding, up to 5 dry tonnes/acre/yr
- Loves Water, great for treating Dirty Water
- Non Food Crop, no risk to Food Chain

Why Willow – Efficient Energy Conversion

Fossil Energy Requirements per Unit of Energy Output



SAC

Why Willow – Good Profitability

Average Margin/acre/Yr over 9 Years

Harvesting & Drying costs, but No Single Farm Payment

Woodchip price	€110/ov. Dry Tonne	€130/ov. Dry Tonne	€150/ov. Dry Tonne	€170/ov. Dry Tonne
Standard Crop	€98	€164	€231	€298
With Sludge	€184	€251	€317	€384

Essential to develop high value added market!

Sludge Injection on suitable land Only!

Adding Value – Selling Heat

Omagh Leisure Centre

500kW, heat only, Boiler

Installed Sept 2008

- Run 1,700,000 kWh in 12 Months
- Oil Displaced = 160,500 Litres
- Oil Cost pa = €86,670 (€0.54/l)
- Wood Chip Cost pa = €46,470
- Saving pa = €40,200
- Payback without Grant or Carbon = 2.4 years



410t of Carbon Saved = Circa €6,150 @ €15/t of Carbon

Adding Value – Injecting Sludge



Co. Council & Dairy Sludges injected



Why Rural Generation Ltd

- **Track Record - First Boiler 1987, First Willows 1994**
- **Willow Planting (4,500 acres) & Harvesting**
- **Willow Cuttings – Swedish & European Breeding Progs.**
- **Sludge Recycling through Injection (30,000t)**
- **Dirty Water Treatment through Willow Biofiltration**
- **Willow Chip & Fuel Supply Contracts**
- **Boiler Sales, Installation & Servicing (80 working)**
- **Heat & Energy Services Contracts (ESCO)**

Boilers – Every Customer's needs are Different!

10 kW to 7MW – Hot Water or Steam

- Farm 2000:** 25kw – 300kW Straw & Timber
- **KWB:** 10kW- 300kW Wood Chips & Pellets
- **BioKompakt:** 25kW – 250kW Multi fuel (including Miscanthus)
- **CATfire:** 150kW – 500kW Wood Chips & Pellets
- **Energy Cabin:** 20kW – 1MW Wood Chip & Pellets
- **Justsen:** 1MW – 7MW Wood Chips & Pellets

Opportunities for Farmers



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