

# Wood Pellets:

*The Natural Answer to a Burning Question*

**Peter Kernohan**

*Market Development Manager, bio fuels*



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# Balcas History

- 1962

- 7 Sites

|              |           |
|--------------|-----------|
| Enniskillen  | (sawmill) |
| Magherafelt  | (sawmill) |
| Newtowngore  | (sawmill) |
| Kildare      | (MDF)     |
| Newtownabbey | (pallets) |
| Cork         | (pallets) |
| Estonia      | (sawmill) |



- 700 Employees
- £58 million turnover
- 300 - 400,000 wet tonnes p.a. residues



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# ENERGY SCENARIO 2050

## PRIMARY ENERGY CONSUMPTION



Collection 'Wind Energy'  
German Wind Energy Association

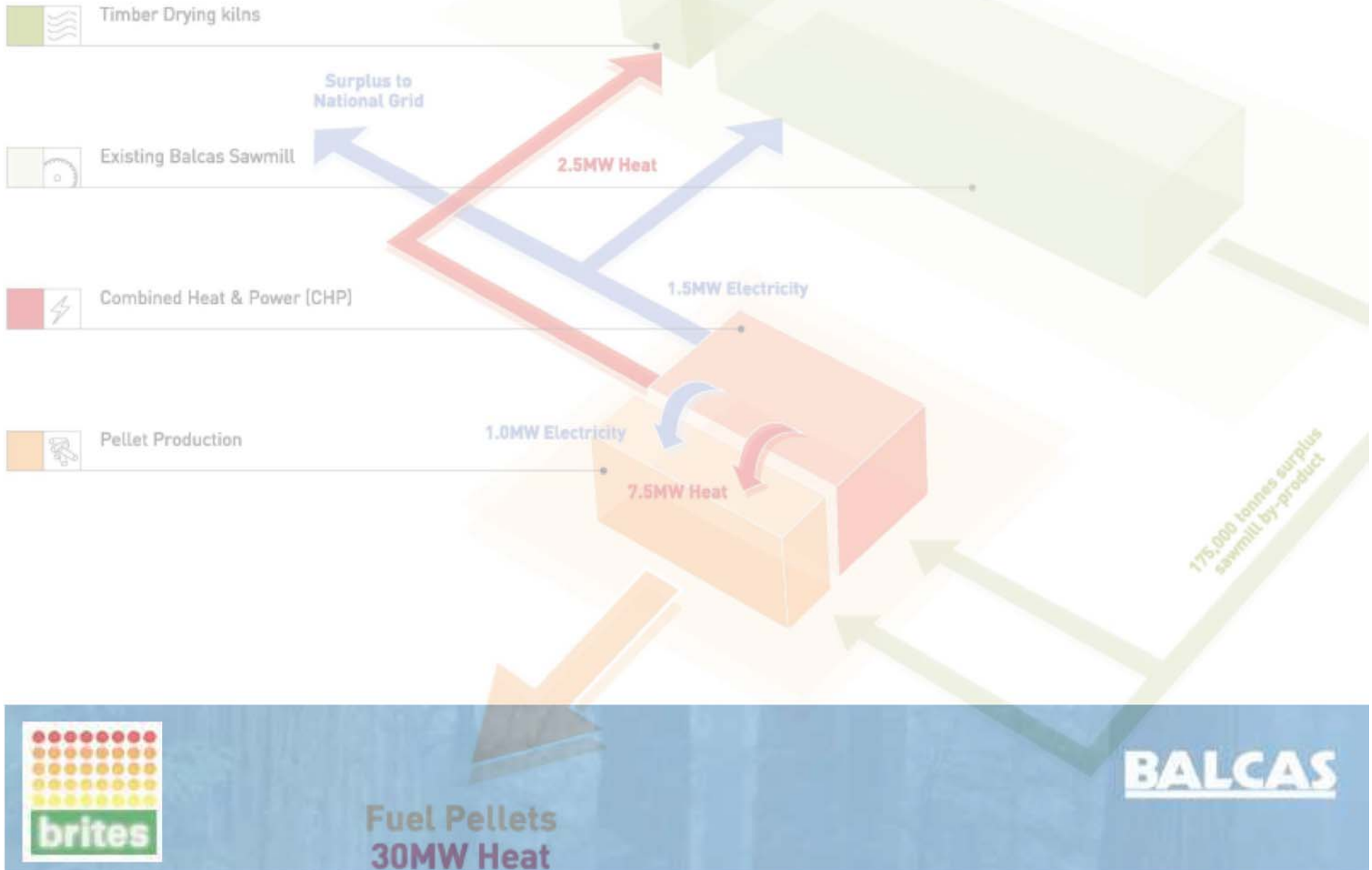
Scenarios and Potentials  
Energy Scenario 2050 - simplified version according to H. Lehmann

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More  
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# Bio-energy plant: electricity, heat, fuel pellets

All from renewable, environmentally-friendly biomass



# Emissions

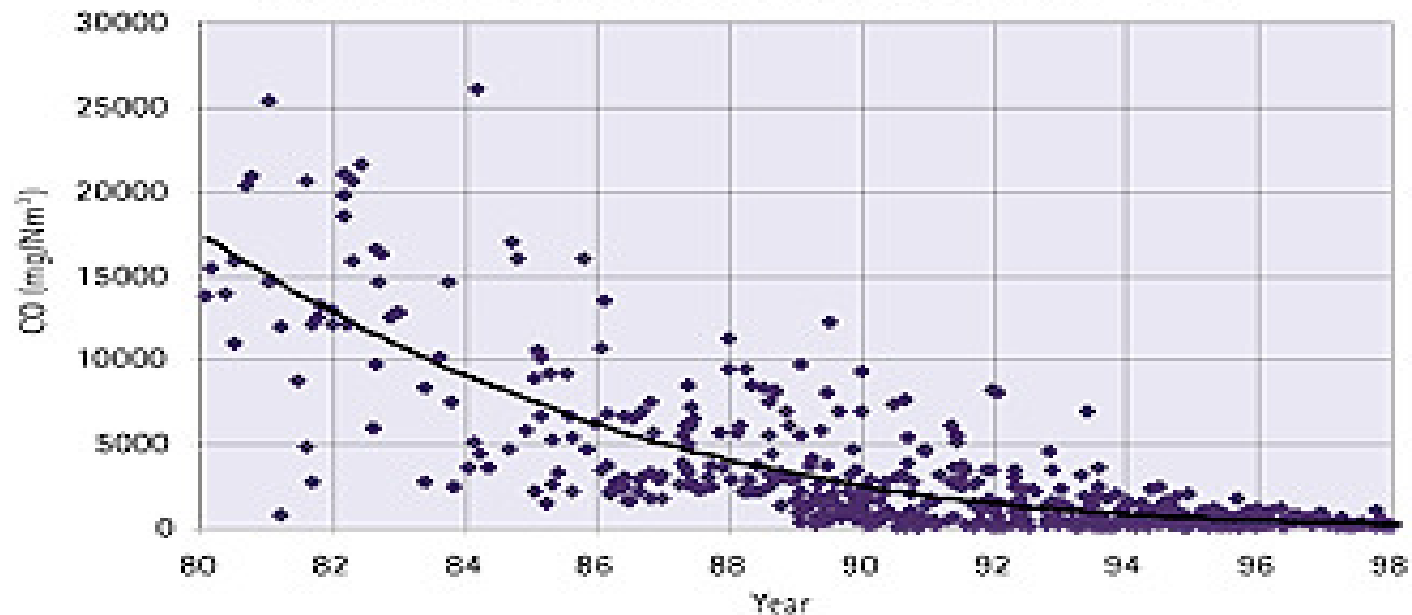


**Bioenergy** Technology Ltd.

energy by nature...

## BIOENERGY TECHNOLOGY

Emissions of wood boilers for domestic heating 1980 - 1998



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# Efficiency

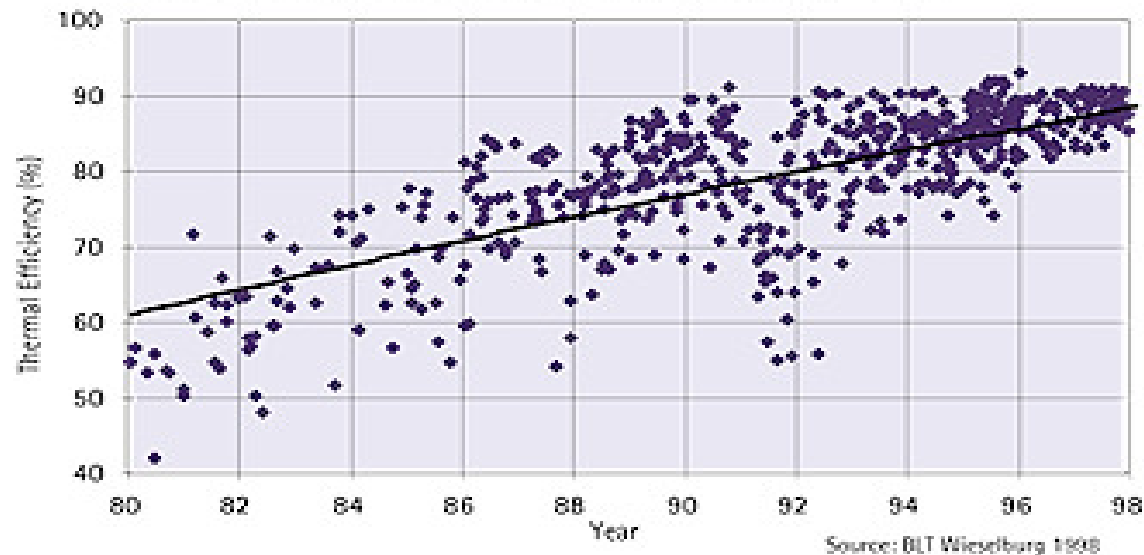


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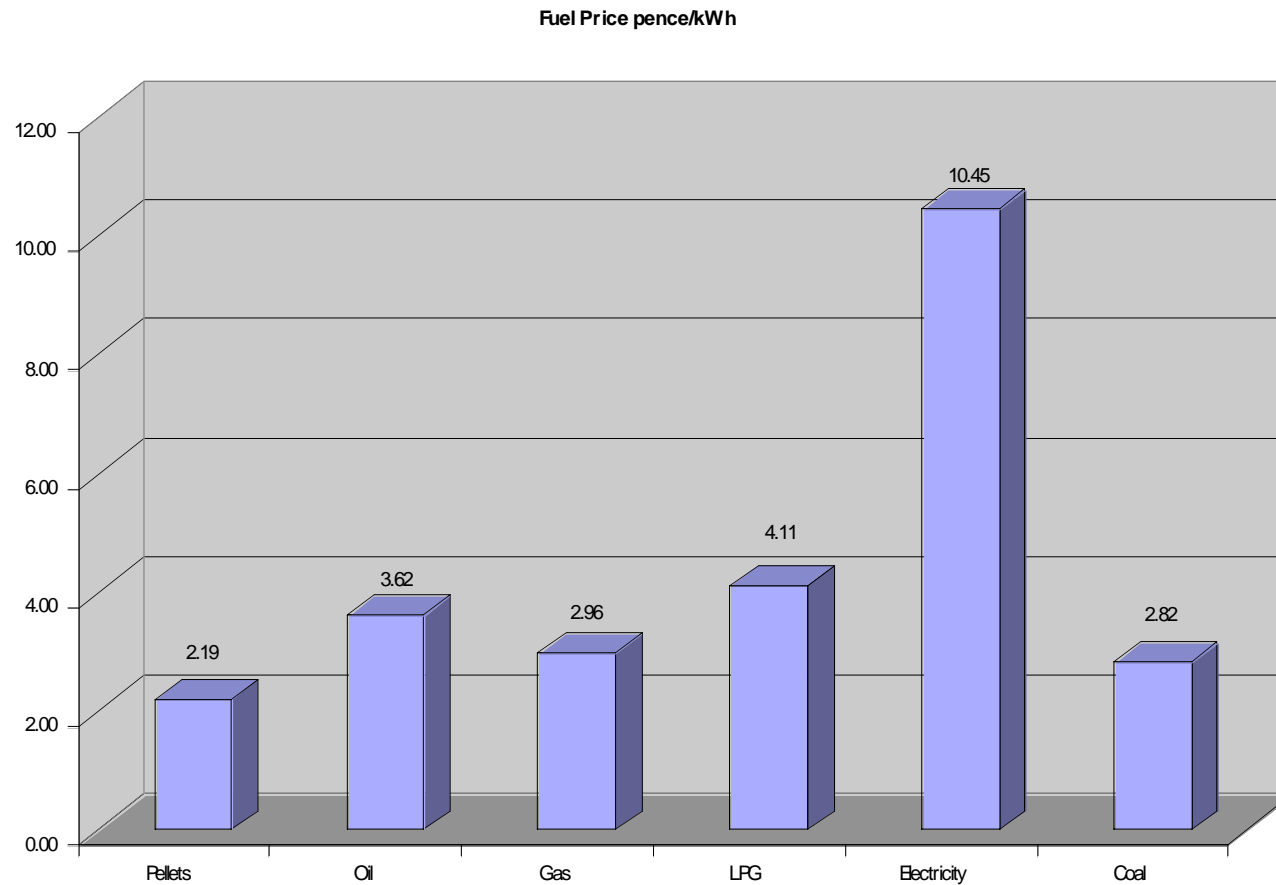
## BIOENERGY TECHNOLOGY

Efficiency of wood boilers for domestic heating 1980 - 1998



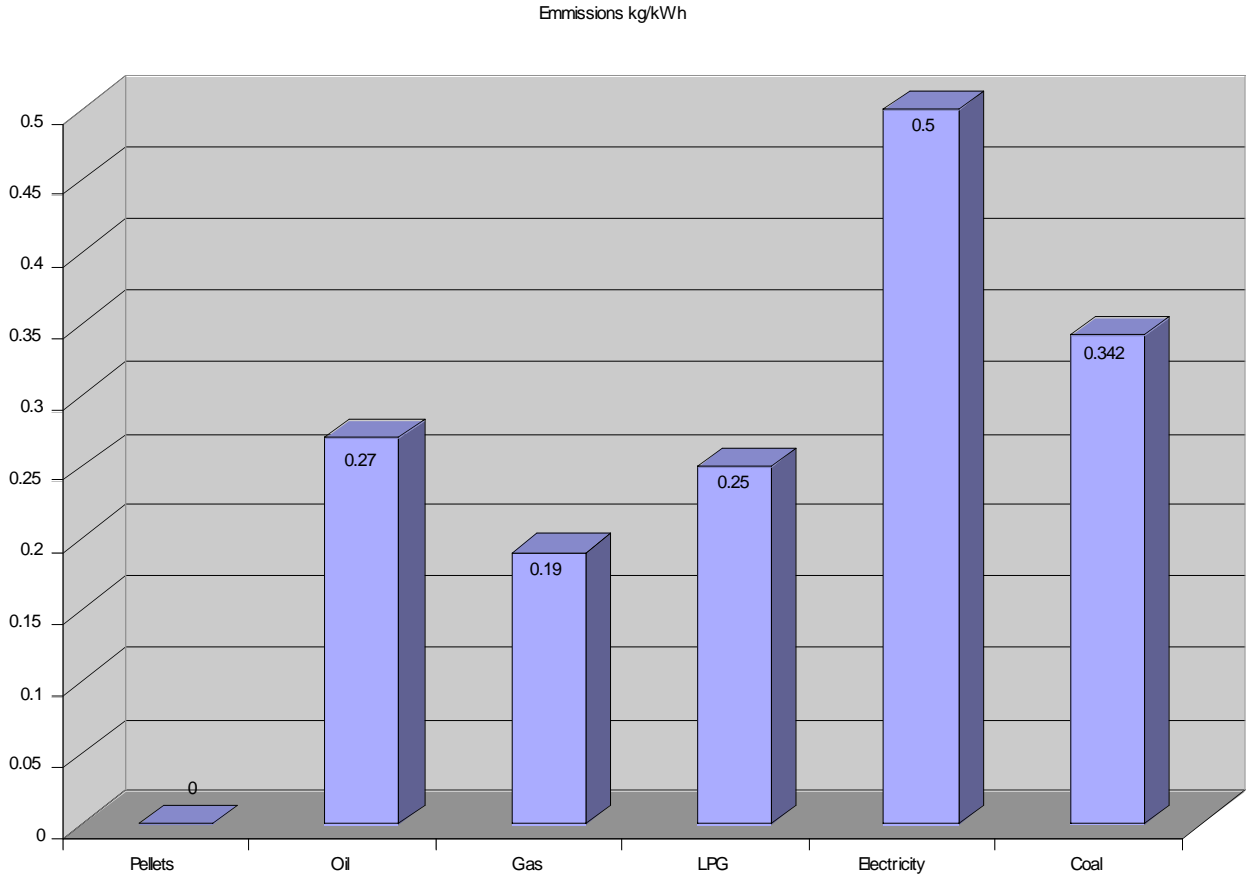
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# Fuel cost comparison p/kwh



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# Cost to the Environment kg/kwh



# Economics

| Pellet installation Economics                 |            | Fuel Costs Comparisons       |                                 |
|---|------------|------------------------------|---------------------------------|
| Size kW                                       | 300        |                              |                                 |
| Efficiency                                    | 90%        | <b>Oil Comparison</b>        | <b>Natural Gas</b>              |
| Occupancy level                               | 50%        | Oil demand equivalent (ltrs) | NG unit cost €/kWh              |
| Run hours                                     | 4,3        | 139,048                      | € 0.03                          |
| Energy in MWhrs                               | 1,4        |                              | € 50,828                        |
| Pellet demand (t)                             | 3          |                              | € 5,203.40                      |
| Pellet cost                                   | € 45,62    |                              | ng (t)                          |
| Capital Cost                                  | € 50,00    |                              | 289                             |
| Grant   |            |                              | € 0                             |
| Other Costs (civil works etc)                 | € 2,000.00 |                              | years                           |
|   |            |                              | 9.61                            |
|   |            | <b>LPG Comparison</b>        | <b>Coal</b>                     |
|   |            | LPG demand equivalent (ltrs) | Coal demand equivalent (tonnes) |
|   |            | 205,721                      | 210                             |
| <b>Assumptions</b>                            |            | LPG unit cost                | € 200.00                        |
| ETS Value/t of Carbon                         |            |                              | € 42,048                        |
| LPG kWh/Ltr                                   |            |                              | € 3,577.00                      |
| Oil kWh/Ltr                                   |            |                              | 520                             |
| Coal MWh/t                                    |            |                              | € 0                             |
| Pellet MWh/t                                  |            |                              | -13.98                          |
| Pellet cost in Euro/tonne                     | €          |                              |                                 |
| <b>carbon saved by 1t pellets instead of:</b> |            |                              |                                 |
| Oil   | 1.35       |                              |                                 |
| LPG   | 1.25       |                              |                                 |
| Natural Gas                                   | 0.95       |                              |                                 |
| Coal  | 1.71       |                              |                                 |

Life time savings  
€688,000

Life time Co2 savings  
8,208 tonnes



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# Domestic



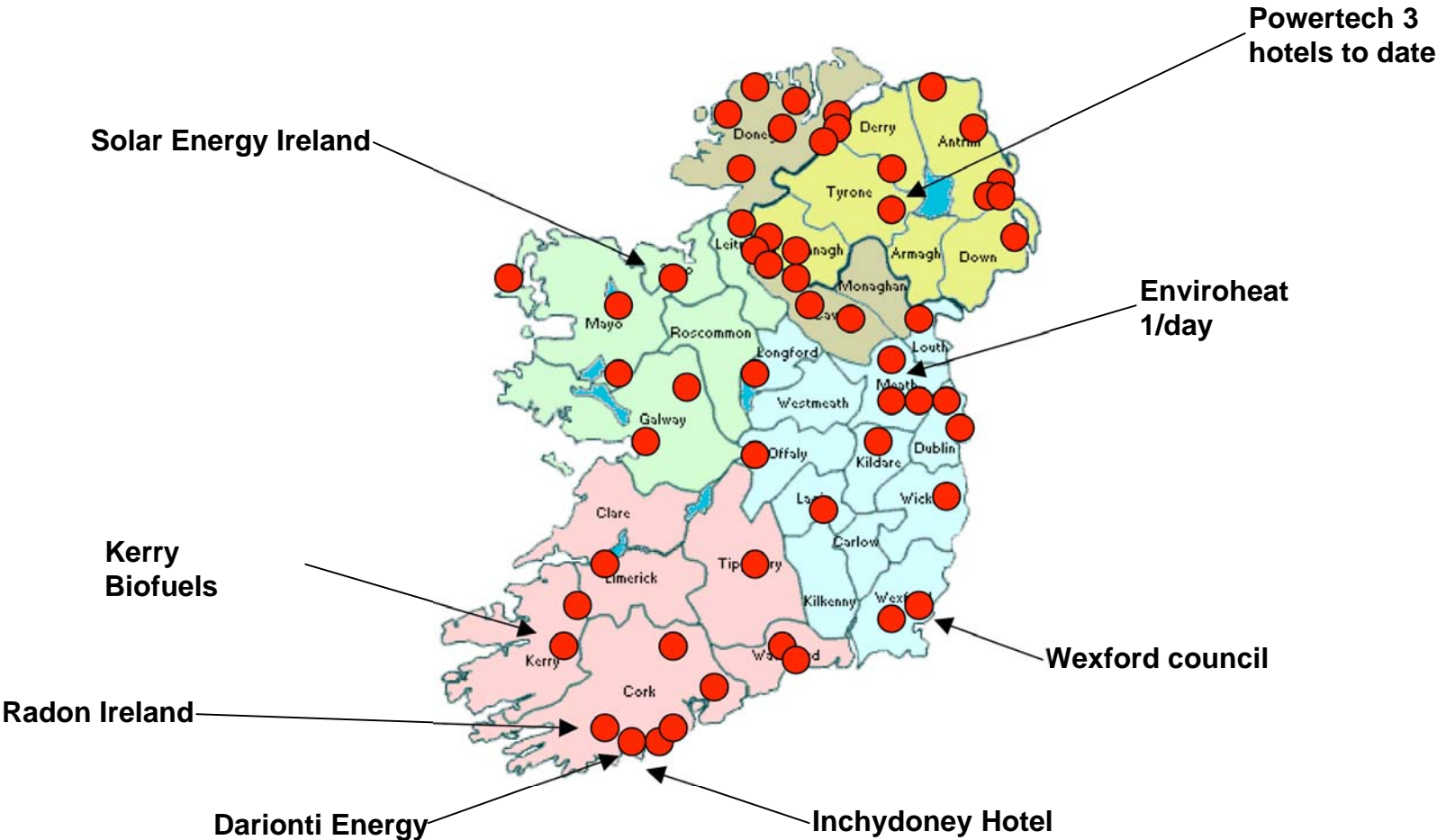
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# Domestic



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# Irish Installations to date



# Deliveries



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# Peter Kernohan

Questions:

Now or at your convenience.

028 6632 3003

[peter.kernohan@balcas.com](mailto:peter.kernohan@balcas.com)



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