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An installer's view of the RHI

Renewable futures

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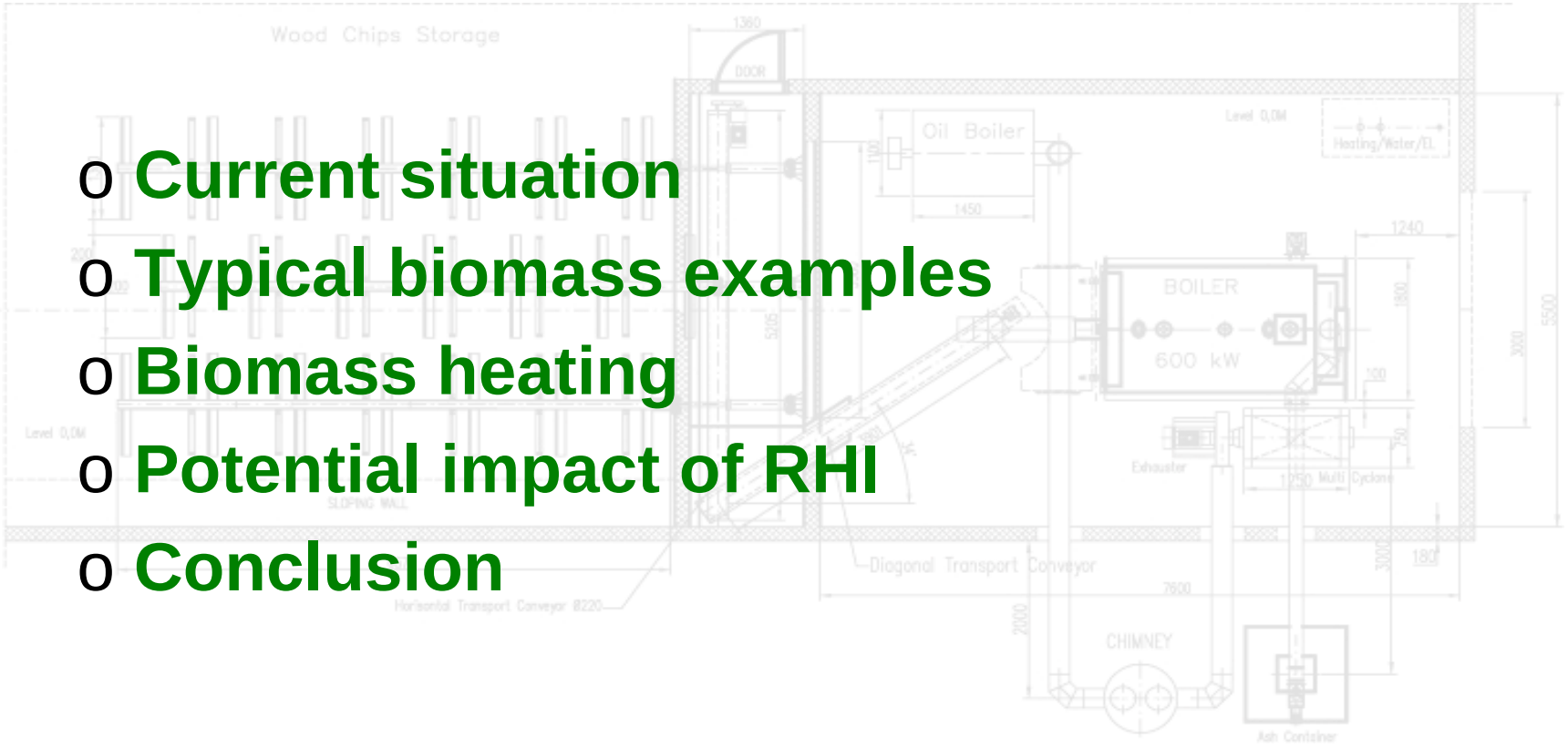
Presentation Outline

- Current situation
- Typical biomass examples
- Biomass heating
- Potential impact of RHI
- Conclusion



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How do projects get funded now?

- **Grant led approach** – the substantial majority of our projects currently attract grant funding
- **Planning lead approach** – Most projects have biomass as a requirement or customer aspiration
- **Self supply approach** – A small minority of projects are self suppliers
- **Reduced heating costs** – There are process heat projects out there but often need grants as well

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Biomass Boiler

- Burn wood to generate heat
- You need space to store fuel
- Cost: around £15,000
- Saves: around 9 tCO2 pa
- Saves/Makes: £???? RHI?
- Payback: ??? 12 years?
- Wood is ‘carbon neutral’

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Biomass Stove

- Secondary heating and possible water
- You need space to store fuel
- Cost: around £3,000
- Saves: around 1 tCO2 pa
- Saves/Makes: £???? RHI?
- Payback: ??? 12 years?
- Wood is ‘carbon neutral’

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Biomass Heating

- **Wood pellet stoves** – Commonly fitted to smaller properties and cottages the estimated (FiT) pa £ 473.00. Wood pellet cost per tonne £ 225.96p.

- **Small scale retro-fitting** – Heating boilers that are fuelled by lump wood to be automatically fuelled by wood pellet or wood chip at a later date

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Biomass Heating

o **Biomass installations** – Variations on costs depending on the differences between one site to another, e.g. allowances for changes to be made to buildings with the existing grant funding streams would be outside the remit of the (RHI)

o **Mixed fuel heating** – On a smaller scale this usually takes the form of supplemental log burning while the occupier is present combined with existing oil or gas heating systems when the occupier is not, Will the (RHI) work in these circumstances?

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Biomass Heating

- **Larger scale mixed fuel heating** – The effects of heating schemes where biomass is designed to take up the base load, Horticulture for example with seasonal heating demands IRO 5-10Mw on a typical site, with no heating demand in summer. The facility of using Tri-Generation technologies with CHp and Thermal Absorption Chillers may be the way forward to avoid heat dumping.

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Biomass Heating

O **Biomass and Tri-Generation** – With variations of the relative efficiencies of three technologies involved. The factor of degree day temperature. Things start to become a little complicated.

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Biomass Heating

- **Initial capital cost** – Under the (RHi) renewable energy biomass heating systems need to be financed by the respective home owner, landlord, business or local authority

- **Estimates of KWh/yr** – From the “Deemed” heat demand table this would allow for known Kwhr usage. What of newly designed buildings with a heat loss calculation of 500Kw boiler capacity. To provide an estimate of the benefit of (RHi) at (FiT) 6.5p is equal to £11,700.00 Pa.

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Biomass Heating

- **Metering of heat is feasible** - Sufficiently accurate, the need is to measure flow and return temperatures simultaneously. Main types: ultrasonic, electro magnetic & turbine, registering the large temperature difference between the flow and return improves accuracy.

- **Risk of heat dumping** – If RHI is set more than the price of fuel there would be an incentive to waste fuel.

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Potential impact of RHI

- The RHI may result in more biomass boiler installations
- More small to medium scale district heating schemes
- The RHI could reduce the dependence of remote rural communities and businesses on more expensive fossil fuels
- Biomass CHP is the most effective use of biomass and needs– to be supported by both the ROCs/FiTs and RHI

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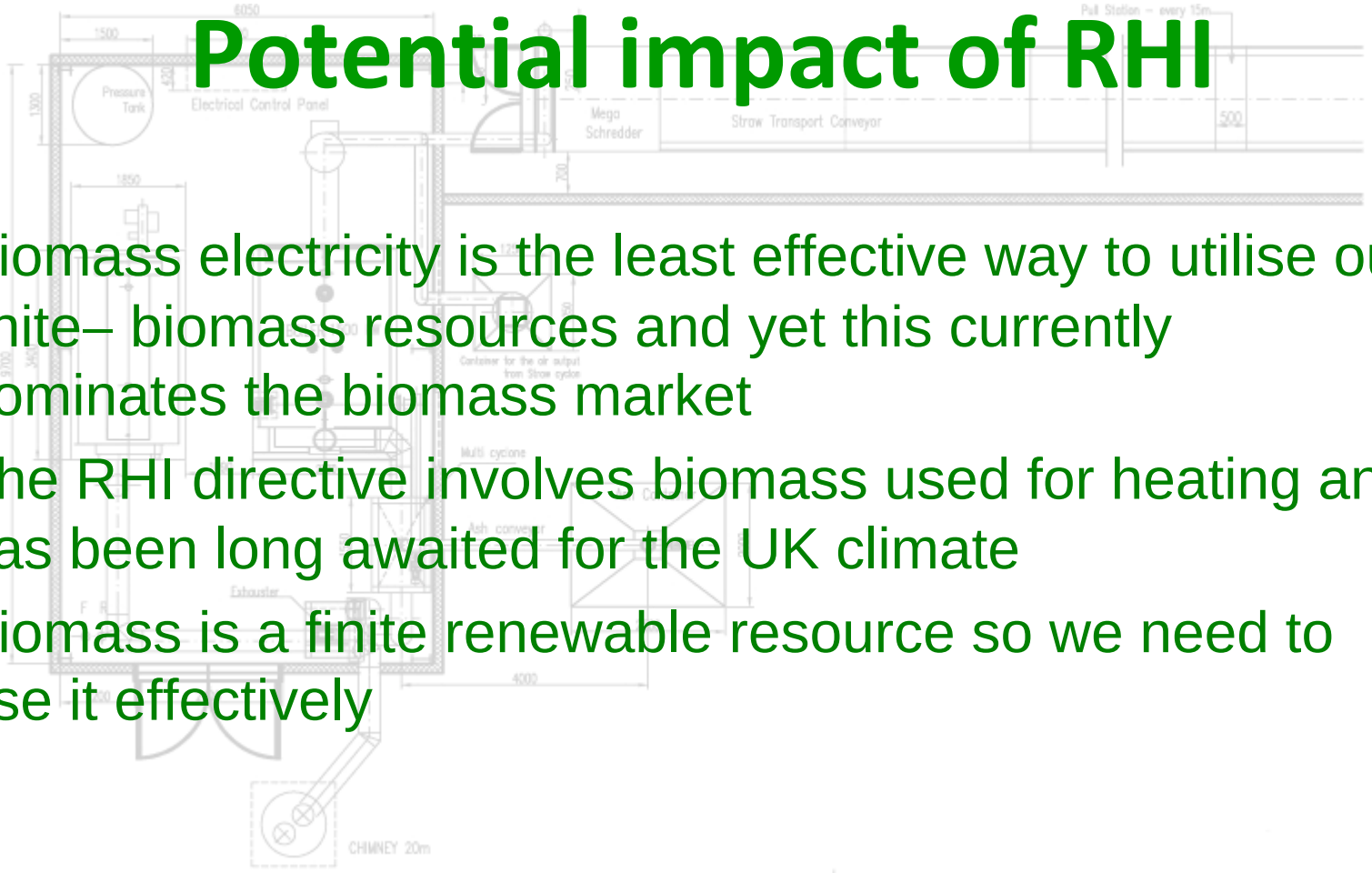
Potential impact of RHI



- Biomass electricity is the least effective way to utilise our finite– biomass resources and yet this currently dominates the biomass market
- The RHI directive involves biomass used for heating and has been long awaited for the UK climate
- Biomass is a finite renewable resource so we need to use it effectively

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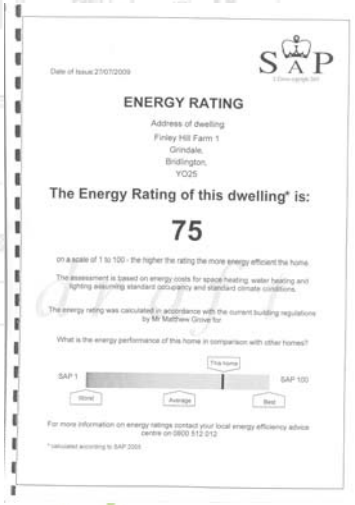
Conclusion

The aspirations and mechanism seem positive, providing the scheme is simple and levels are high enough



SAP

ENERGY RATING

Address of dwelling
Finley Hill Farm 1
Grindale,
Bridlington,
YO25

The Energy Rating of this dwelling* is:

75

on a scale of 1 to 100 - the higher the rating the more energy efficient the home

The assessment is based on energy costs for space heating, water heating and lighting assuming standard occupancy and standard climate conditions.

The energy rating was calculated in accordance with the current building regulations by Mr Matthew Grove for

What is the energy performance of this home in comparison with other homes?

This home

SAP 1 — SAP 100

Worst | Average | Best

For more information on energy ratings contact your local energy efficiency advice centre on 0800 512 012

* calculated according to SAP 2005

Thank you for listening