Why are there Problems with Biomass in the UKand why is it Clement Atlee's Fault

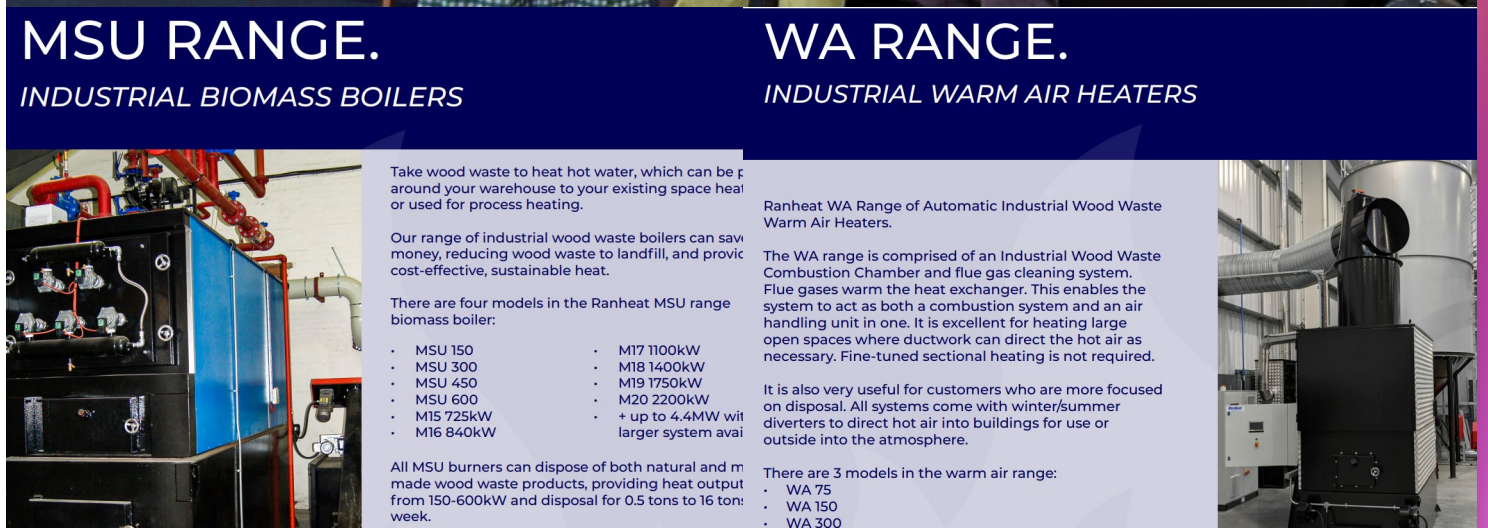
How the over centralisation of power has made it more difficult for the UKthe leverage energy from wood.

Who are Ranheat?

- Ranheat was originally a Danish company setup in the 1950s
- My parents started up Ranheat UK in 1985.
- Danish company wound up and manufacturing moved to Northampton in 1991.
- Physics MSci King's College London
- BAE System Software Engineer

Worked on Software defined radios

- HPC
- Acoustic Processing and Visualisation
- At Ranheat, control, Automation, IOT, Industry 4.0.



Where are we

Factory in Northampton

- Storage/silos/bunkers
- Conveyors
- Combustion systems
- LTHW Boilers up to 600kW, then Danstoker for larger or higher pressure systems
- Heating systems
- Technology and IOT

Selling directly and through distributors in the UKand Ireland

Other worldwide sales, particularly interested in India at the moment

Ben Southwood
Samuel Hughes
Sam Bowman

Foundations

Why Britain has stagnated

Here are some facts to set the scene about the state of the British economy.

- Between 2004 and 2021, before Russia's invasion of Ukraine, the industrial price of energy tripled in nominal terms, or doubled relative to consumer prices.
- With almost identical population sizes, the UK has under 30 million homes, while France has around 37 million. 800,000 British families have second homes compared to 3.4 million French families.
- Per capita electricity generation in the UK is just two thirds of what it is in France (4,800 kilowatt-hours per year in Britain versus 7,300 kilowatt-hours per year in France) and barely over a third of what it is in the United States (12,672 kilowatt-hours per year). We are closer to developing countries like Brazil and South Africa in terms of per capita electricity output than we are to Germany, China, Japan, Sweden, or Canada.
- Britain's last nuclear power plant was built between 1987 and 1995. Its next one, Hinkley Point C, is between four and six times more costly per megawatt of capacity than South Korean nuclear power plants, and four times as expensive as those that South Korea's KEPCO has agreed to build in Czechia.
- Tram projects in Britain are two and a half times more expensive than French projects on a per mile basis. In the last 25 years, France has built 21 tramways in different cities, including cities with populations of just 150,000, equivalent to Lincoln or Carlisle. The UK has still not managed to build a tramway in Leeds, the largest city in Europe without mass transit, with a population of nearly 800,000.
- At £396 million, each mile of HS2 will cost more than four times more than each mile of the Naples to Bari high speed line. It will be more than eight times more expensive per mile than France's high speed link between Tours and Bordeaux.
- Britain has not built a new reservoir since 1992. Since then, Britain's population has grown by 10 million.
- Despite huge and rising demand, Heathrow annual flight numbers have been almost completely flat since 2000. Annual passenger numbers have risen by 10 million because planes have become larger, but this still compares poorly to the 22 million added at Amsterdam's Schiphol and the 15 million added at Paris's Charles de Gaulle. The right to take off and land at Heathrow once per week is worth tens of millions of pounds.
- The planning documentation for the Lower Thames Crossing, a proposed tunnel under the Thames connecting Kent and Essex, runs to 360,000 pages, and the application process alone has cost £297 million. That is more than twice as much as it cost in Norway to actually build the longest road tunnel in the world.

The source of the problem

- In 1947, the Town and Country Planning Act (TCPA) was introduced, part of the postwar reform programme that nationalised nearly every major industry, from steel to man-with-van road haulage companies, and normalised top tax rates at over 90 percent. The TCPA completely removed most of the incentive for councils to give planning permissions by removing their obligation to compensate those whose development rights they restricted. Other reforms at around the same time also redistributed away much of the upside that councils had received from development through local property taxes.

Issues

- Over centralisation of Government policies
- Cabinet office/treasury end up making most of the spending decisions.
- Distance between decisions and projects is far leading to poor oversight and value for money.

So how does this apply to biomass?

An unfair example

- My son's school

This cost £250,000 in 2014

- The headteacher says it has never worked
- It might have RHI, but the school doesn't have the certification
- The design and builder liquidated and cannot be found
- This was repeated at 15 other schools in Northamptonshire

Issues

- Sudden influx of money that has to be spent quickly
- Wasn't time to do a pilot project with a provider, check the results
- At the time, all manufacturers were overwhelmed, Ranheat was.
- Extreme imbalance in supply and demand and false scarcity.
- Very murky. Head mistress says
  "Everyone that was involved with the projects has disappeared. The designer, the installer, the council staff managing the project, We have a biomass boiler we cannot use, we do not have money or labour to be able to get it working, and then afford the cost of pellets, this is the worst thing that has happened to the school."

Anger

- These projects are not victimless
- My son's school is freezing in the morning because they cannot afford to run the oil boiler to prewarm the school
- This project cost the equivalent of £335,776.81 in 2024 money.

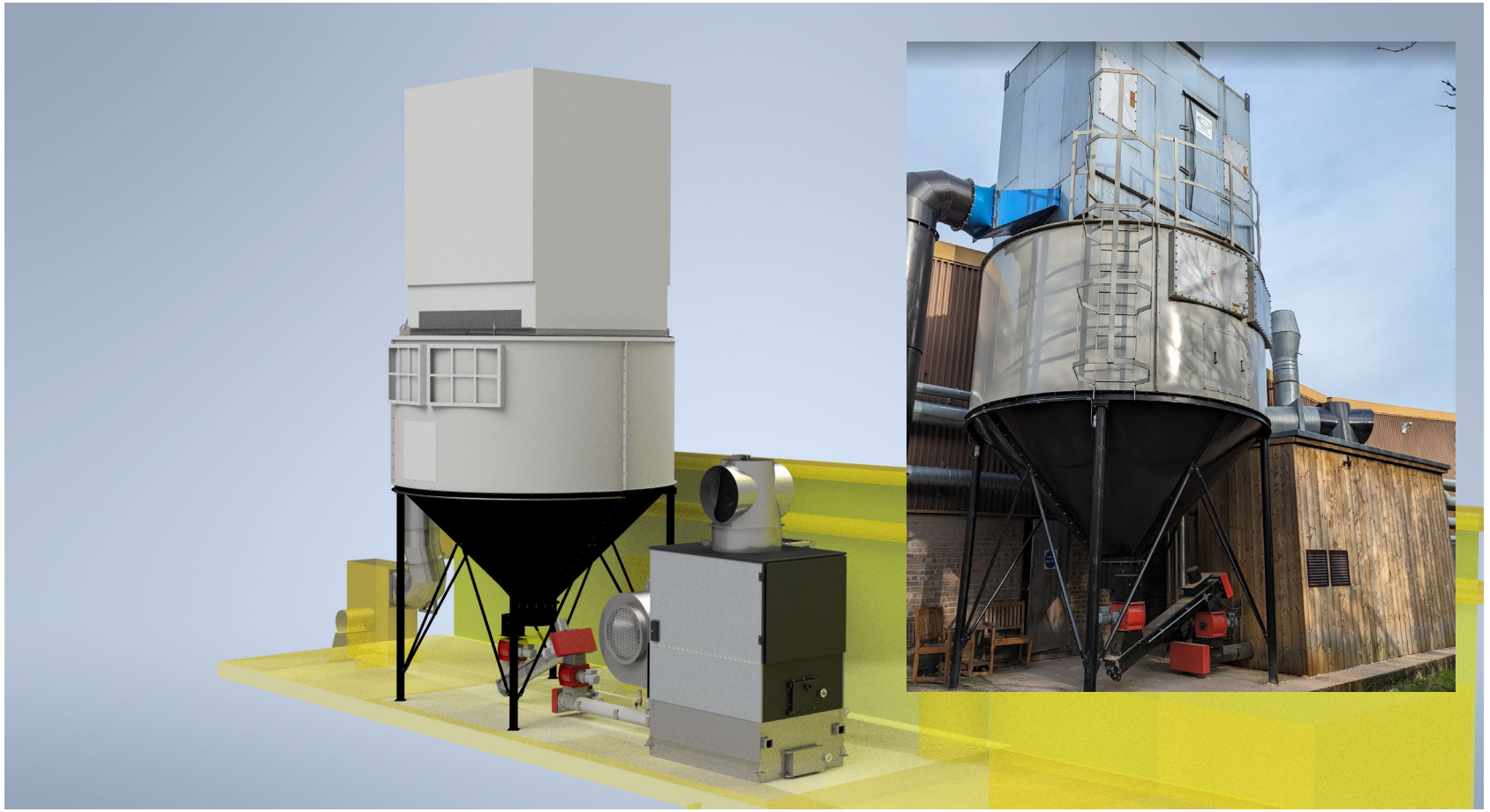
Lets see a good example

Starting point

- Paneltech had complaints from neighbours from their manually fed wood burner.
- Unless you are operating a manually fed system perfectly, you are going to get smoke
- This was embarrassing as one of the directors was a part time fireman
- Environmental Health Officer gave them a nudge to improve the situation and Paneltech wanted to as well.

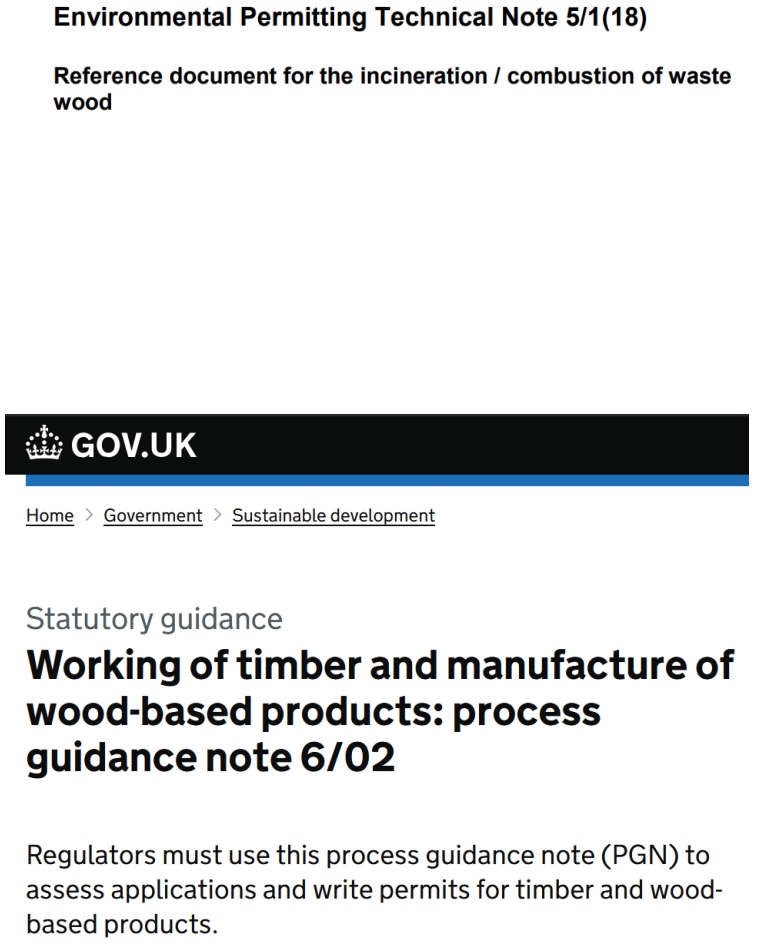
Paneltech™

https://www.instagram.com/p/Ct1IJuToiPD/



Take away points

- For a non-RHI machine, this system is entirely governed by local authority. No chimney sweeper's union required.
- There was an effective enforcement when poor standards were found.
- For Paneltech, heating up a large open factory area was most effectively with a Warm air heater



Environmental Permitting Technical Note 5/1(18)

Reference document for the incineration / combustion of waste wood

GOV.UK

Home > Government > Sustainable development

Statutory guidance

Working of timber and manufacture of wood-based products: process guidance note 6/02

Regulators must use this process guidance note (PGN) to assess applications and write permits for timber and wood-based products.

But what about Clement Atlee?

- The distance between the investor in a project and the project is very important to the outcomes of investment.
- In the school's case, a German institute managed the install. 15 schools in Northamptonshire ended up with ugly ducklings.
- Paneltech, locally based enforcement and standards, backed up with centrally controlled guidance notes.
- The investor of the project, Paneltech, extremely close to operating the project and very invested in it success literally and figuratively.

What Trends are coming?

- Building industry and how the UKbuilds houses needs to change.
- This is going to have a massive impact on the availability of waste wood available in the UKeco system
- District heating and decentralised district heating

What does the Biomass Industry Need to do?

- Serve Society
- Be honest about emissions.
  - Type test certificates for a manually loaded combustion chamber is wild
  - The fuel is never as perfect
  - The operator for the test needs to be an idiot in a hurry
- Ringlemann Using Machine Vision
- Manufacturers to properly oversee resellers/installers/service technicians and be liable in the same degree as ATEX.

What do we need from Government?

Good rules, no more money please, maybe even less.

- Market distortion of Industrial Wood Waste from biomass power subsidies
- Type test certificates for manually loaded systems are fundamentally bizarre
- Sensible rules for the oversight of emissions, No using private entities with little or no knowledge of sub sectors in the biomass market
  - Yearly manual extractive is the gold standard
  - In place for MCPD, 850kW< and 350kW< Industrial Wood Waste
  - For smaller units, sample a bunch each year and make it a manufacturer or original importer responsibility.
- Central Government to work with Local Government on…
  - Planning
  - Emission/Clean Air
  - District Heating
  - Planning permission, house building as a fuel source.
  - Machine Vision Ringlemann

Machine Vision Ringlemann