

Energy Matters

From Blackouts to no more Black Stuff

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IN THE DARK National Grid had three power outages near misses before Friday's major thousands str

Britain in two-week coal-free record

🕒 31 May 2019

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Net Zero
The UK's contribution to
stopping global warming

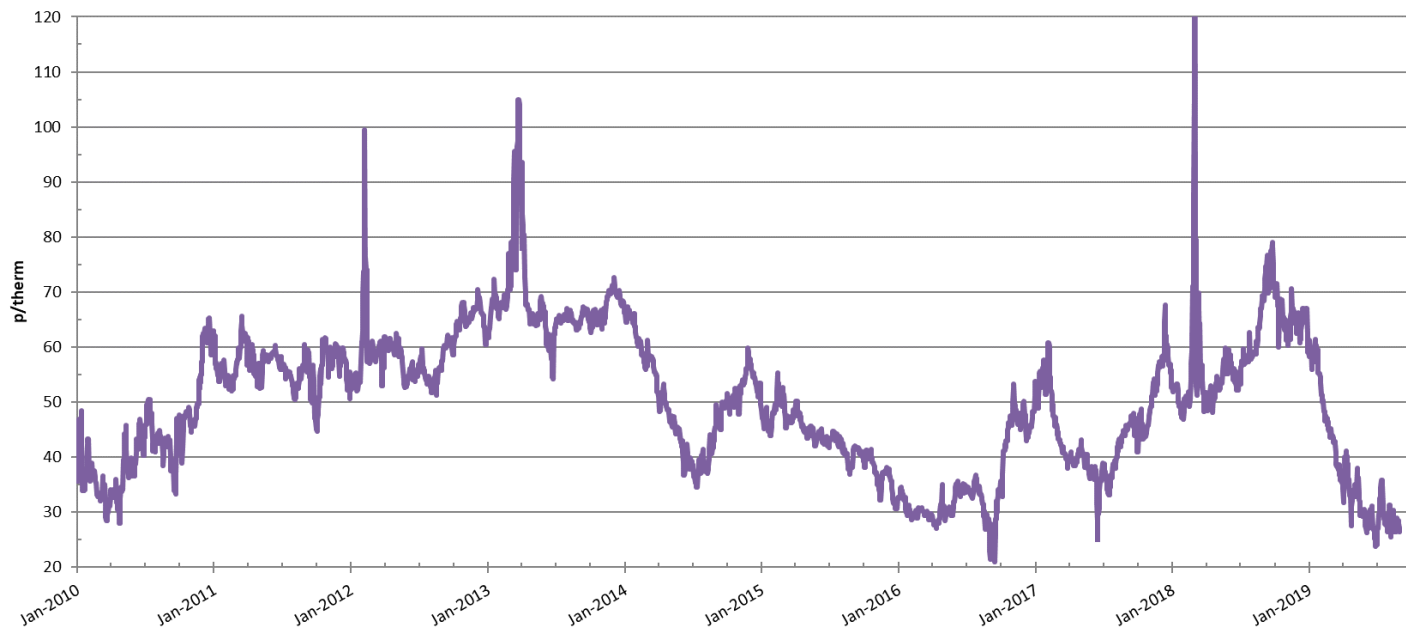
Committee on Climate Change
May 2019



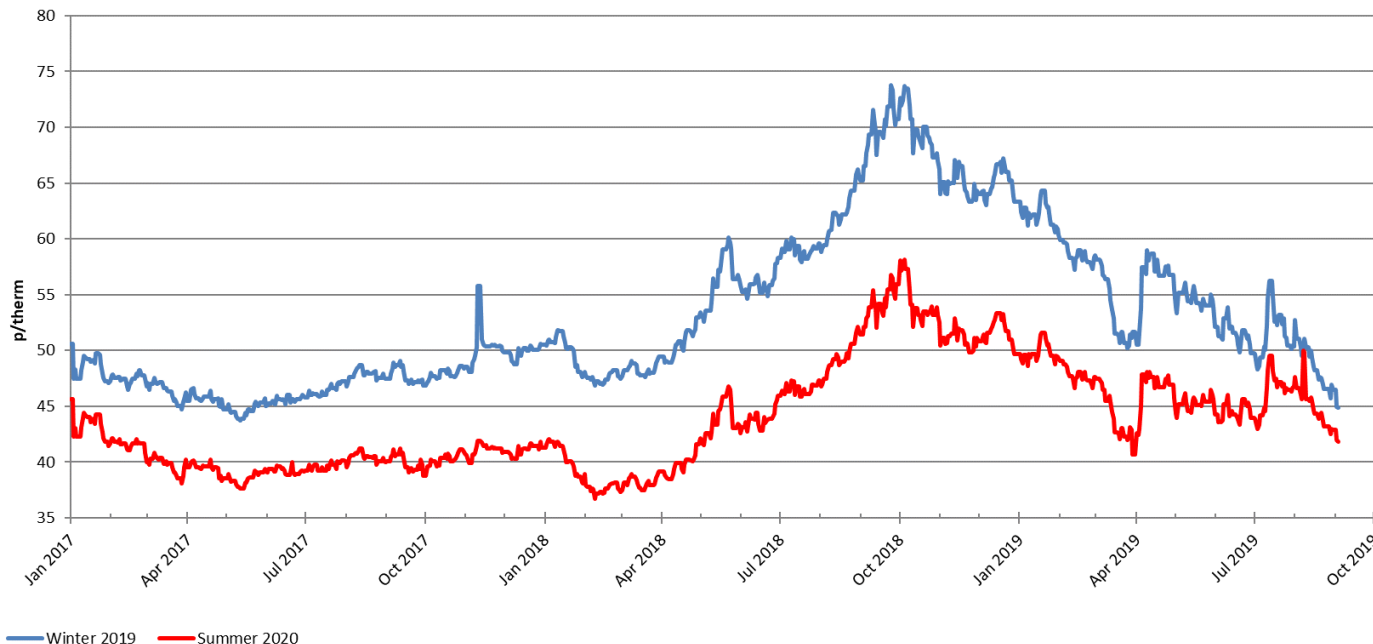
- **Energy prices/trends**
- **Renewables**
- **Energy compliance update**
- **Net Zero CO₂**



Day ahead



Next 12 months



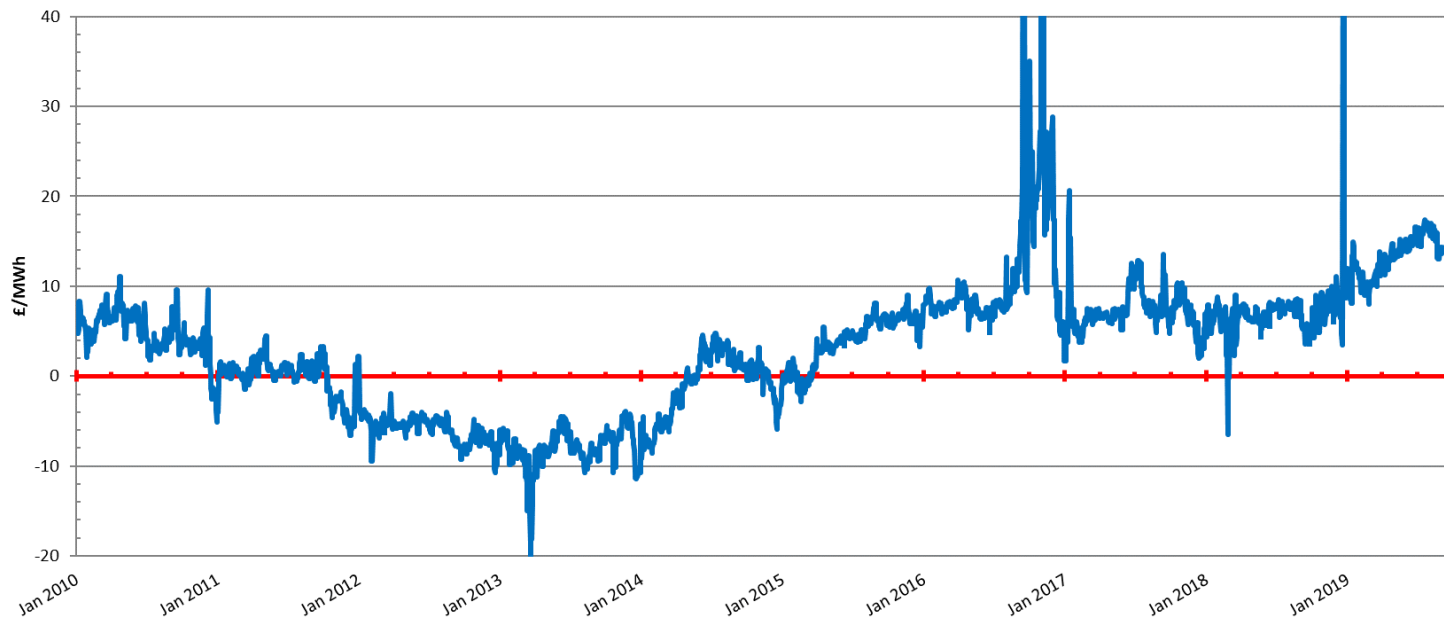
Season	p/Therm
Winter 2019	45
Summer 2020	42
Winter 2020	52
Summer 2021	44
Winter 2021	53
Summer 2022	44



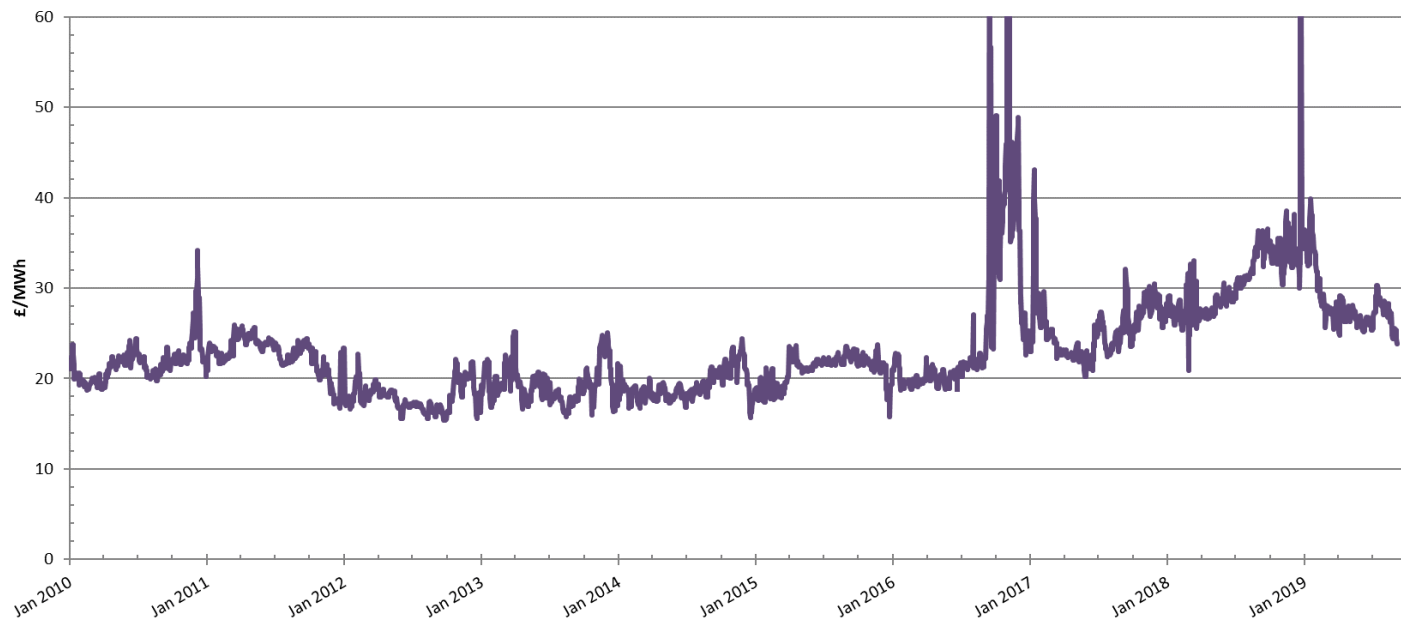
- Commodity – followed the price of gas
- But.....
 - Non-commodity costs (RO, FiT etc.) have gone up
 - So often a net increase overall
- Strengthen the case for small CHP for on site electricity



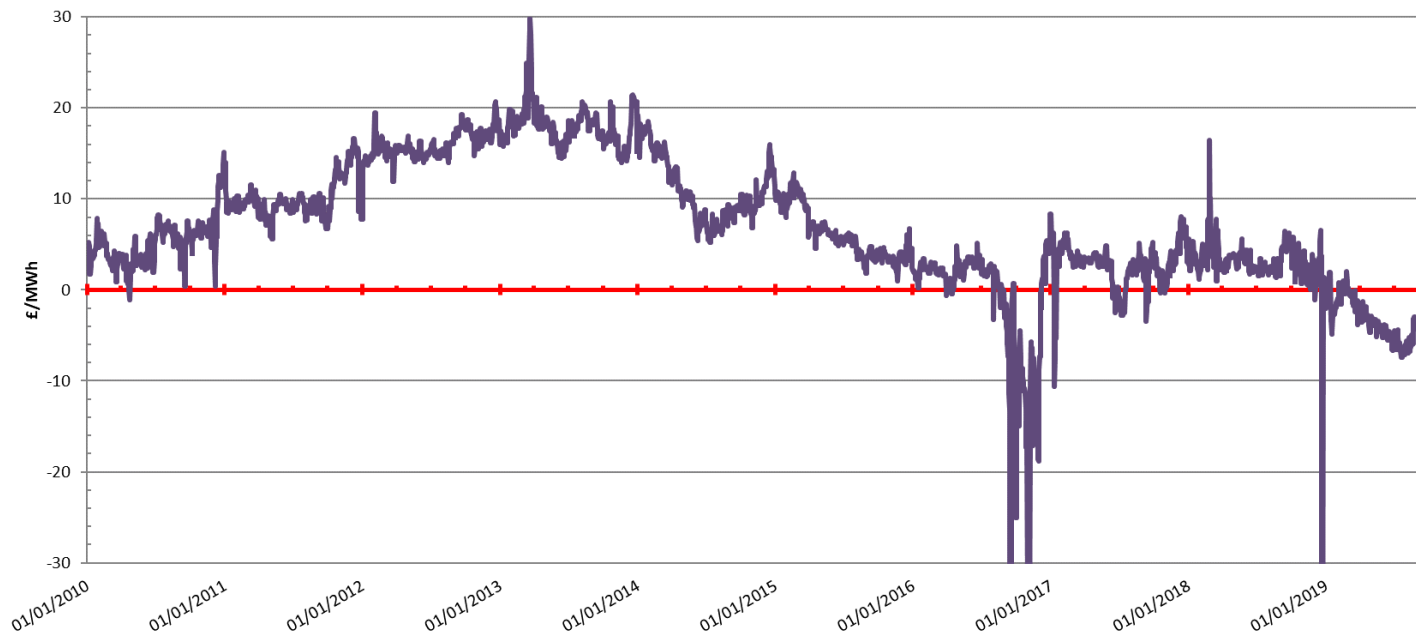
Spark spread



CHP spread



Bare Cost of heat



- **Renewable Heat Incentive**
 - Tariff Guarantee
 - Latest commissioning date 31/01/21
 - Closes to new applications 31/03/21
- **Electricity**
 - Feed in Tariff and ROCs – both closed last year
 - No realistic options currently
 - PV for own use may be viable



- **ESOS**

- You are in if
 - >250 employees
 - Or turnover > 50m Euro AND >43m Euro balance sheet
 - Compliance deadline 05 Dec 2019

- **SECR**

- You are in if
 - >250 employees
 - Or turnover > £36m AND balance sheet >£18m
 - First compliance deadline first complete financial year starting after 01 April 2019





- **Medium Combustion Plant Directive (MCPD)**
 - Initial permitting 'hit' was CHP that provide 'grid support services'
 - 'Hit 2' is 01 October 2019 if
 - >5MW fuel input
 - Operating before 01 December 2019
 - $\text{NO}_x > 500\text{mg/Nm}^3$ (15% O_2)
 - 'Hit 3' if
 - Install new (to you) combustion plant >1MW
 - Note – exclusions apply to standby generators
 - Permit before it is commissioned



- **The views of an engineer**
 - Not necessarily NFU policy
- **>10 years ago carbon footprints were ‘a thing’**
 - But they faded away
- **Net Zero is currently ‘hot’**
 - Will it ‘heat up’ further or ‘cool’?

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UK unveils CO₂ footprint standard

By Mark Kinver



carbon emissions have been criticised in the past for being inconsistent, confusing or lacking transparency.

The system, known as PAS 2050, will be managed by BSI British Standards.



CO₂

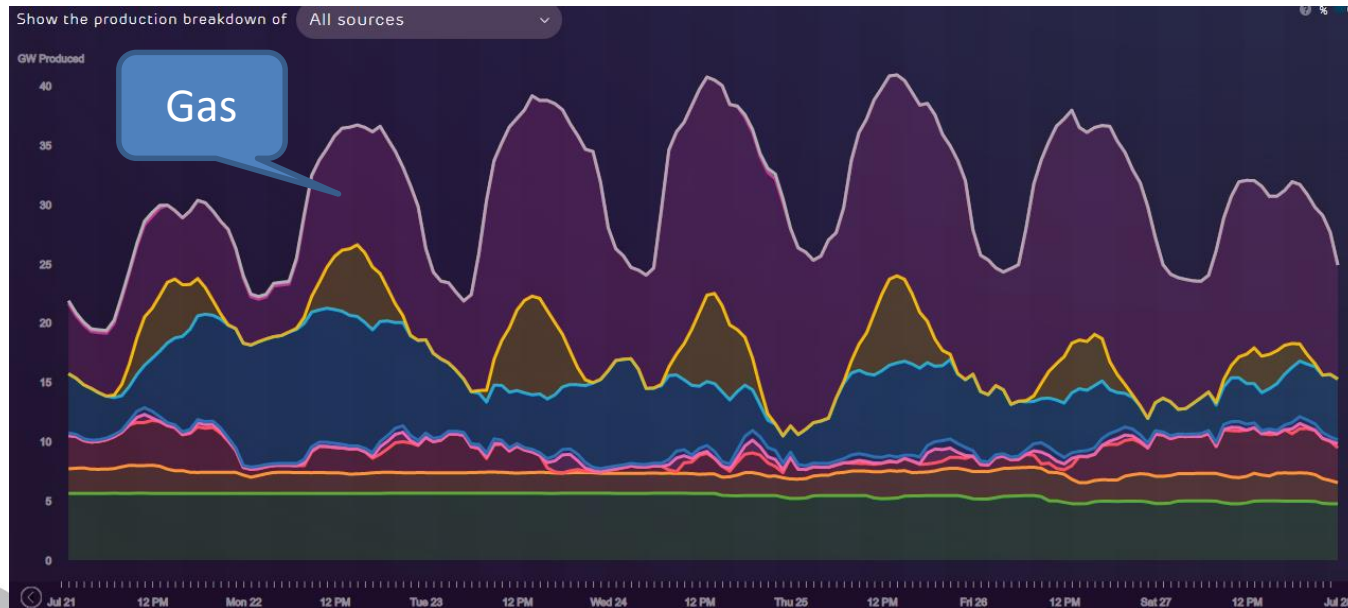
The new carbon audit has been piloted by several UK businesses



- **UK tomato growers have a great story to tell**
 - Fresh, UK grown produce
 - High output from small land area
 - High water and nutrient use efficiency
- **Energy**
 - Significant improvement in kg/kWh



- **Technically CHP has a great story to tell**
 - Even though grid elec g/kWh is c. 50% what it was 5 years ago



- **Heat & CO₂ are the challenge**
- **Heat is perhaps the easiest technically**
 - Biomass boiler
 - Heat pump
- **Maybe bio-methane via grid will be our saviour?**



- **But what about CO₂ ?**
- There are technical solutions with us now
 - CO₂ from AD plants
 - CO₂ from biomass combustion
 - CO₂ from air!



- **The future might even be**
 - No natural gas
 - All liquid CO₂ again



- **Gas price**
 - Roller-coaster continues
- **CHP**
 - Continues to look good
- **Renewables**
 - Opportunities remain but 'doors are closing'
 - What next?
- **Compliance**
 - Are you 'compliant'?
- **Net Zero CO₂**
 - Consider where this might take you

