

## All Energy – John Barclay

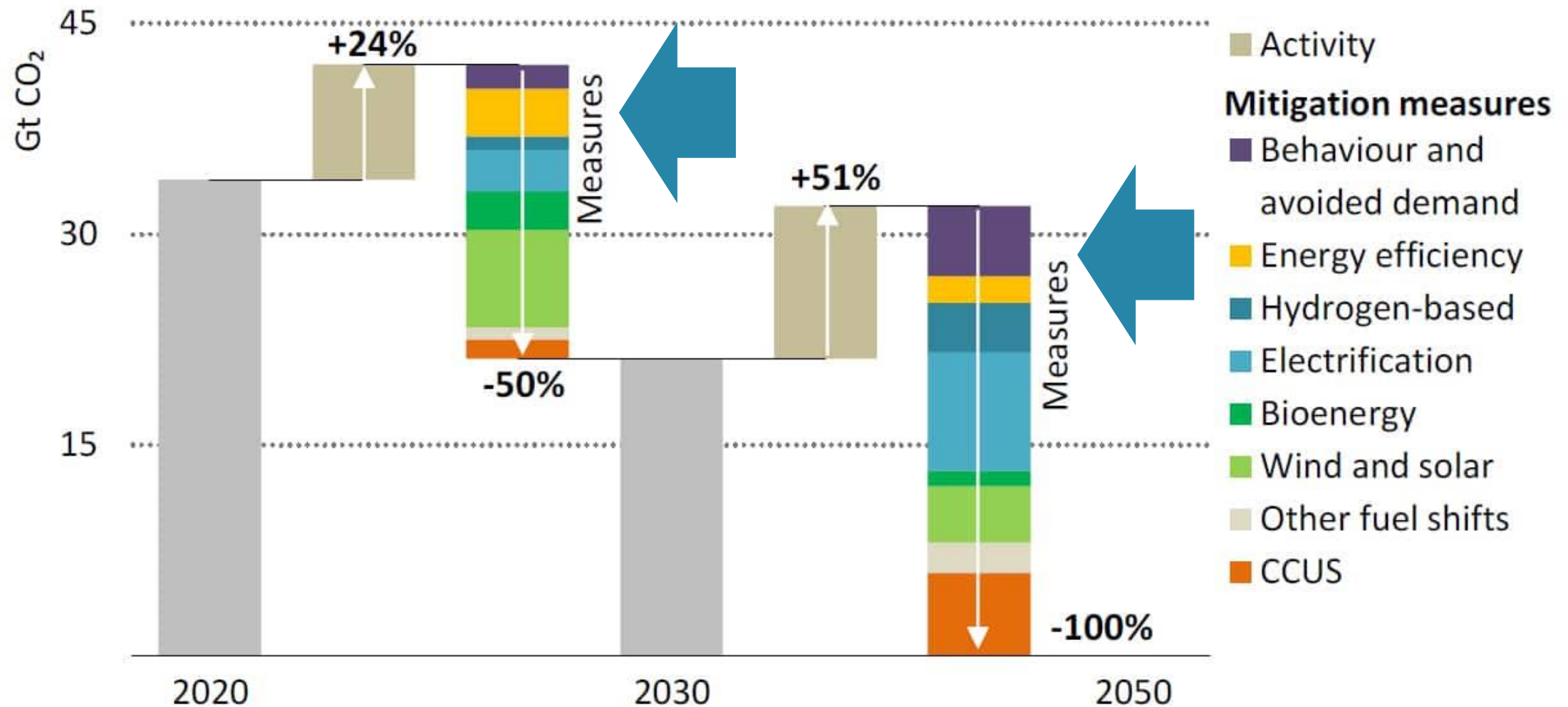
# Technology Agnostic Steps To Net Zero In Industry

“We believe passionately in the world’s transition to net zero. We are a team of trusted technical advisors who meet and exceed our clients’ aspirations.”





# IEA - Net Zero by 2050 Roadmap – Behaviour and Energy Efficiency



IEA. All rights reserved.



# Energy Management – Employees Doing More with Less

## ISO50001 and The Energy Conscious Organisation (EnCO)

### ISO50001

- The international energy management standard
- Accepted as a route to ESOS compliance
- ISO 50001:2018 is the latest version of the standard



### The Energy Conscious Organisation (EnCO)

- A behavioural change programme created by [ESTA](#) and [EI](#) that improves the way your organisation interacts with energy for a simple, structured approach that future-proofs organisations, creates the required skillsets and gathers evidence for a Net Zero world powered by people.
- An EnCO is an organisation that is externally recognised as measurably reducing energy consumption by applying behaviour change techniques.
- There is hard commercial evidence to show that changing behaviours to embed and maintain a good energy culture can easily make savings equal to or in excess of traditional engineered improvements.
- These opportunities to change behaviour have the potential to deliver 50 per cent of total potential energy savings.

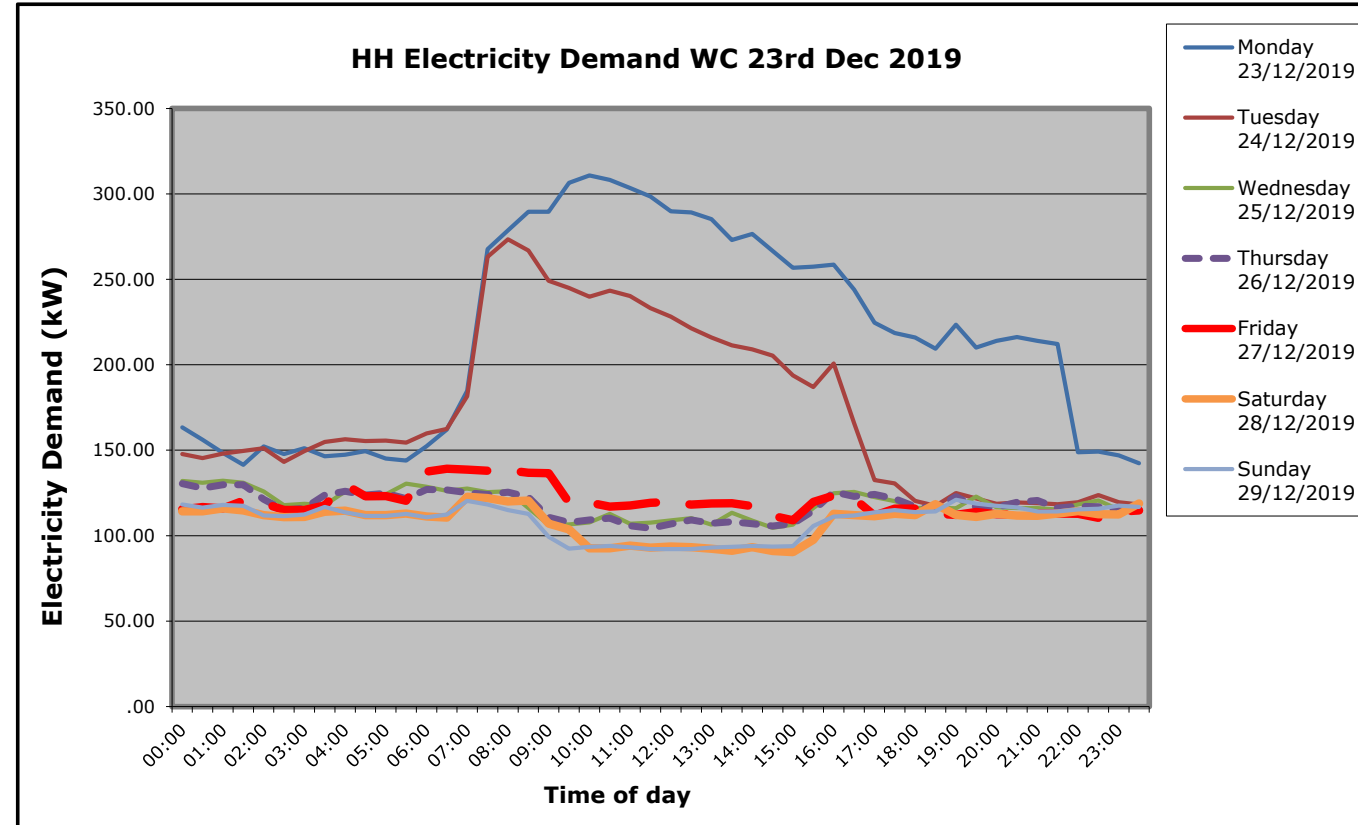
# Energy Management – Employees Doing More with Less



## Top ten tips

1. Complete the energy management matrix
2. Senior management engagement
3. One page energy/carbon policy
4. Switch off conveyors when not moving product
5. Create shutdown procedures to minimise out of hours demand
6. Staff energy suggestion scheme
7. Initiate weekly analysis of main fiscal meter supplies and submeters
8. Repair compressed air leaks
9. Raise awareness of energy costs and carbon emissions via staff noticeboards
10. Appoint a site energy champion

## Analyse out of hours demand and carry out surveys





# Onsite generation and low and zero carbon supply technologies

## Potential technologies to consider but no one size fits all

### Electrical Generation

- Wind turbine generation – on site or adjacent land
- Solar PV – on site or adjacent land
- Geothermal CHP
- Wave - very site specific!
- Tidal - very site specific!
- Hydro - very site specific!
- Battery energy storage – combined with solar/wind
- Hybrid renewables solution – solar and wind
- Supplying electric boilers or other processes

### Thermal Technologies and Associated Technologies

- Gas fired CHP - turbine/engine – be aware of carbon issues
- Solar thermal – very poor returns
- Fuel cells CHP – with hydrogen or gas
- Biomass boiler and biomass CHP
- AD and use of waste streams
- Heat pumps – high temperature coming on to market
- Alternative Fuels like HVO
- Absorption cooling – with biomass
- Current situation for hydrogen
- Thermal energy storage status of carbon capture and storage



# Practical Next Steps & Potential Sources of Funding

## A Complex and Changeable Landscape

- Consider how thermal and electrical energy is used on site
- Think about what LZC technologies could work at your site
- Do some basic analysis to determine likely size of LZC technologies
- Rule out any that simply won't work for you
- Consider use of consultant or wider knowledge bank in your own company if you need help
- Review possible funding avenues (see below)
- Contract for Difference (CfD): <https://www.gov.uk/government/publications/contracts-for-difference/contract-for-difference>
- Industrial Energy Transformation Fund: <https://www.gov.uk/government/collections/industrial-energy-transformation-fund>
- Green Gas Support Scheme: <https://www.ofgem.gov.uk/environmental-and-social-schemes/green-gas-support-scheme-and-green-gas-levy>
- Industrial Fuel Switching competition: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/999738/nzip-ifs-stakeholder-event.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/999738/nzip-ifs-stakeholder-event.pdf)
- Industrial Energy Efficiency Accelerator: <https://www.gov.uk/government/publications/industrial-energy-efficiency-accelerator-ieea>





[john.barclay@itpenergised.com](mailto:john.barclay@itpenergised.com)

## ITP Energised Group offices in:

Bristol, London, Edinburgh, Glasgow, Aberdeen, Lisbon, Madrid, Delhi, Beijing, Canberra and Auckland

Onshore Renewables & Storage | Offshore Wind & Marine Renewables  
Corporate, Industrial & Manufacturing | Property & Urban Regeneration  
Oil & Gas

[itpenergised.com](http://itpenergised.com)



ITP Energised

