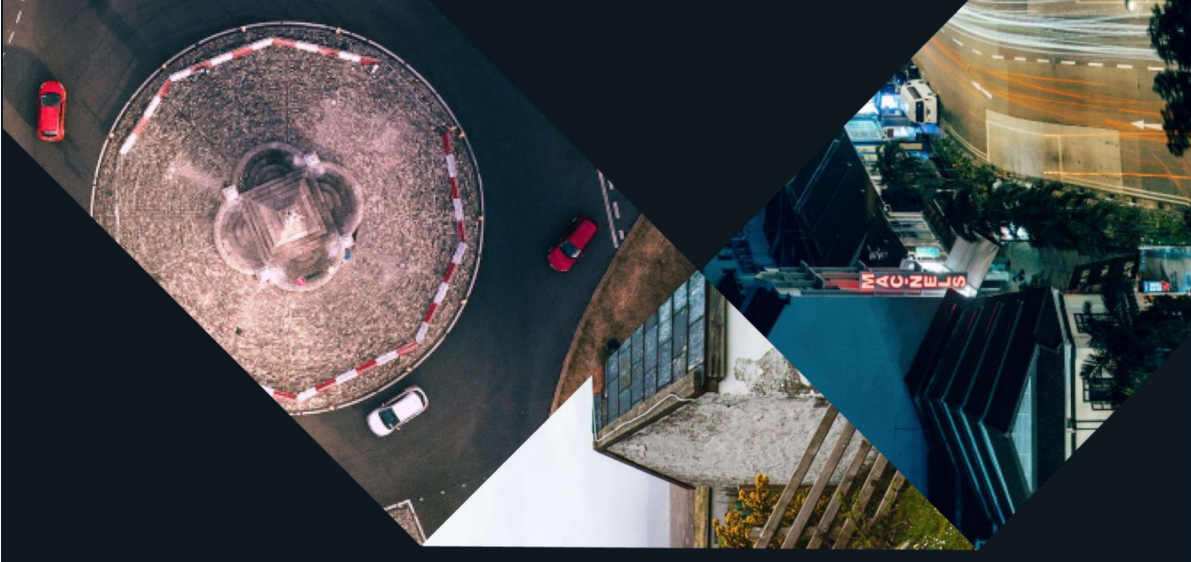




Decarbonising Energy Supply for Irish Distilleries and Breweries

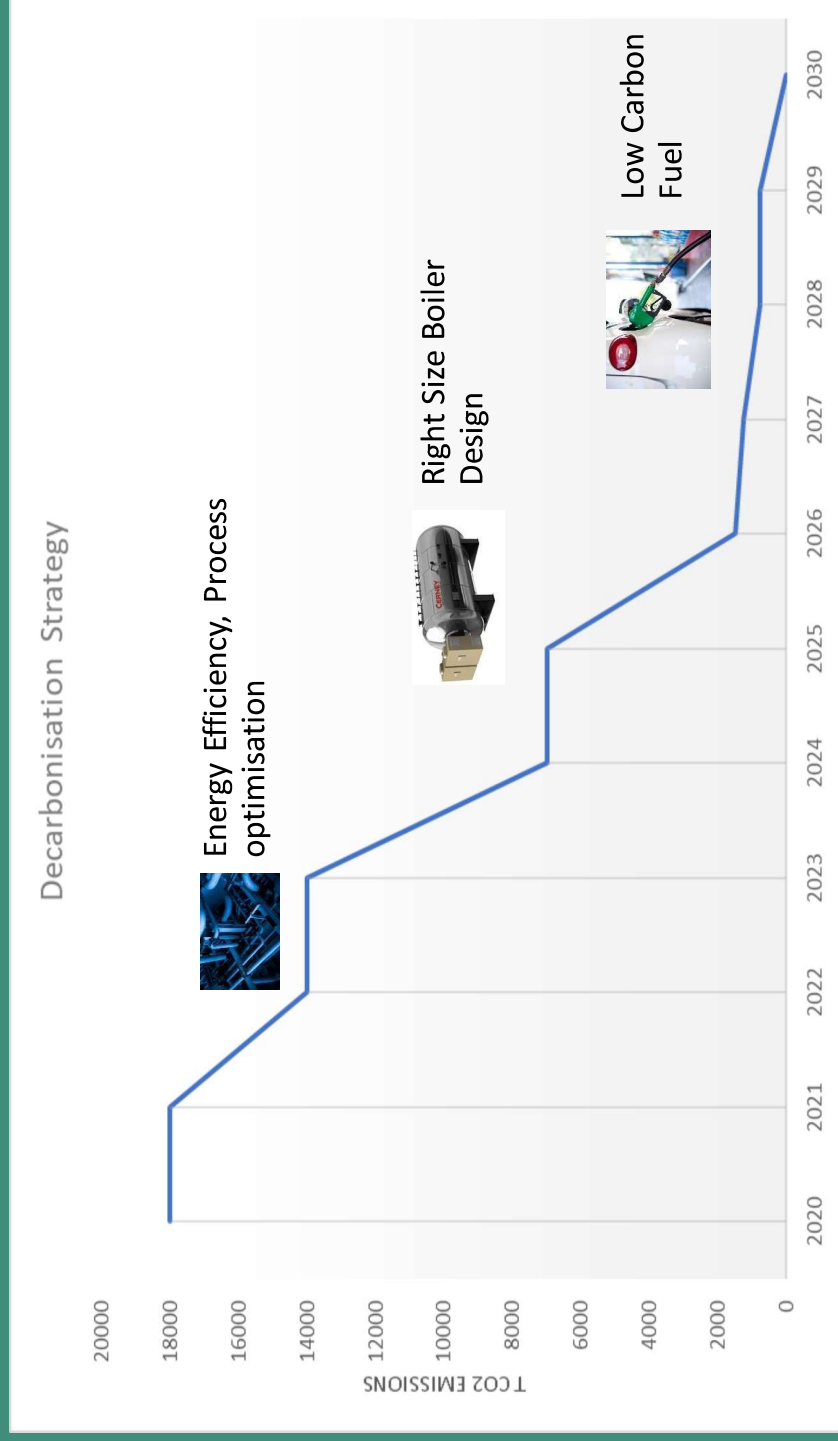
25 April 2022



Introduction

- Energy efficiency is so important in the world's journey to net zero, to keep global warming at 1.5 degrees Celsius
- Nicknamed "the first fuel" by the International Energy Agency (IEA)
- The Journey we need to take:
 - Energy Efficiency
 - Right Size Design
 - Low Carbon Fuel Switching

Decarbonisation Pathway: Plant Strategy



Decarbonisation Journey of Major Alcohol Beverage Facility

- Energy efficiency improvements of 30% identified in the facility through redesign of the processes and move from steam to hot water where possible in the process.
- Change Clean in Place from steam to LPHW.
- Provision of LPHW from right sized heat source.
- High temperature users require decarbonised solution, low carbon fuel.

Clean in Place (CIP)

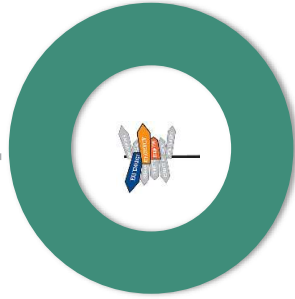
- Reducing water temperature where possible.
- Investigate feasibility of switching CIP from steam to LPHW. This reduces steam demand on site and opens the possibility of improving the overall efficiency of the steam system.
- Sourcing alternative CIP agents which may reduce CIP run times.
- Water Reclaim and Reuse: Options to capture and reclaim final rinse from tanks and lines.

Heat Recovery

- Heat Recovery can be used to heat water for:
 - Brewing
 - CIP
 - DHW Requirements
 - Space Heating
- Heat Recovery can be used to heat Air for:
 - Combustion Heaters
 - Boilers – Economisers
 - HVAC Units
- Previous projects include:
 - Exhaust Gas Economiser (transferring heat from flue gas to the boiler feedwater).
 - Optimising boiler thermal efficiency from the introduction of new controls.
 - Automated blow-down control to regulate the volume of water discharging from boilers.

Who Are Enprova?

EU Energy Efficiency Directive



SEAI Better Energy Programme



Fuels for Ireland



ENPROVA Scheme



Support in making energy savings



What are Energy Credits?

- Generated when 1kWh of energy is saved through an energy efficiency project
- Applies to projects that will happen not for those that have happened
- 1kWh of Fuel (Gas / Oil, Electric etc) Saved = 1kWh of Energy = 1 Energy Credit
- Are not Carbon Credits
- Are not tradeable
- Have no market value
- Exchange for financial and other supports necessary to initiate a project



Supports Available

30% of Capital Expenditure through SEAI BEC, EXEED, Enterprise Ireland Grants

Energy Credits used for re-investment in energy efficiency and to obtain grants

Additional 3rd party funding to unlock projects support



Low carbon transport liquid fuels

- 73% of oil consumption in RoI is in transport sector
- E5 and B10 saved 500,000 tonnes of carbon emissions last year (vs 20,000 tonnes from EVs)
- E10 is expected later this year (at last) to prevent another 100,000 tonnes
- Increased use of biofuels in diesel must be next step

Decarbonising transport

Passenger and light goods vehicles

- ENERGY EFFICIENCY – the first fuel
- EVs – Government has set challenging targets
- Concerns around the current network and the potential to deliver required capacity
- Fastest chargers in Ireland are on forecourts
- Other technologies can contribute – increased biofuel, advanced and synthetic fuels, hydrogen

Heavy good vehicles

- Electrification is problematic
- Compressed natural gas
 - 7 current forecourts, 9 in the pipeline – responding to customer demand
- Hydrogen:
 - Ireland has great, as yet untapped, potential to produce of green hydrogen
 - Fuel cell electric vehicles meet the objective of zero emission transport with rapid convenient refueling
- Biofuels
 - B20 is already available for captive fleets
 - 100% biodiesel (HVO) remains uneconomic in Ireland

Maritime and aviation

- Sustainable aviation fuel (SAF) has been developed and increasingly being blended into jet-kero
- Aircraft regularly fly with 100% SAF – effort is no focussed on commercial viability
- Maritime sector is exploring a variety of low and no carbon liquid fuel including LNG, ammonia and hydrogen
- Shore side electrification

Challenges to adoption of low and no carbon liquid fuels

- Lack of technology neutrality – targets based on tactics rather than objectives
- Narrow focus of Government supports
- Ideological purity rather than practical expediency
- Taxation
- Lack of investment in “non-preferred” technologies
- Policy signals to market



Powering today and tomorrow.

www.fuelsforireland.ie