



Decarbonisation: Net zero in practice

Based on a webinar discussion on 27 January 2021

In collaboration with Chapter Zero



Davos 2020 proved to be a pivotal moment in the global fight against climate change. Twelve months later, what does the journey look like? How are we working towards targets that stretch so far into the future?

By September last year, the number of businesses making net zero pledges had doubled. But if 2020 was a time for setting targets, 2021 could be when we really start to see action.

A long journey

Decarbonisation is a strategic imperative and a long-term ambition, but it is not just about 2050. Shorter-term goals are critical and success will call for innovation. It will require oversight, engagement and accountability at the top of organisations. It is also not just about your organisation. You need a good understanding of emissions across

your value chain – in almost every organisation, Scope 3 emissions dwarf Scopes 1 and 2. And then you will need to work with your supply chain partners to reduce your emissions. The Task Force on Climate-Related Financial Disclosures is an important part of communicating your action on climate change and getting the right information to the right people.



2020 was the second hottest year on record, a close second to 2016 with 2015 in third place.

“COVID-19 has brought a significant drop in global emissions – the most significant since World War 2. What is needed to meet the Paris commitments is to see as big a drop, if not larger, every year going forward.” **Hannah Routh**

- **Scope 1**
Direct emissions from owned or controlled sources
- **Scope 2**
Indirect emissions from purchased energy
- **Scope 3**
Indirect emissions generated by the value chain

“Organisations will only be successful if they understand how climate change affects their business, and how they can take advantage of the opportunities while mitigating the risks.” **Paul Dobson**



Speakers

Host:
Hannah Routh,
Climate Change &
Sustainability Partner,
Deloitte

Speaker:
Professor Jason Snape,
Global Head of
Environmental Protection,
AstraZeneca plc

Speaker:
Michael Tholen,
Sustainability Director,
Oil & Gas UK

Speaker:
Paul Dobson,
Climate Change &
Sustainability Partner,
Deloitte Australia

Case study: AstraZeneca's ambition

At last year's World Economic Forum AstraZeneca announced its \$1 billion Ambition Zero Carbon programme. It already had bold targets for energy, water and waste, but its new commitment – zero-carbon operations by 2025 and a carbon-negative value chain by 2030 – takes this a step further. Specific measures include:

- > Doubling energy productivity.
- > Transitioning to 100 percent renewable heat and power.
- > Switching to a fully electric vehicle fleet.
- > Eliminating fluorinated gases by launching next-generation respiratory inhalers that have near-zero climate impact.
- > Engaging with suppliers to reduce Scope 3 emissions.
- > Embedding environmental considerations in product design,

for example using Life Cycle Assessments (LCAs) for products to know where the greenhouse gas (GHG) footprint lies and target improvements.

AstraZeneca has adopted a commonly used hierarchy to address its GHG emissions – avoid, reduce, substitute, compensate. An important element is 'designing in' carbon neutrality now, for instance through the research and development of future medicines that will be a significant part of its 2030 footprint.

The company has already invested \$100 million over the past five years in energy and natural resource efficiencies, reducing its water footprint by a fifth and its energy footprint by a third. It still has combined heat and power plants that use natural gas, so is investigating affordable clean heat options.

It is also signed up to The Climate Group's EP100, EV100 and RE100 initiatives, joining a growing band of energy-smart companies committed to improvement.

Ownership and accountability

There are challenges around data associated with purchased goods and services, which make up 74 percent of the Scope 3 footprint, and the programme will call for new capabilities both internally and in AstraZeneca's value chain. Accreditation is also important through the Science-Based Targets Initiative and AstraZeneca is a strong advocate for companies to align their GHG reduction targets to limit global warming to <1.5 °C.

What is in place is its governance. As Professor Jason Snape explains: "Senior leadership ownership, visibility and accountability are critical, and we have that from our Board, CEO and CFO." AstraZeneca's focus on decoupling its business growth from natural resource depletion has already led to a 60 percent carbon reduction compared with the 2015 baseline. It is way ahead of where it needs to be to limit global warming to <1.5°C, in line with the Paris Agreement.

AstraZeneca's 2020 carbon footprint:

247,000

tonnes (297,000 tonnes were forecast)

Scopes 1 and 2 emissions

3%

Scope 3 emissions

97%

Case study: The upstream oil and gas industry

Oil and gas, together with hydrocarbons, account for around 80 to 90 percent of the UK's total emissions. So, how does an industry at the heart of the issue adapt to the new future?

Membership organisation Oil & Gas UK has long recognised the challenge and is part of this new energy revolution. In 2019, it committed to cutting its carbon emissions by 50 percent by 2030 and by 90 percent by 2040, on the way to net zero in 2050. It is making huge inroads already, achieving a 20 to 30 percent reduction over the past five years.

Reimagining operations

The primary source of Scope 1 emissions offshore – totalling some 13 million tonnes – is the extraction of oil and gas and bringing it to shore. From there it is used across the economy. Power generation is the major

contributor, so an important consideration is how to move to importing electricity. The industry is also addressing its flaring and venting – controlled burning and release of gases during production and processing – to reach a point, by the late 2020s, where this is only done for safety reasons. In addition, it is looking to develop new zero emission fields. This adds up to a major operational transformation that will change the map of the North Sea and require billions of pounds of investment. But innovation and opportunity lie ahead. Michael Tholen says: "We have a prodigious supply chain. It is not just capable of serving the oil and gas needs of the country, it is capable of driving the transition and bringing to market carbon capture technologies, energy network solutions and the hydrogen solutions that we are going to need as a nation."

400

Oil & Gas UK members



70%

emissions from power generation

20%

from flaring and venting of gas offshore



10%

from other associated operations

“Delivering Ambition Zero Carbon is not just about engineering, it is about innovation, how we procure things and how we partner with others.”

Professor Jason Snape

“We in the oil and gas industry are not sitting there waiting for the waters of time to wash over us. We are looking to transform our businesses to be part of a very different energy future.” Michael Tholen

Visualising net zero

Our Deloitte Decarbonisation Solutions platform helps organisations to answer their net zero questions. It uses data visualisation to show organisations the different abatement options they have, and some of the physical risks they need to think about. It can also assist them in determining the right investment programme.

The Academy panel on...

■ ... calculating emissions from purchased goods and services:

Paul: “It is about the data you have, using assumptions and being clear on what they are, engaging with your suppliers and asking them what information they have, and building that up over time. It requires a partnering mentality.”

Jason: “For a couple of our key drug suppliers we have already started those engagements. We are potentially looking at energy and natural resource audits to identify efficiencies and improvements they can make.”

■ ...hydrogen:

Michael: “At this moment the UK, with all due respect, is struggling to move from a cottage industry on hydrogen. We are seeing an acceleration in ambition and some real work being done between the government and industries across the UK through the Hydrogen Council, which is due to report on a hydrogen strategy in late Q1 or early Q2.

“Our ambition as an industry is that government hydrogen policies will offer something like 50 terawatt-hours of hydrogen by the early 2030s, then 250 terawatt-hours, which is the ambition the Climate Change Committee has, with methane replaced by hydrogen in the National Grid. That will take maybe to the 2040s to arrive in its entirety.

“It is going to demand bold and incisive measures by government and it is going to need the same sort of commercial enticements that we saw when we were involved in the early days of wind.”

■ ...governance:

Paul: “This is such a key issue for investors and other stakeholders and it is important that the Board is really active and holding Executive management to account. It is too important to delegate down to management.”

■ ...what makes a successful partnership:

Jason: “A common vision, a common purpose – we are on the same journey. We do have very effective relationships with our existing partners and are receptive to new partnerships as well. They are going to be critical as we look to innovate and address every single decision, bulking block or process that we have across the lifecycle of our medicines.”

■ ...employees’ emissions:

Jason: “We are looking at how we can help our employees to decarbonise their lifestyle and that will include things like their heat and power at home and their commute to work. It is all well and good having a progressive climate strategy as a company, but you need to ensure you give those opportunities to your employees so you can attract the best talent.”

■ ...whether we are moving too slowly:

Paul: “I think it is a yes and no. You need people to agitate otherwise we will not move forward, but it is obviously easier said than done. I think we are moving in the right direction. Can we move faster? Yes. We need to keep agitating and we need to work together, and it is only going to happen through partnerships.”

Key take-aways

- > Really understand your carbon footprint.
- > Decide where you want to play.
- > Make the easy changes fast.
- > Think about emissions on a systems level and build partnerships to drive change across that system.
- > Consider the levers to pull as you change your operating model.

Find out more

Slides from the session are available on the Deloitte Academy website. They contain suggestions for further reading on a range of topics related to the climate crisis.

