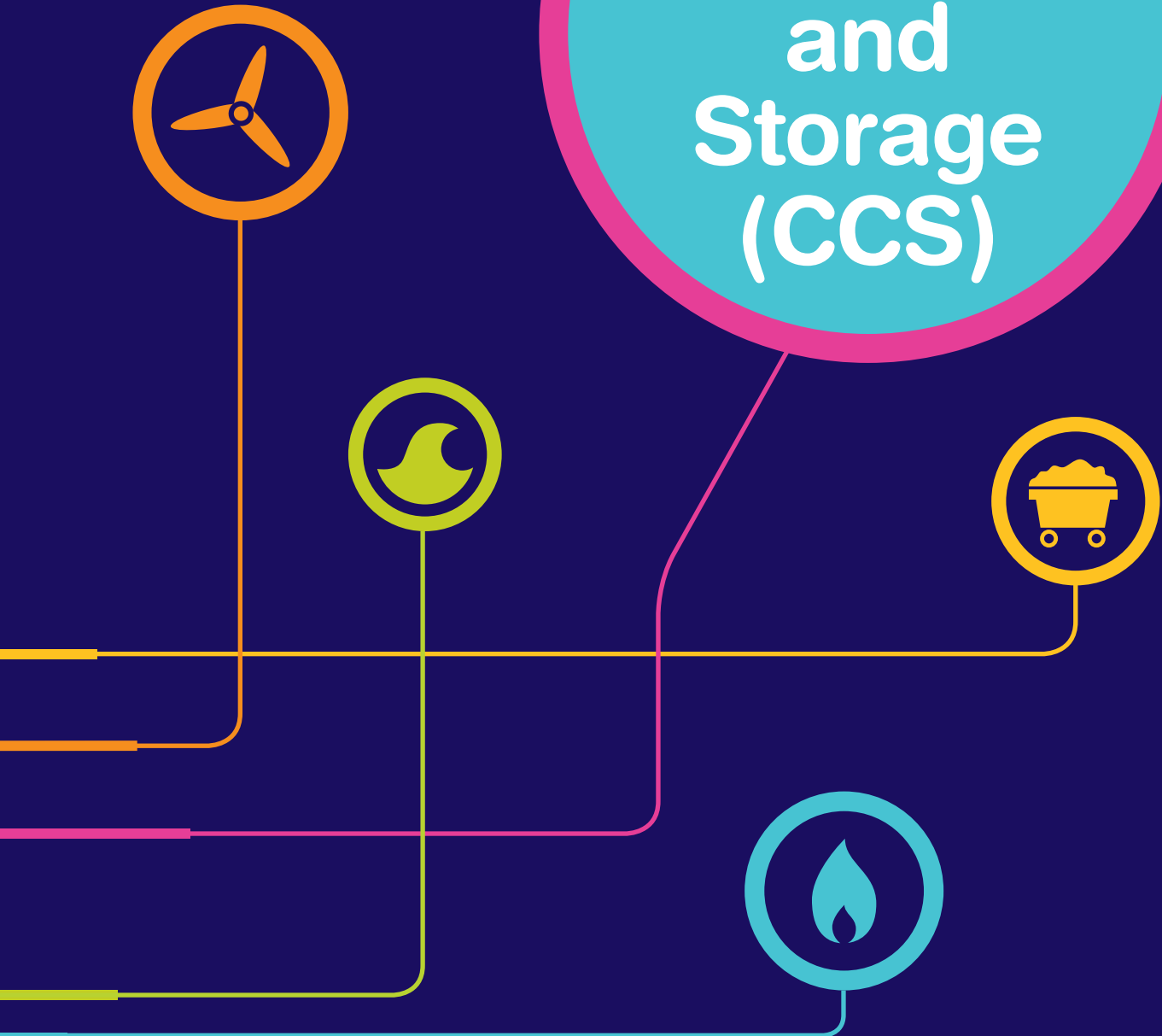


**Be the  
source**

**Carbon  
Capture  
and  
Storage  
(CCS)**



# The challenge:

The UK's legally binding Carbon Dioxide (CO<sub>2</sub>) targets\*:

- Emission reduction of 34% by 2020
- Emission reduction of 80% by 2050 (Against a 1990 baseline)

\*Climate Change Act 2008

## Why is national Grid involved in CCS?

- Aim to deliver low carbon electricity reliably and at the least cost to consumers
- International Gas and Electricity company
- Experts in pipelines – no major incidents operating the UK natural gas transmission system
- 7600 kilometre long pipeline system length with 26 compressor stations
- 100% reliability
- Aspiration to become CO<sub>2</sub> Transporter of Choice in the UK

## National Grid Carbon highlights to date:

- National Grid Carbon (NGC) began activities in 2007 following the launch of the first UK CCS demonstration competition
- One of a few companies successful in attracting multiple public funding
- DECC Front-End Engineering and Design (FEED)
- European Energy Programme for Recovery (EPR)
- Built up a reputation as a CCS industry leader
- Runner up for the Gas Industry Company of the Year Award by IGEM
- Entered numerous agreements with emitters and potential storage partners

## Challenges for an emerging industry:

- Requirement to ensure projects are commercially viable in the medium term
- Cost of carbon emissions must provide an incentive to invest in these projects
- How will clean energy be funded? CCS could be cheaper than other forms of decarbonisation and help minimise change to consumer bills
- As the Stern review (2006) suggested: a coordinated approach is required, sharing knowledge and information to speed up the widespread deployment of this technology
- Requirement for first demonstration to be in operation by 2015
- Need to apply CCS to coal AND gas fired power stations
- Storage liabilities – how can these be managed?
- Need to increase public awareness

A potential annual reduction of **78 million tonnes** of carbon dioxide

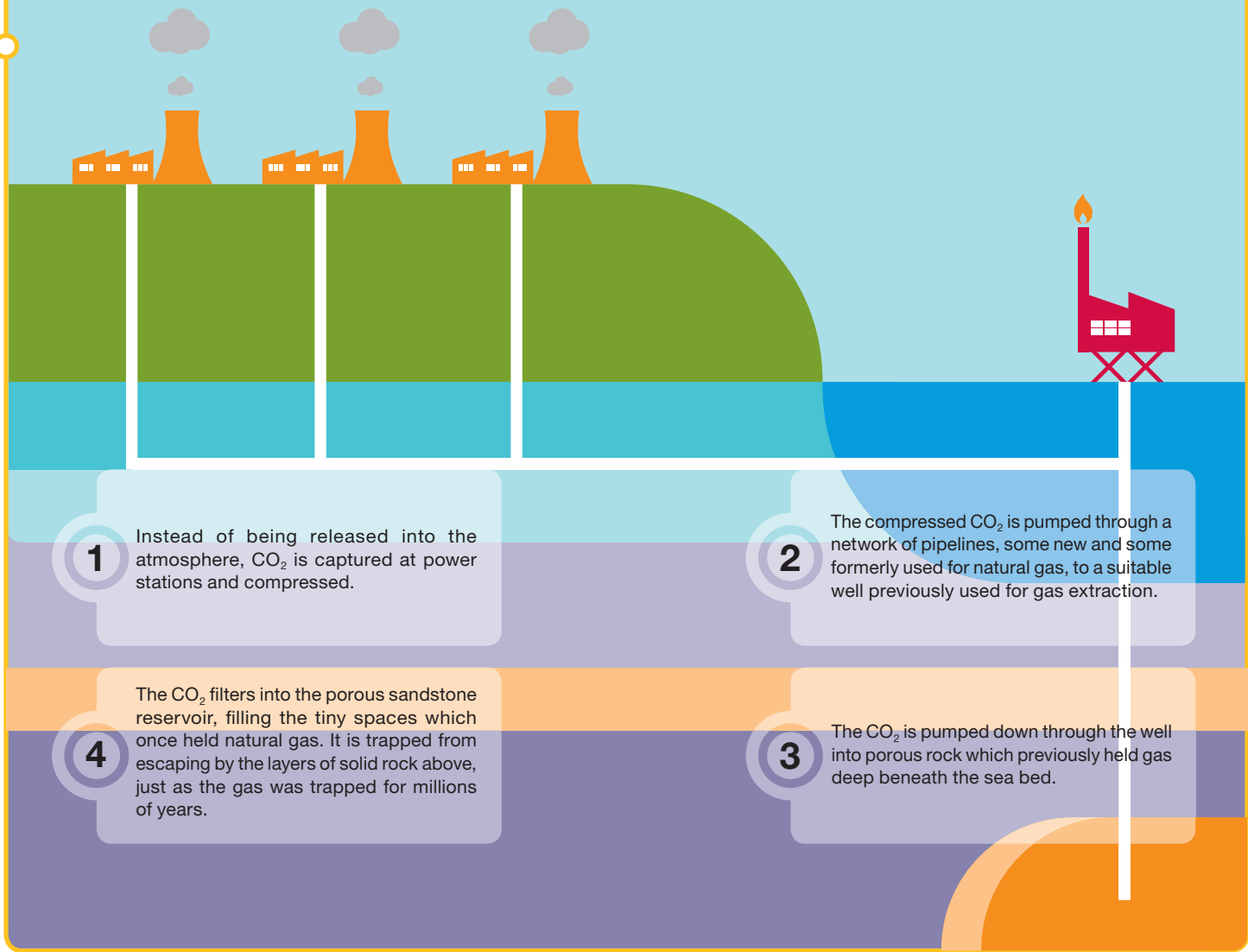
### CCS methodology:

National Grid is investigating the possibility of transporting carbon dioxide from power stations and heavy industry to storage sites offshore. This could result in an annual reduction of 78million tonnes of carbon dioxide going into the atmosphere.

“Successful demonstrations would provide a valuable option alongside renewable and nuclear for supporting the required decarbonisation of the power sector out to 2030” David Kennedy, CEO of The Committee on Climate Change (CCC).

“CCS represents a massive opportunity for the UK – for jobs, for development and for our economy. This sector could be worth £3bn by 2020 in the UK alone” Chris Huhne Minister for Energy.

### Carbon capture and storage process flow diagram





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**Securing our energy supply for future generations**

