



30 YEARS 1989-2019

GLOBAL LEADERSHIP IN **NUCLEAR SAFETY**

New Unit Assistance



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GLOBAL LEADERSHIP IN NUCLEAR SAFETY

Alex Polyakov

Member support Programme Director of WANO London Office

65th Anniversary of Nuclear industry

Obninsk

27 April 2019





About WANO
<https://www.wano.info>



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WANO Programmes



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The image shows a screenshot of the WANO website. The header is dark blue with the WANO logo and tagline 'GLOBAL LEADERSHIP IN NUCLEAR SAFETY' on the left, and navigation links 'About Us', 'Members', 'Offices', and 'Services' on the right. The main content area features a dark blue background with a cityscape at night. It includes the text 'WORLD ASSOCIATION OF NUCLEAR OPERATORS' in a dark blue box, followed by 'ACHIEVING THE HIGHEST POSSIBLE STANDARDS OF NUCLEAR SAFETY' in large white text. At the bottom, there are two white rounded rectangular buttons: 'Our mission' and 'Watch our video'.

440+

reactors in
operation

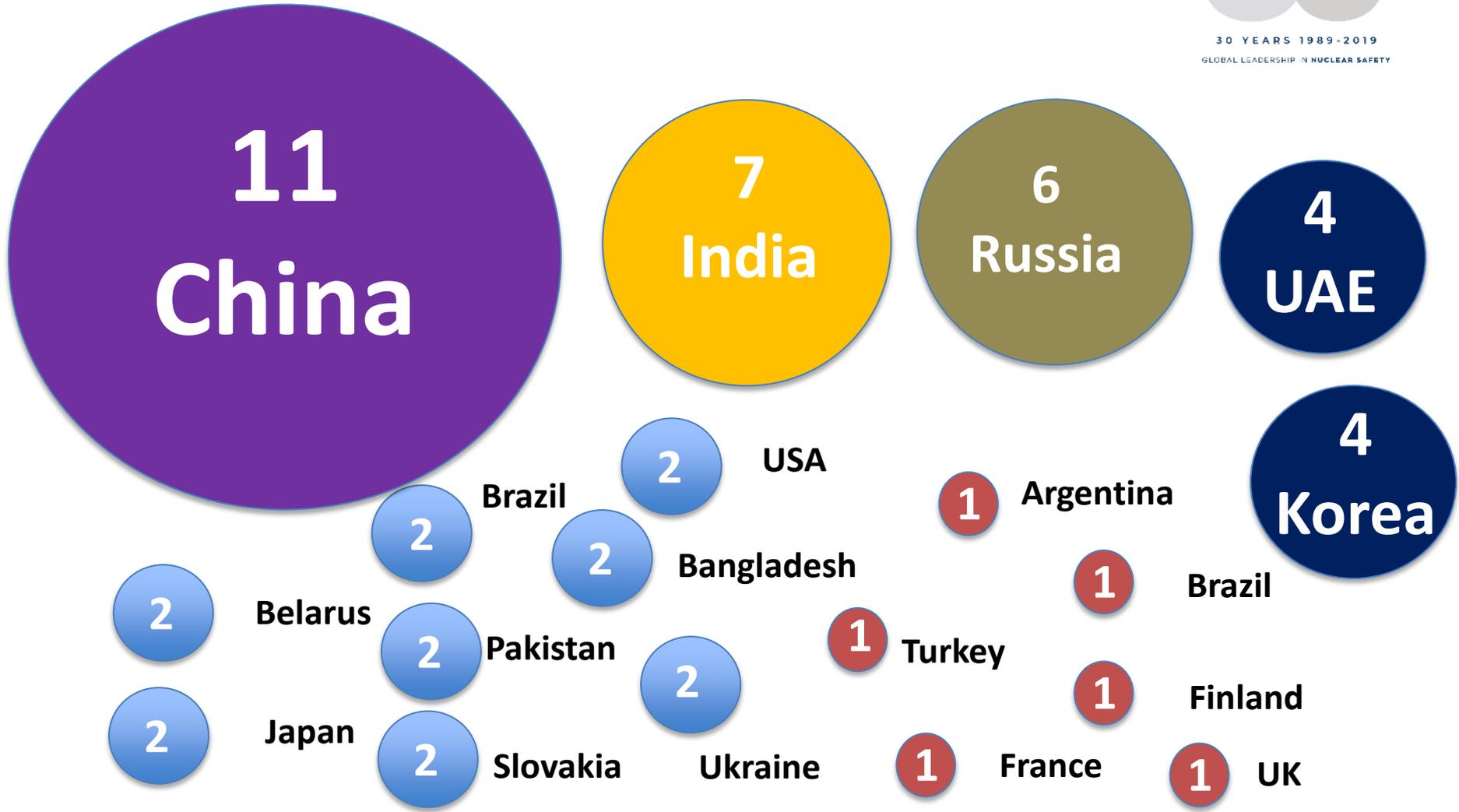
11%

of world's
electricity

>30%

of world's
low-carbon
electricity

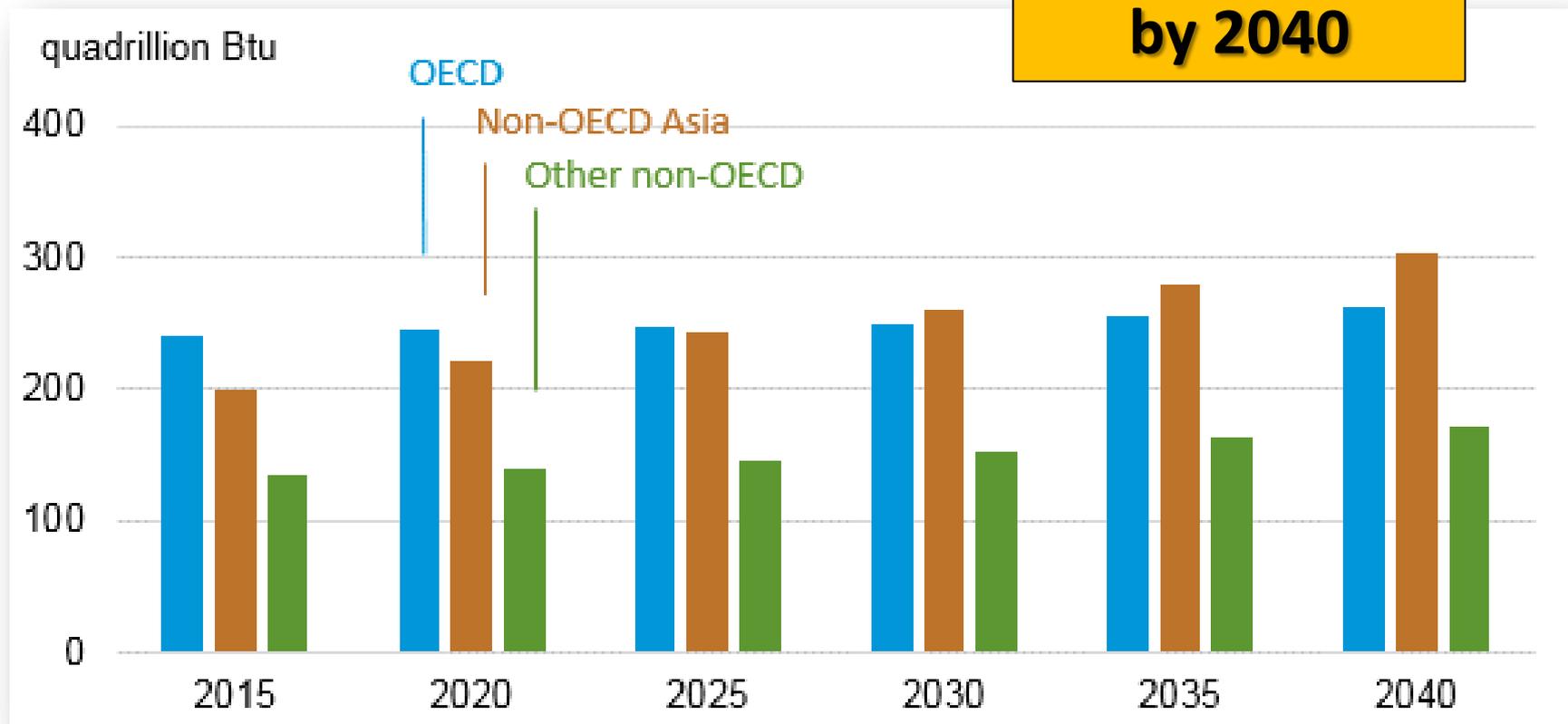
54 Reactors Under Construction



Source: IAEA PRIS Database, June 2019

Future Energy Demand

**28% increase
by 2040**



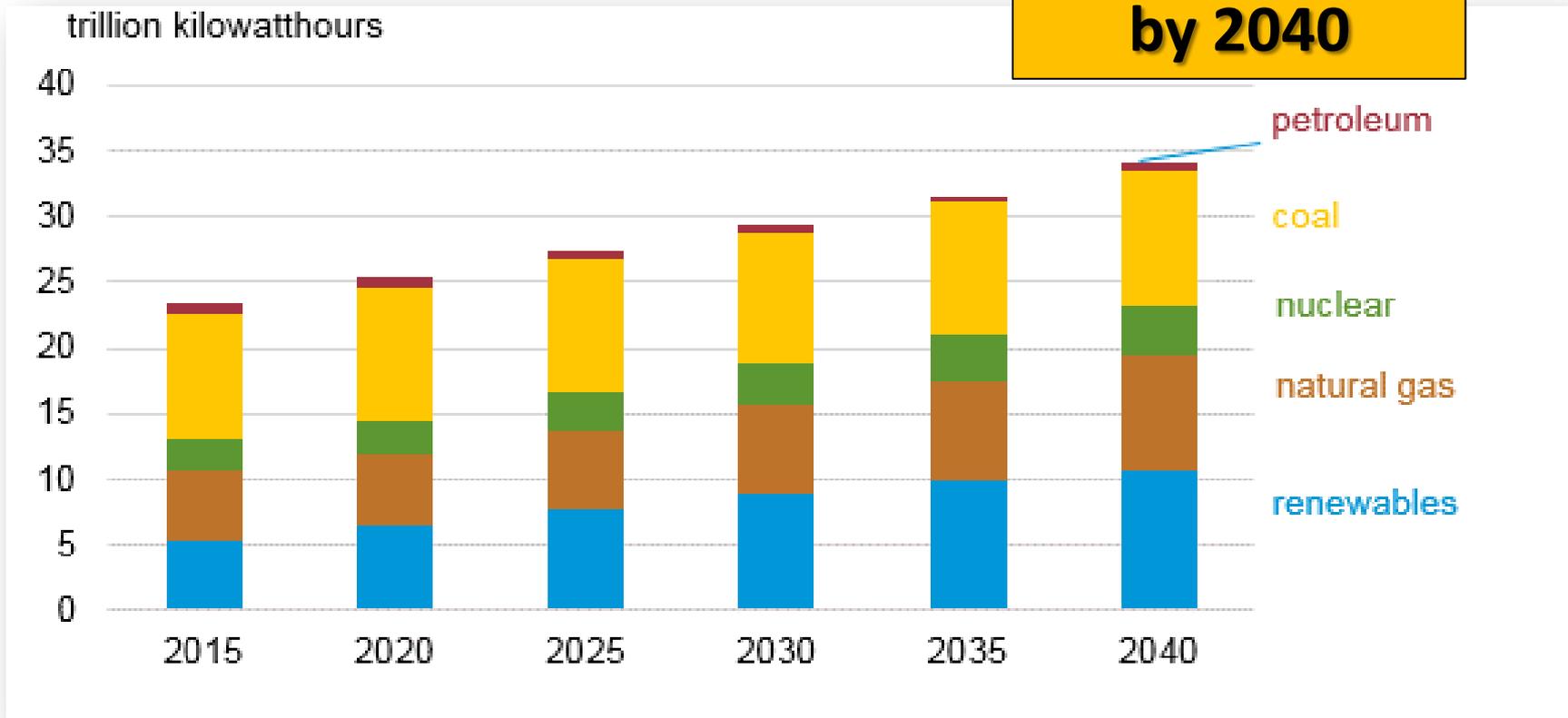
Source: US Energy Information Administration, *International Energy Outlook 2017*

Future Electricity Demand



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**45% increase
by 2040**



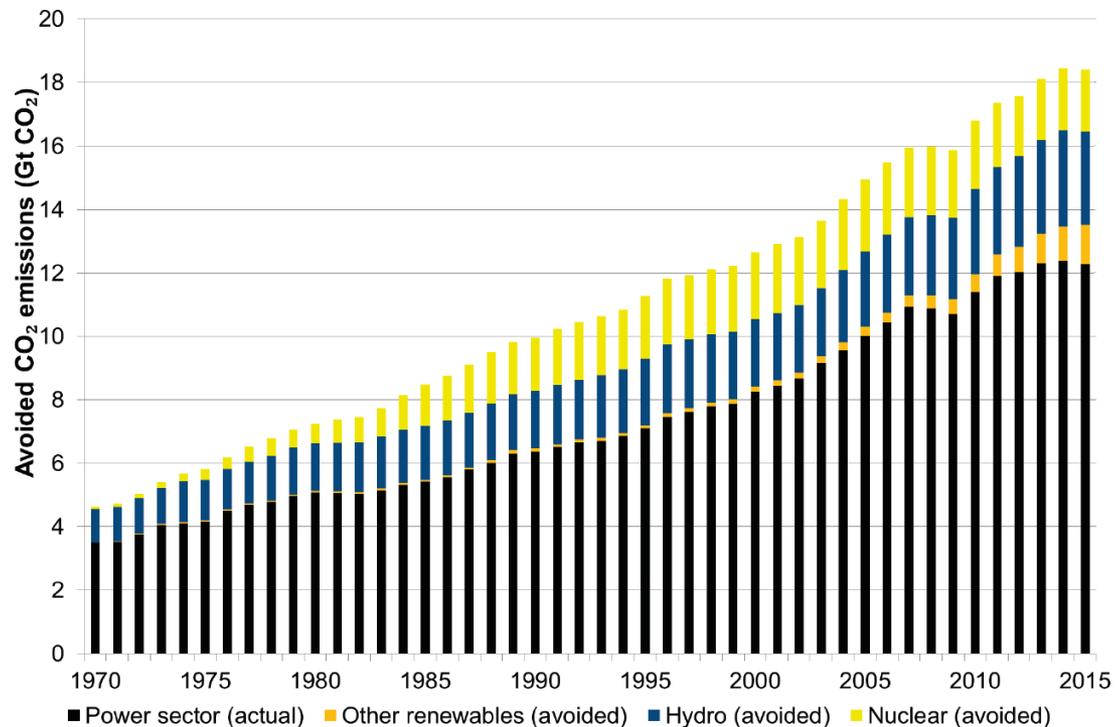
Source: US Energy Information Administration, *International Energy Outlook 2017*

Nuclear as Low-Carbon Technology



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Life cycle greenhouse gas emissions from low-carbon electricity sources



Nuclear power, is among the lowest greenhouse gas emitters – together with hydropower, and it is the most reliable source of base-load energy

Source: IAEA Sept 2018 Report *Climate change and Nuclear Power*

UK National Power Grid status

<https://www.gridwatch.templar.co.uk/>

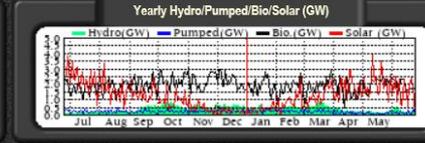
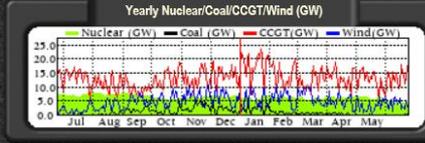
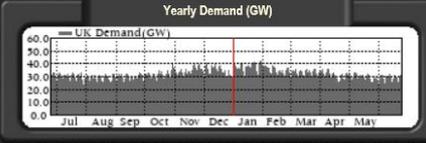
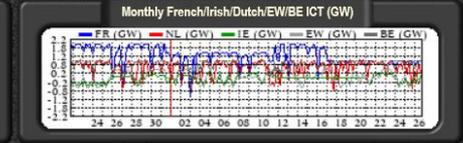
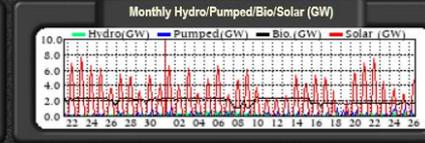
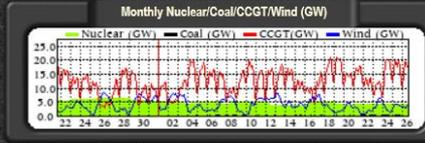
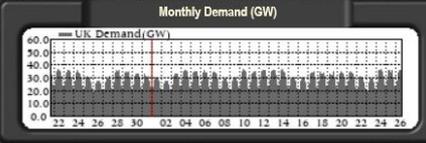
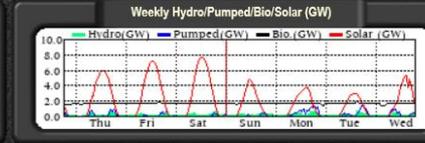
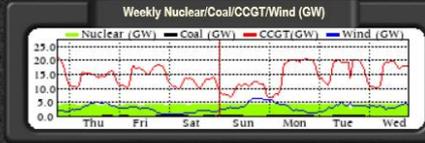
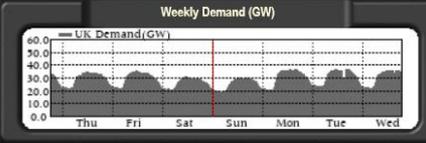
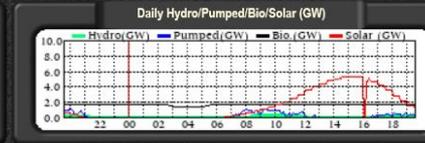
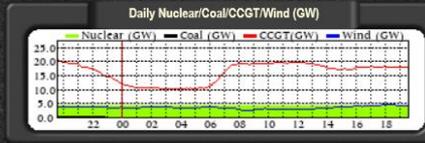
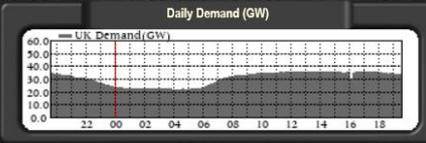


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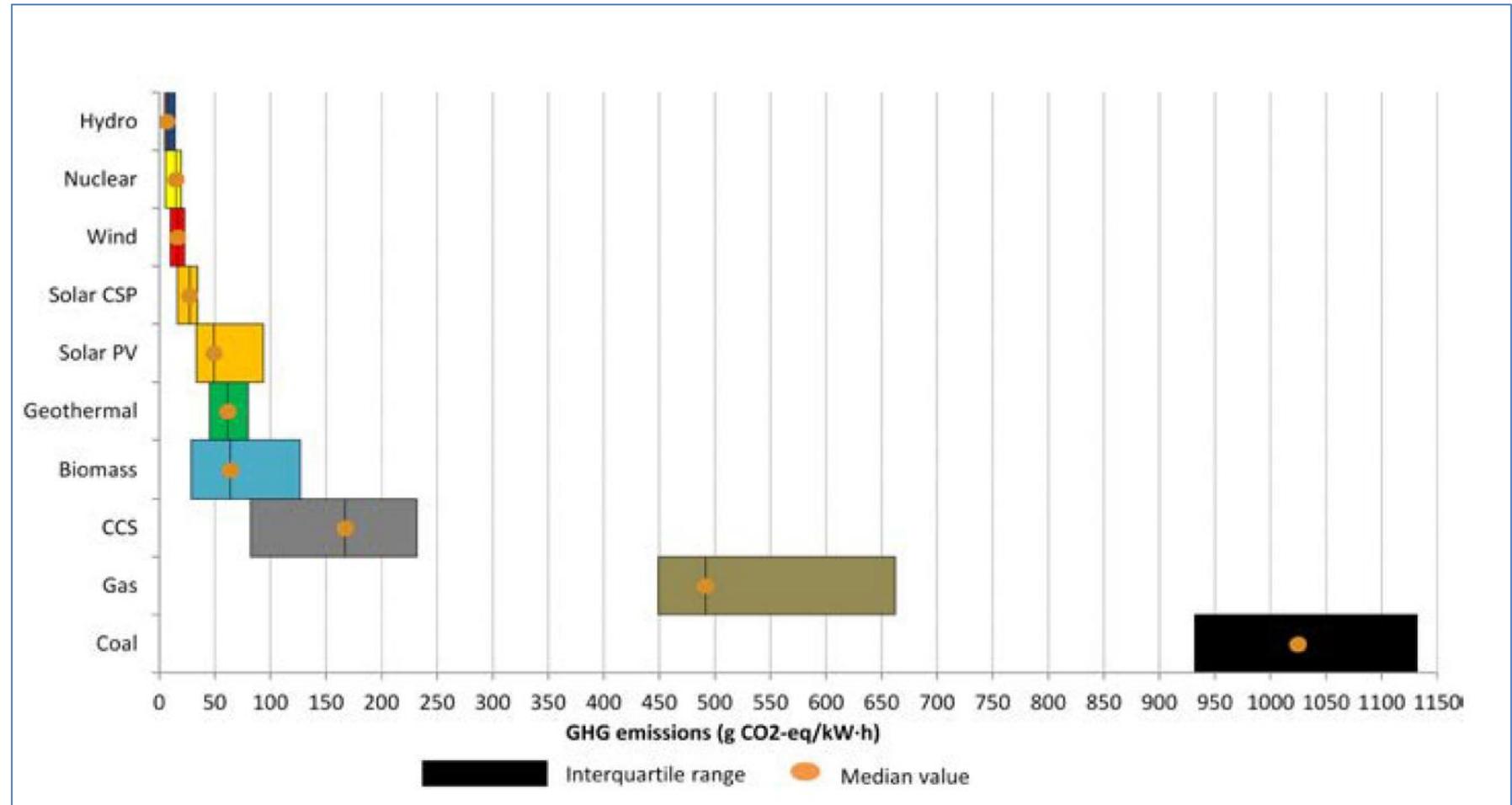
G.B. National Grid Status

Data courtesy of Elexon portal and Sheffield University



Data last recorded on Wednesday the 26th. of June, 2019 at 19:35 BST

GHG Emissions from electricity generation



Data source: IAEA calculations

The Lessons of Fukushima



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Three nuclear accidents have influenced the discontinuation of nuclear power: the 1979 Three Mile Island partial nuclear meltdown in the United States, the 1986 Chernobyl disaster in the USSR, and the 2011 Fukushima nuclear disaster in Japan.

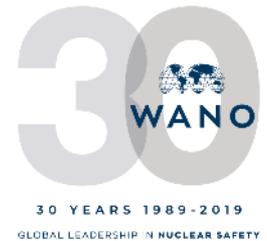
Countries including Australia, Austria, Denmark, Greece, Ireland, Italy, Latvia, Liechtenstein, Luxembourg, Malaysia, Malta, New Zealand, Norway, Philippines, and Portugal have no nuclear power stations and remain opposed to nuclear power.

Belgium, Germany, Spain and Switzerland are **phasing-out nuclear power**.

Globally, more nuclear power reactors have closed than opened in recent years.



Concluding Thoughts



- Nuclear energy is vital to meet the world's growing need for electricity in an environmentally friendly way.
- A strong nuclear safety culture must permeate all aspects of our business to earn public confidence and preserve this important energy source.
- Safety improvements are costly, but accidents are profoundly costly and can bankrupt a company.
- Lessons from Fukushima have to make our already safe facilities even more robust.
- As you are Nuclear Leaders, the safety begins with you.
- WANO has a set of mature programmes to support you on the way to excellence and we are here to help!



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THANK YOU FOR LISTENING

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