

The Nuclear4 Climate initiative

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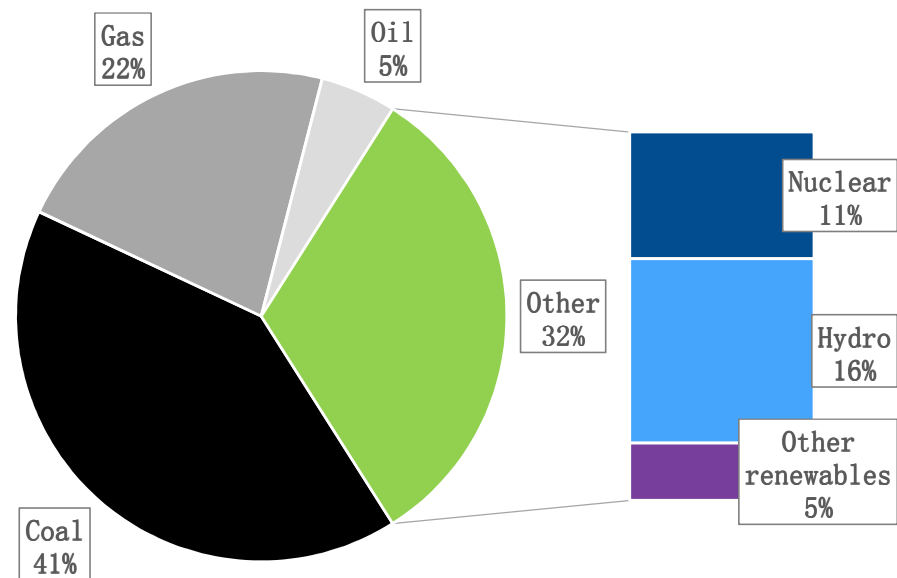
To limit the temperature increase below 2° C in 2050..

..at least 80% of the world's electricity must be low-carbon by 2050.

Source: IPCC WG1 2014

Today, only 30%

2013 world electricity generation by source



Source: AIE-WEO 2014

This global challenge requires all available low-carbon energy technologies.



Energy efficiency will not be sufficient: the electricity demand will double by 2050

By 2050:

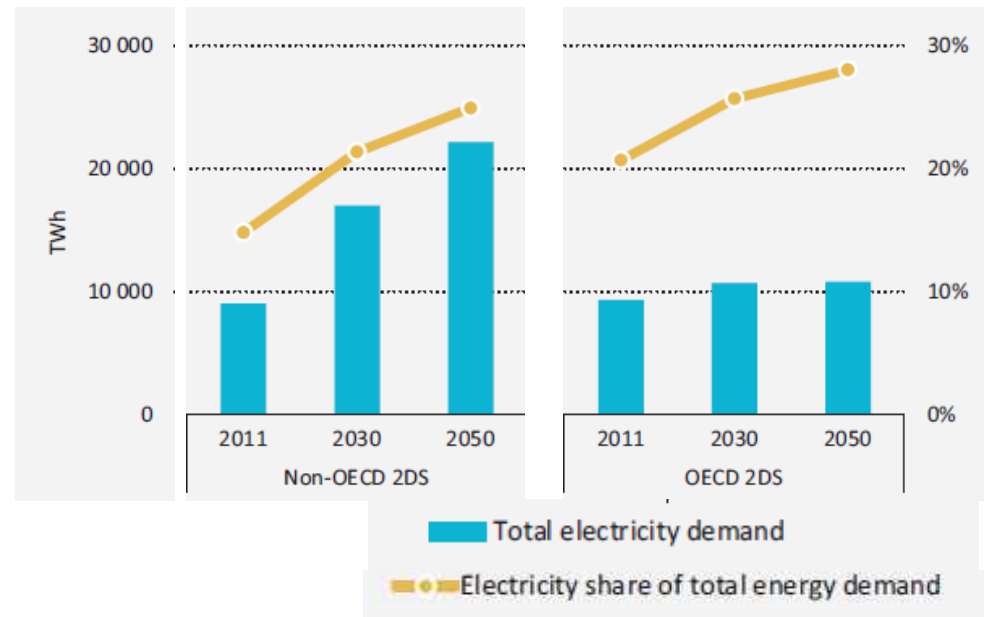
World's population will be **9.6**
billion

Today:

- ✓ 1.2 billion people do not have access to electricity
- ✓ 2.8 billion use wood for cooking and heating

Source: UN, World Bank

Electricity demand and share of electricity (IEA)



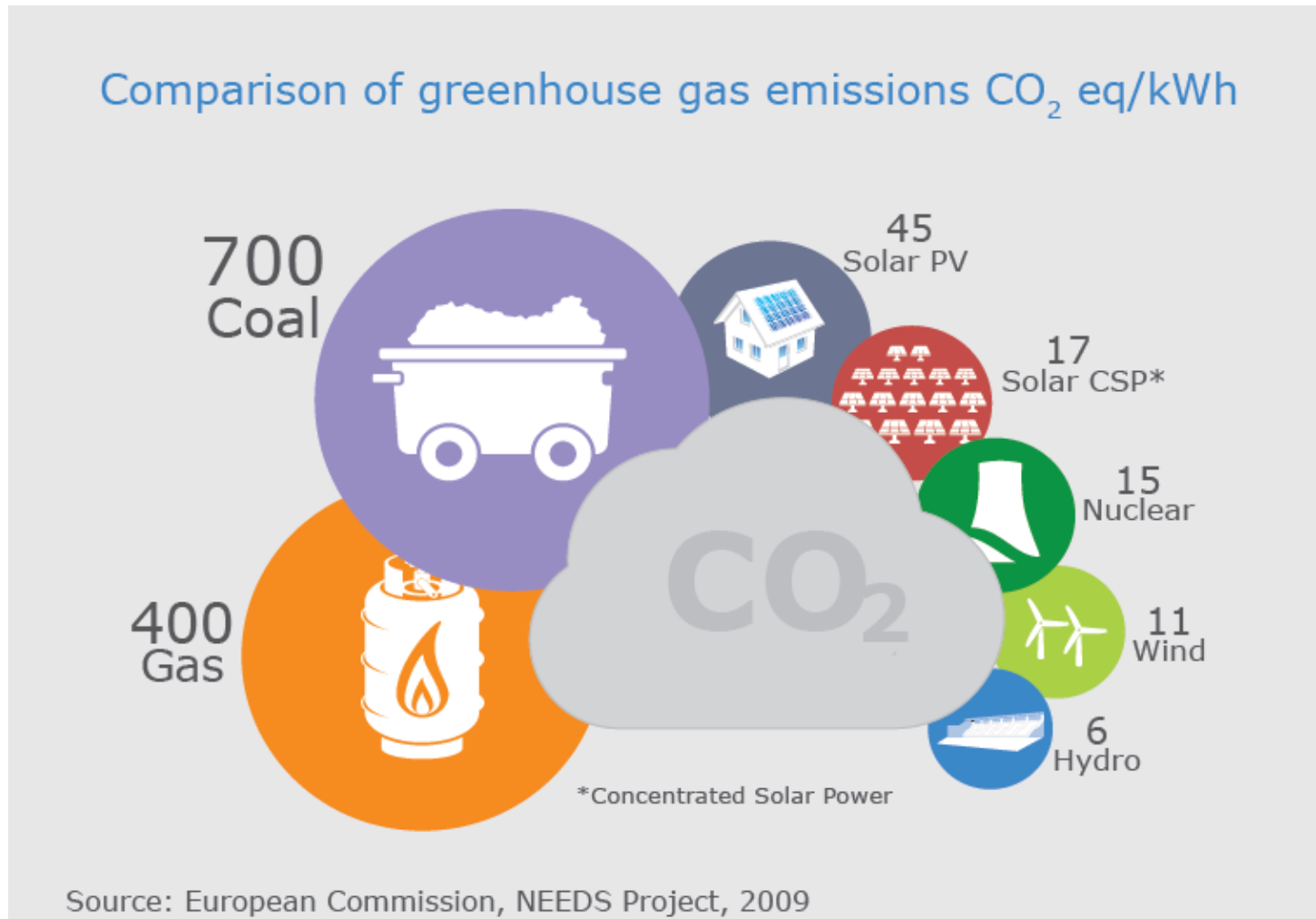
- ✓ Strong demand from non-OECD countries
- ✓ Increased share of electricity in the overall energy mix

Source: AIE-AEN Technology roadmap 2015

The fight against climate change should not jeopardize
development



The IPCC identifies three types of carbon-free electricity: renewables, nuclear and CCS (Carbon Capture & Storage).

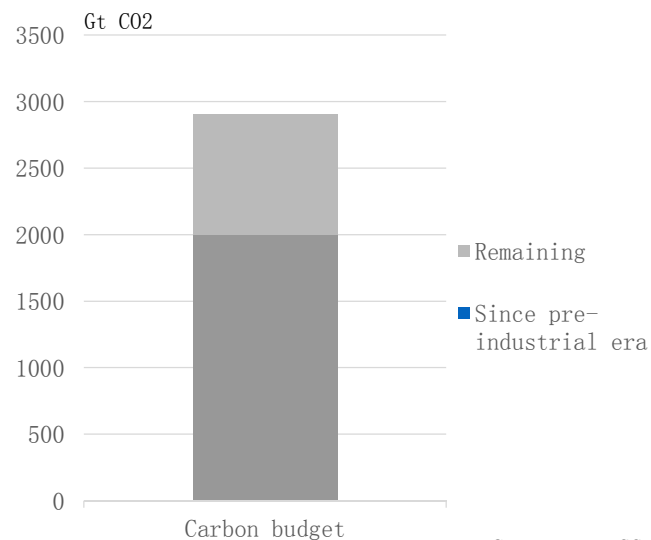


The amount of CO₂ emitted by nuclear energy is comparable to that of renewables

It is urgent to use now all available low-carbon energy sources

70% of the carbon budget has been consumed

if we are to contain warming to 2° C.



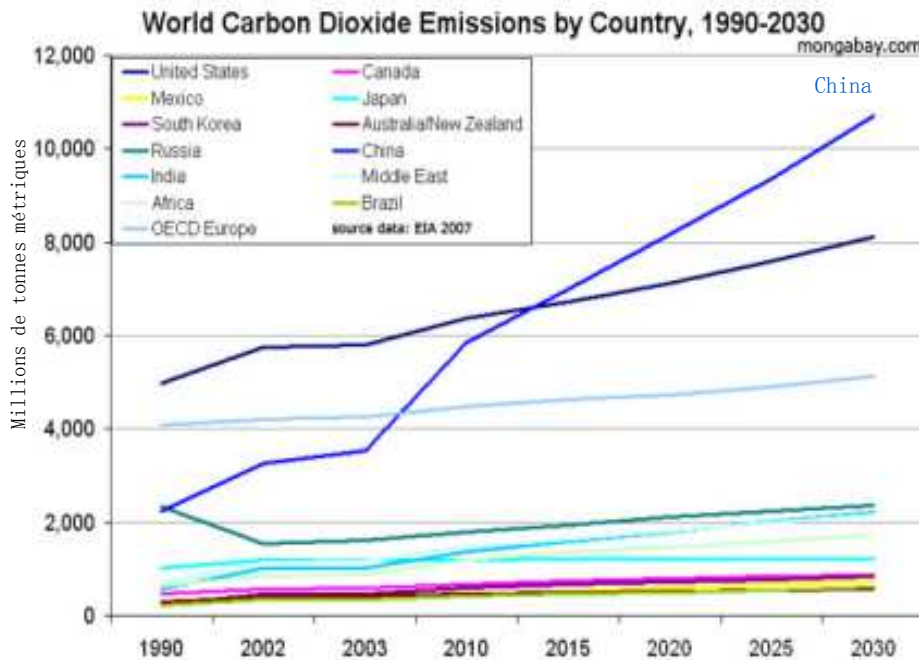
Source: IPCC

ACT NOW
LIMITED TIME OPPORTUNITY

We cannot wait for future technologies



CHINA: INCREASING EFFORTS TO TACKLE CLIMATE CHANGE



- 1st world CO₂ emitter: 11 MdT in 2014.
- However, 7.4T/hab vs 16.4T/hab for USA.

▪ China declaration for COP21:

- Peak CO₂ emissions in 2030, if not earlier
- Reduce fossil fuel consumption to 20% by 2030

Efficient “clean coal”. April 2015;





- coal consumption has fallen, by 8% year-on-year.
- minus 5% drop year-on-year in CO₂ emissions

Nuclear energy is available, low-carbon, proven and efficient

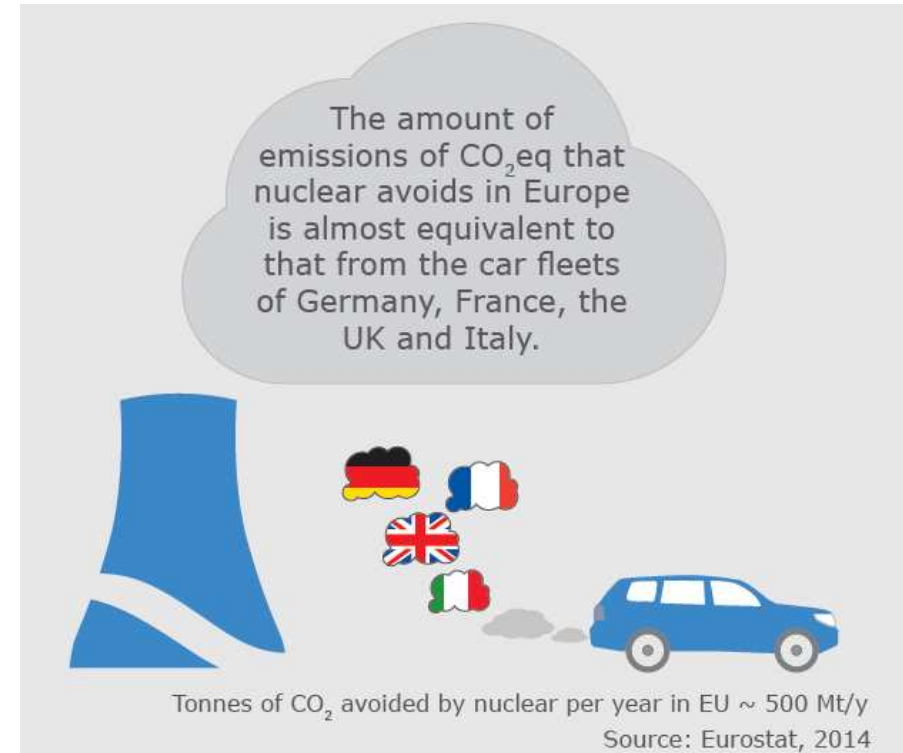
438 nuclear reactors in operation in 30 countries.

63 GW in France, 200 GW in China by 2030

Today, only 6 countries above 80% goal of low-carbon electricity, 4 of them have nuclear.

	Sweden	40% nuclear
	Switzerland	40% nuclear
	France	75% nuclear
	Brazil	2 nuclear reactors

Source: IAEA, IEA



Since 1971 nuclear power has avoided the release of the equivalent of 2 years of CO₂ emissions.

By 2040, nuclear power should save the equivalent of 4 years of CO₂ emissions.

Source: WEO 2014



Very few scenarios enable to limit warming below 2° without nuclear



IPCC WG3: only 8 scenarios out of 1 200 show limitation below 2° and nuclear phase-out.

"There is no credible way to climate stabilization that does not include an important role for nuclear energy... we cannot afford to turn our back on any technology".

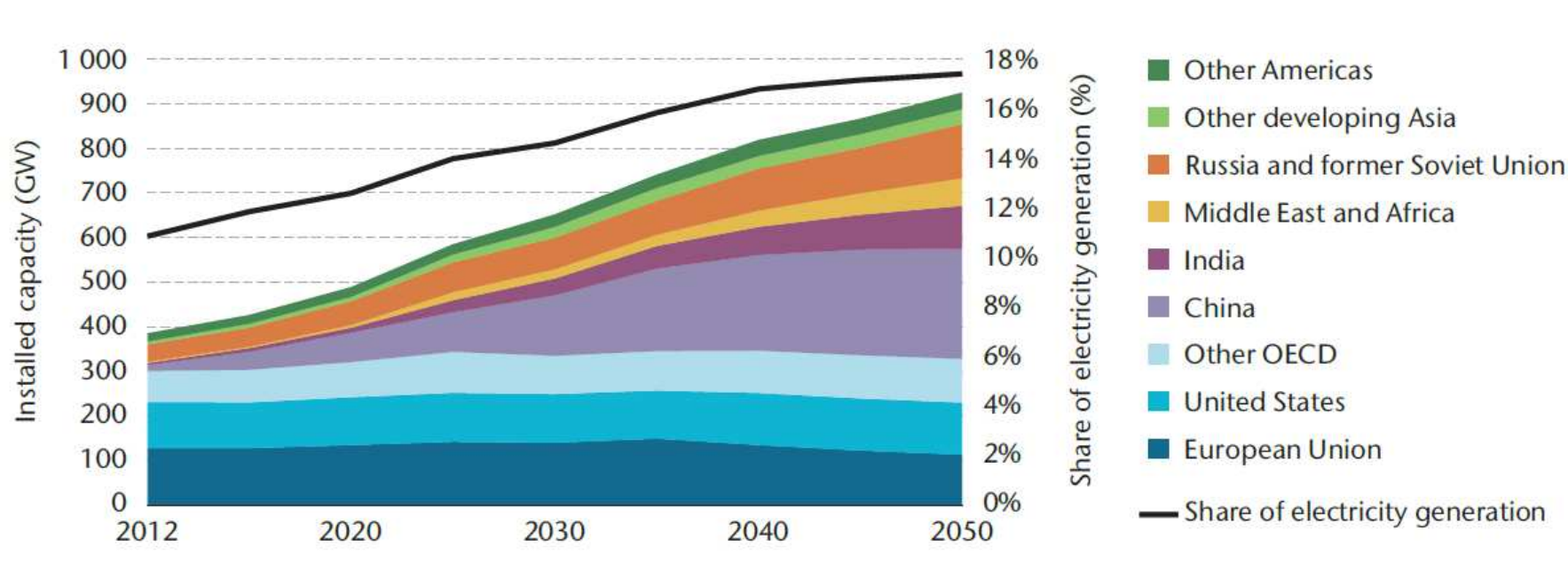
Open letter from environmentalists, Washington Post, Oct 2013

Every country must have access to the largest portfolio of low-carbon technologies, including nuclear



Most scenarios limiting increase to 2° C show a very significant contribution of nuclear energy

IEA Scenario 2DS: Installed capacity by country



Source: IEA technology roadmap, Jan 2015

- ✓ **Gross nuclear capacity should double** by 2050, from 400 GWe to 930 GWe.
- ✓ Share of nuclear power in the global energy mix to increase from 11% to **17%**.
- ✓ Stability in OECD (long time operations), and strong growth in BRICs & Middle East: 70+ reactors being constructed WW



Access to climate funding mechanisms necessary for nuclear

UNFCCC Kyoto Protocol

Nuclear energy **discriminated against** within the Marrakesh Accords (2002)



« Parties.. should refrain from using credits (from CDM¹ or JI² projects) generated from nuclear facilities to meet their commitments³ » -

¹ Clean Development Mechanisms

² Joint Implementation projects

³ emission targets agreed under the Kyoto protocols

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UNFCCC Protocols must allow countries who wish to use nuclear energy to **have access to climate change financing, as for all other low-carbon energy sources.**



A joint statement in ICAPP, Nice, May 4, 2015



“WE PROUDLY BELIEVE THAT NUCLEAR ENERGY
IS A KEY PART OF THE SOLUTION IN THE FIGHT AGAINST CLIMATE CHANGE”



39 nuclear societies
50,000 scientists
36 countries



MERCI !



@Nuclear4Climate

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