

The Post-COP21 World: Rethoric vs. Action

BELLONA
E U R O P A

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Kiev

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From pollution to solution!





Good COP/Bad COP?



RESULT of
more than
23 YEARS of
international
attempts under
the UN to forge
COLLECTIVE
ACTION on
global climate
change



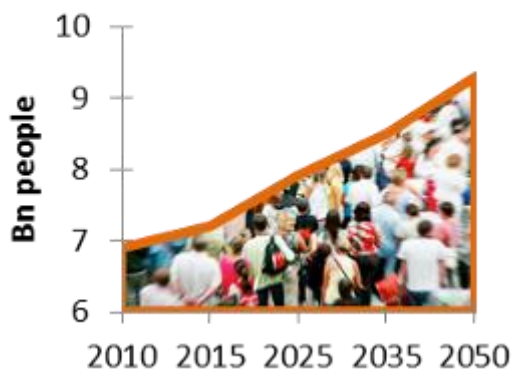




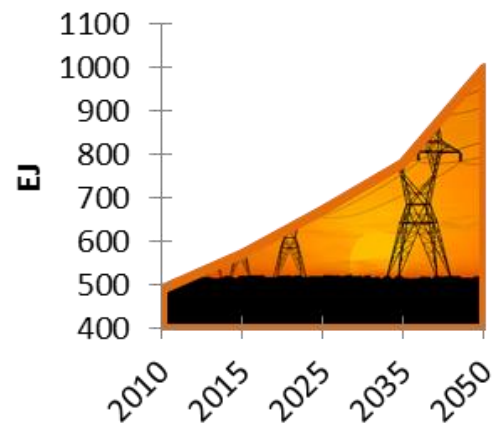
“achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.”



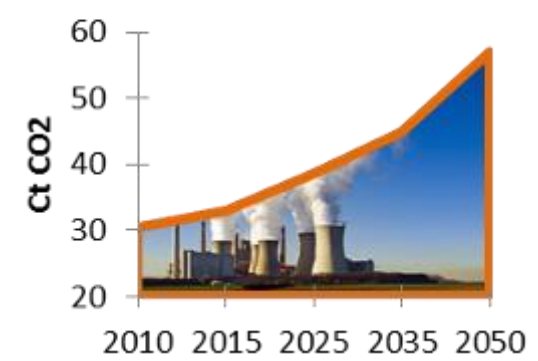
Population



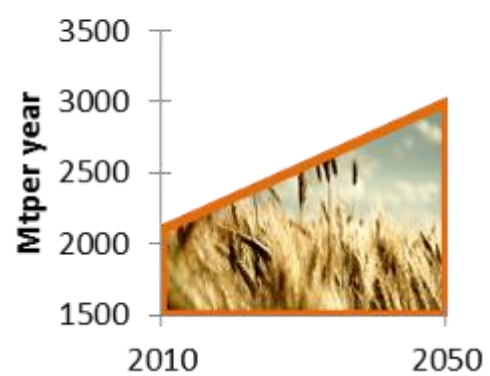
Energy consumption



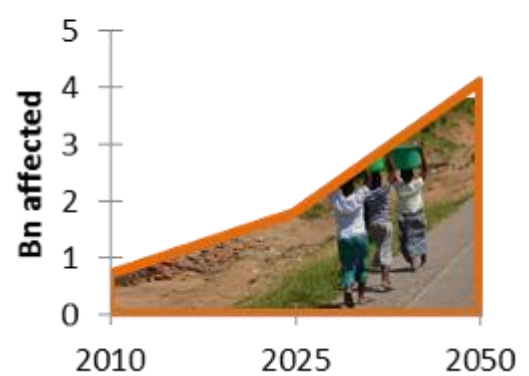
Energy-related CO2 emissions



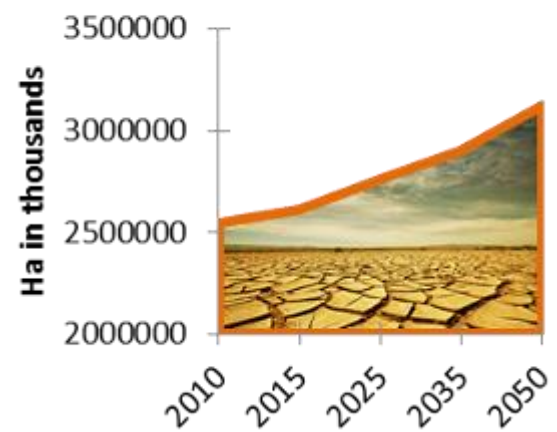
Demand for cereal



Water scarcity



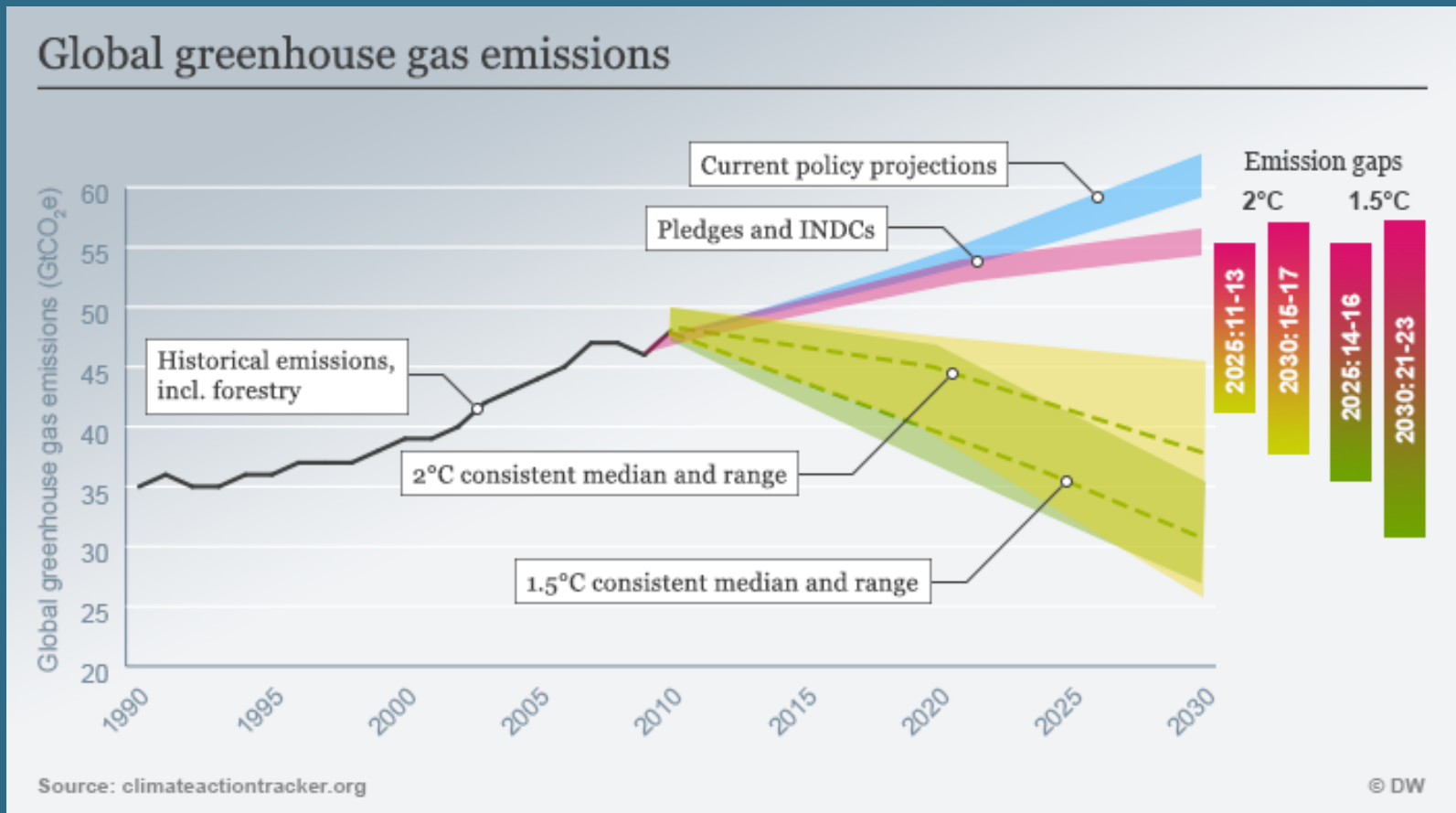
Arid areas





Toward COP21 – the shift in approach

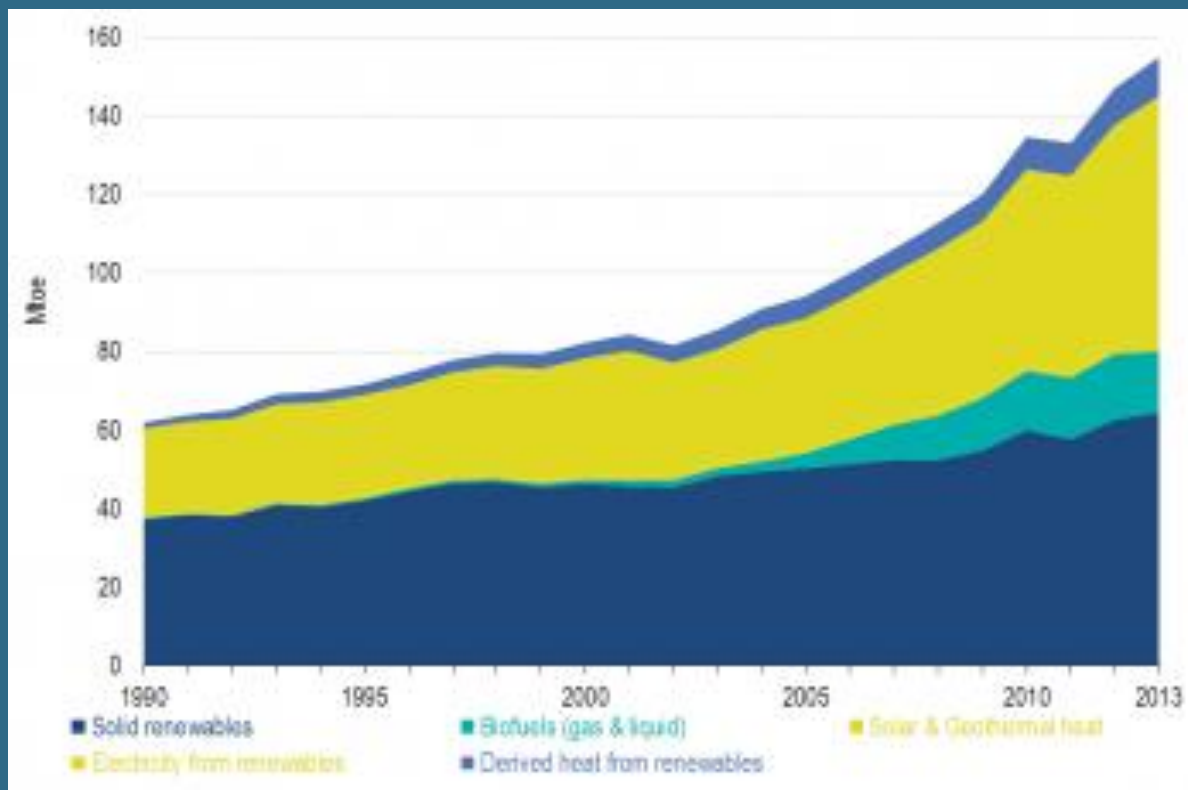
- A voluntary approach – can it work?





Toward COP21: voluntary pledges

- EU REDs (Renewable Directives): 2001 vs. 2009



- Can this be extrapolated to climate pledges?



Finance & technology are the keys

- **India: 300M without energy access**
- **South Africa: constitutionally obliged**
- **EU as example: 2030 Target of 40 %**
- **Modernisation Fund: the “Polish bribe”**
- **We Must Bring Down Cost of Technology**



— THAT'S THE IDEA BEHIND THE — GREEN CLIMATE FUND

A United Nations fund set up in 2010 to:



RAISE MONEY FROM RICH
COUNTRIES



WITH A STATED GOAL OF
\$100 BILLION PER YEAR BY
2020



AND TRANSFER THAT MONEY TO
POORER COUNTRIES TO HELP
PAY FOR CLIMATE ACTION.





ipcc
INTERGOVERNMENTAL PANEL ON
climate change



“Many models cannot reach about 450 ppm CO₂eq concentration by 2100 in the absence of CCS”

ipcc
INTERGOVERNMENTAL PANEL ON
climate change



“CDR technologies such as BECCS are fundamental to many scenarios that achieve low-CO₂eq concentrations”

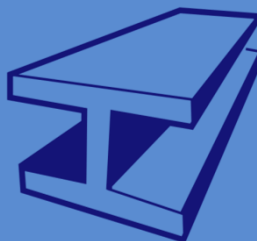
Carbon-Negative



Cement



Steel



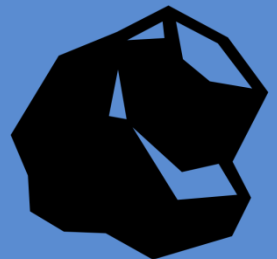
Refining & Chemicals



Gas



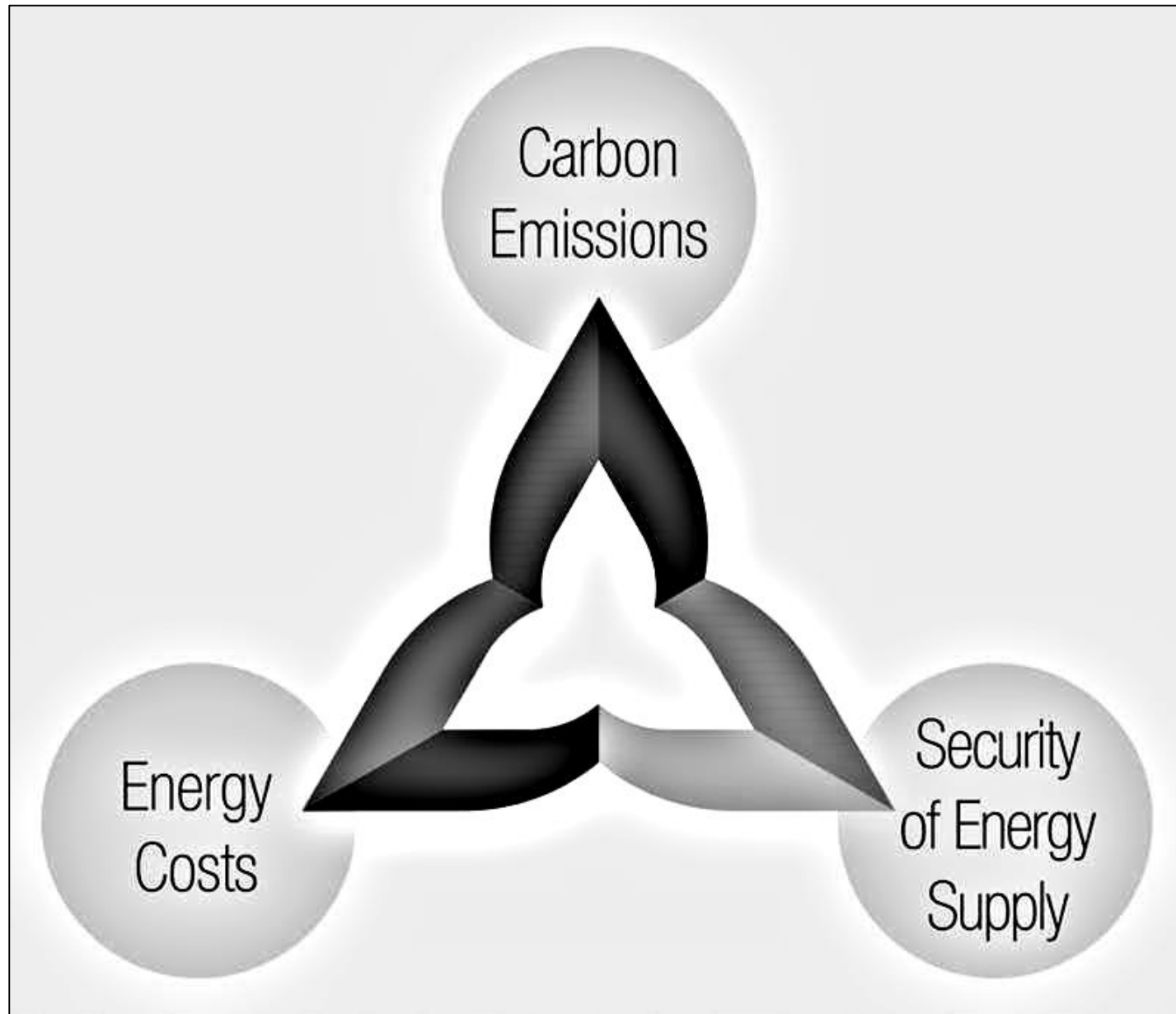
Coal



IPCC: No CCS ≈ 2 x cost to attain 450ppm / 2 degree target

	Consumption losses in cost-effective scenarios ¹				Increase in total discounted mitigation costs in scenarios with limited availability of technologies			
	[% reduction in consumption relative to baseline]			[percentage point reduction in annualized consumption growth rate]	[% increase in total discounted mitigation costs (2015–2100) relative to default technology assumptions]			
2100 Concentration [ppm CO ₂ eq]	2030	2050	2100	2010–2100	No CCS	Nuclear phase out	Limited Solar/Wind	Limited Bioenergy
450 (430–480)	1.7 (1.0–3.7) [N: 14]	3.4 (2.1–6.2)	4.8 (2.9–11.4)	0.06 (0.04–0.14)	138 (29–297) [N: 4]	7 (4–18) [N: 8]	6 (2–29) [N: 8]	64 (44–78) [N: 8]
500 (480–530)	1.7 (0.6–2.1) [N: 32]	2.7 (1.5–4.2)	4.7 (2.4–10.6)	0.06 (0.03–0.13)	N/A	N/A	N/A	N/A
550 (530–580)	0.6 (0.2–1.3) [N: 46]	1.7 (1.2–3.3)	3.8 (1.2–7.3)	0.04 (0.01–0.09)	39 (18–78) [N: 11]	13 (2–23) [N: 10]	8 (5–15) [N: 10]	18 (4–66) [N: 12]
580–650	0.3 (0–0.9) [N: 16]	1.3 (0.5–2.0)	2.3 (1.2–4.4)	0.03 (0.01–0.05)	N/A	N/A	N/A	N/A

The EU climate/energy 'trilemma'





Indigenous fossil energy resources in Europe is in large part coal and lignite.

Together they constitute more than 80% of EU fossil reserves.

**Poland reserves: Hard coal \approx 19.1 billion tonnes
Mineable lignite \approx 1.6 billion tonnes.**

“Due to the large climate cost of coal, any significant use of the

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World's richest
sovereign wealth fund

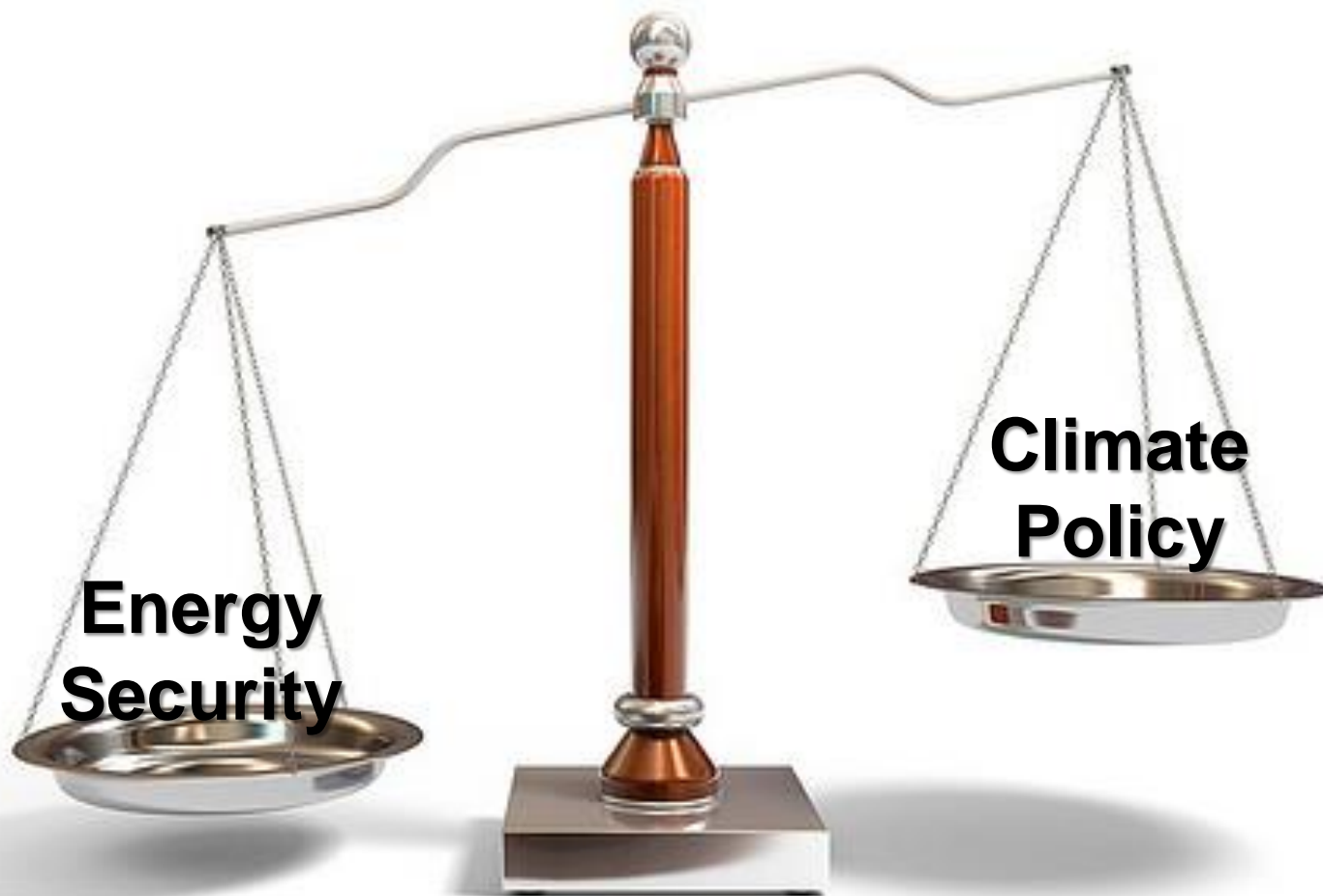
**NORWAY DUMPS
COAL & TAR SAND COMPANIES
BECAUSE OF HIGH RISK TO CLIMATE**

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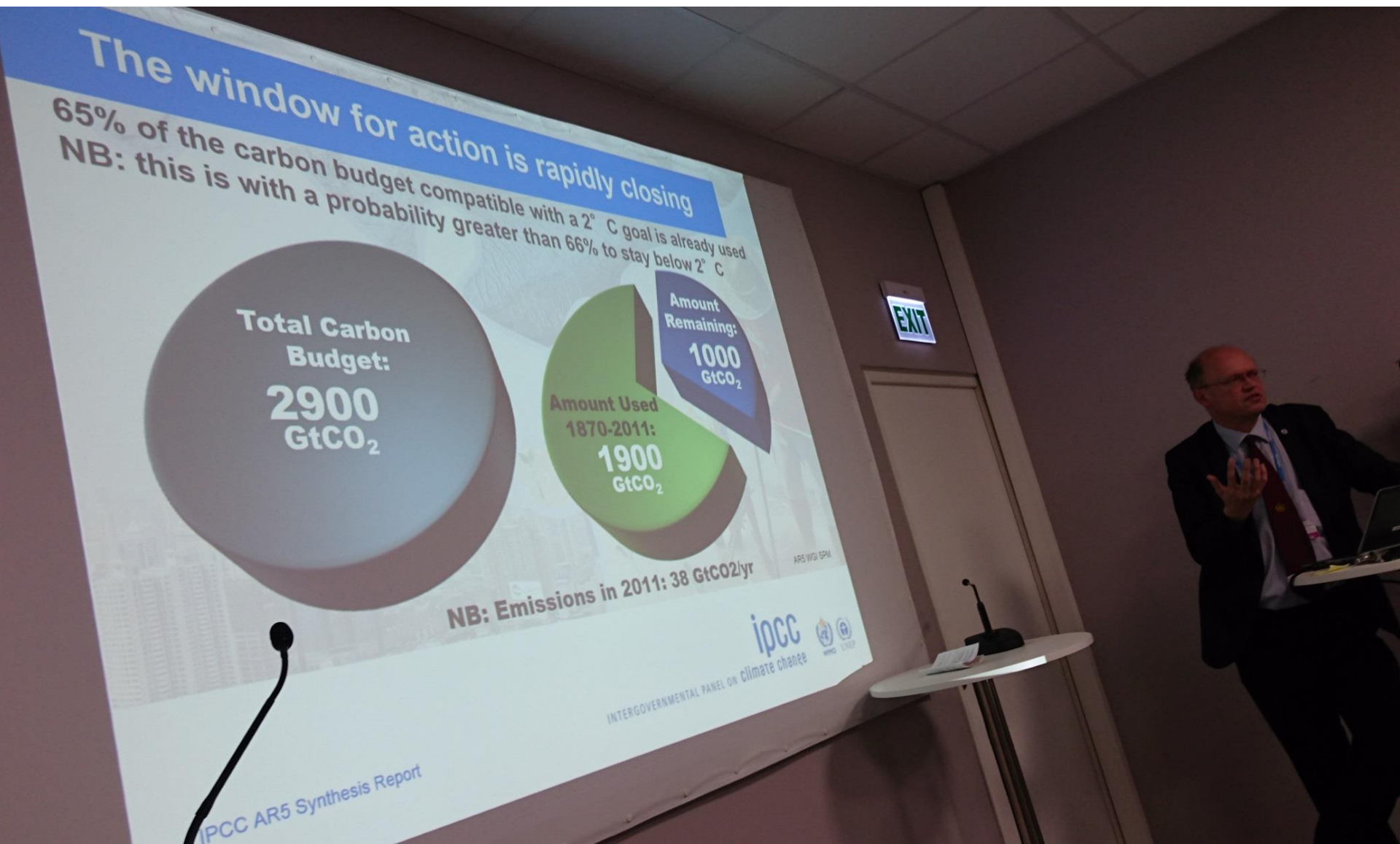
text of the EESS



OR

19/04/2016

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90% less CO₂



SaskPower
Carbon Capture and Storage

Seeing is believing



BELLONA

SEEING

IS

BELIEVING

ADM ethanol production
in Decatur, Illinois
with CCS

**1 million tonnes CO₂
captured and
permanently stored**



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SEEING

IS

BELIEVING

Energy recovery at
Klemetsrud in Oslo,
Norway with CCS?

Potential capture of

300,000t

CO₂ per year.



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focus on

☐ problems

☒ solutions



Statoil's contribution. = Norway's...?





Thank you!

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