



Progress on CCS at COP-21

John Gale

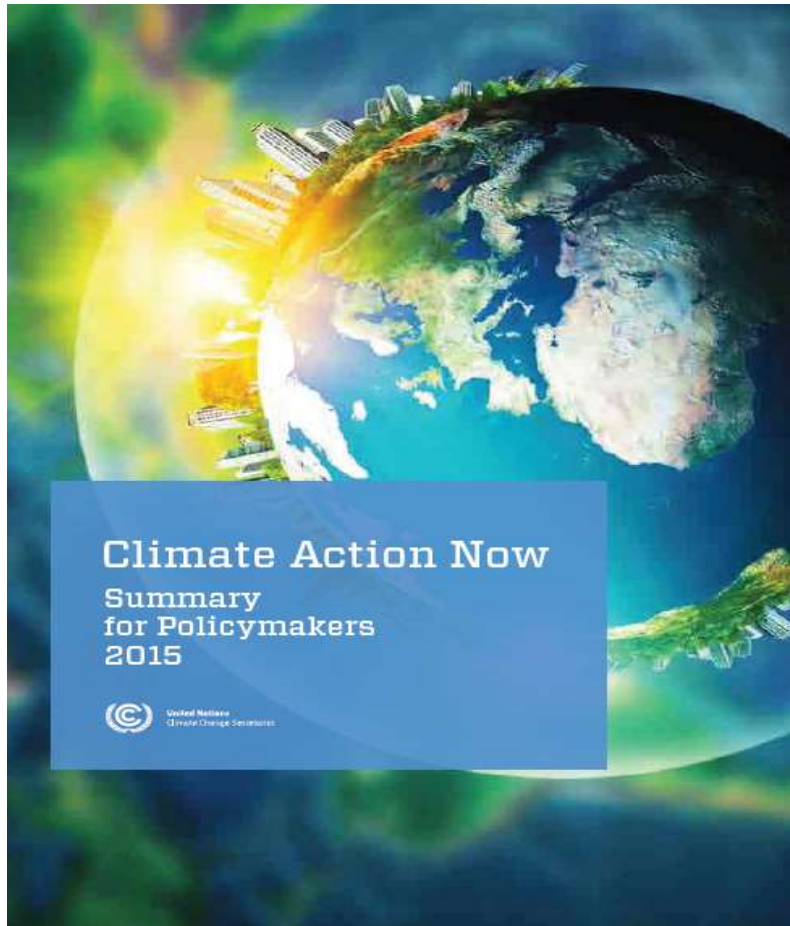
General Manager, GHG TCP

49th WPF

Paris, France

16-17 December 2015

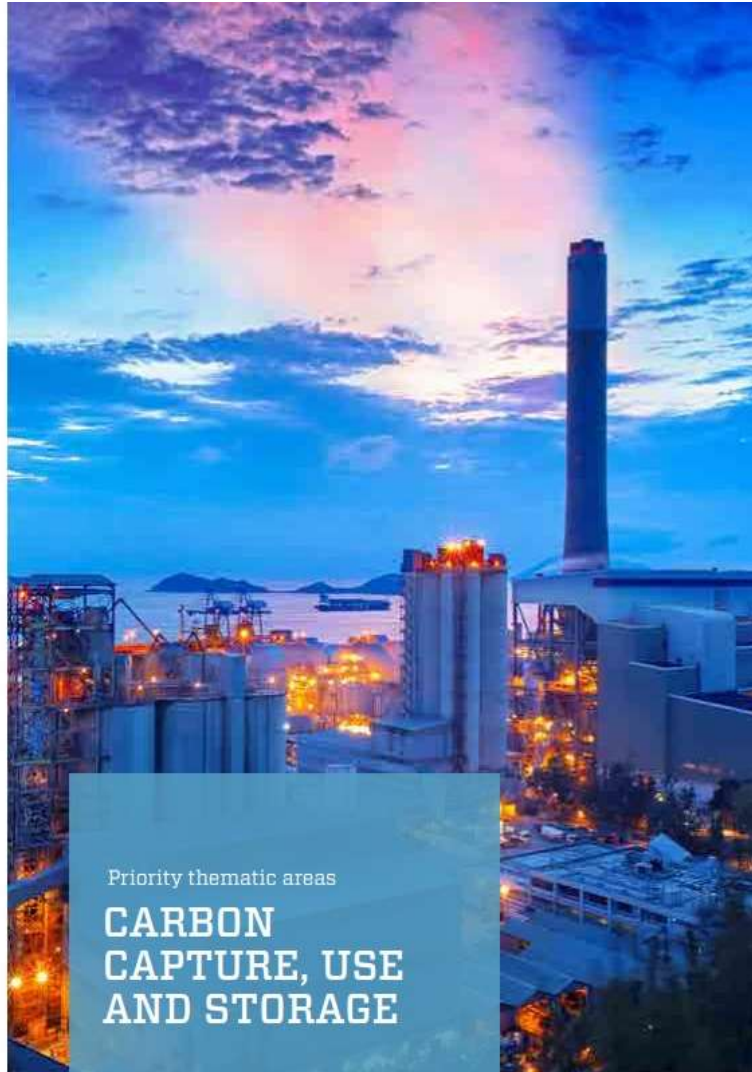
Climate Action Now, A Summary for Policy Makers 2015



- Key messages for policymakers;
- Brief overview of state of play of climate change;
- Actions to realize significant mitigation potential in the areas of:
 - Renewable energy,
 - Energy efficiency,
 - CCUS,
 - Non-CO₂ greenhouse gases (GHGs)
 - land use.
- International organisations that can help.
- Use the information so Parties can:
 - Increase their pre-2020 ambition,
 - Further reduce the emissions gap to limit global warming to 2°C,
 - Lay the foundation for post-2020 action.

<http://climateaction2020.unfccc.int/media/1173/21789-spm-unfccc-lowres.pdf>

CCUS in Climate Action Now



Priority thematic areas

**CARBON
CAPTURE, USE
AND STORAGE**

- Project financing
 - Boundary Dam 3
 - UK Competition
- Frameworks and Directives
 - EC Directive
 - Korean CCS Roadmap
- Carbon Pricing
 - Norway Carbon Tax
- Information Sources
 - CSLF
 - GCCSI
 - IEAGHG

CCUS Events at COP21



COP 21 CCS-related events/Exhibit Booths

 Official COP21 Side Event/Exhibit Booth

Date	Event	Organisation
1 December	Carbon Capture and Storage (CCS): Achievements and Opportunities for Developing Country Involvement 15:00-16:30, Observer rm 04	IEAGHG/University of Texas at Austin/CCSA/CO2GeoNet
2 December	CO2 Capture and Storage: a proven and safe technology vital for completing the climate change mitigation portfolio (in French only) 13:15-14:45, Climate Generations Area (room 10), Le Bourget	CO2GeoNet/French Club CO2/GCCSI/IEA
4 December	Technology as an Answer to Climate Change 13:00-14:15, GCC Pavilion	Gulf Cooperation Council
4 December	HOW THE UNFCCC ARCHITECTURE CAN HELP MOBILISE INTERNATIONAL RESOURCES TO SUPPORT CCS 16:30-18:00, IETA-WBCSD Business Hub, Hall 3 (Room Paris)	GCCSI
6 December	Reception	GCCSI
7 December	Bio-CCS: Why the IPCC says we need it 09:00 - 11:00, Bellona/CICERO pavilion, Hall 3	Bellona
7 December	CCS high-level discussion 14:00-18:00, IEA offices	IEA
8 December	From extraction to injection: North Sea CO2 storage and the CCS business case 09:00 - 11:00, Bellona/CICERO pavilion, Hall 3	Bellona
8 December	INNOVATE AND PIONEER TOWARDS A LOW CARBON FUTURE: EXPECT MORE FROM THE CHEMISTRY (Panelists will debate low-carbon technologies including Carbon Capture and Utilisation) 10:00 - 12:30 IETA-WBCSD Business Hub, Hall 3 (Room Marrakech)	IETA
8 December	FINANCING THE DEMONSTRATION AND DEPLOYMENT OF CCS IN DEVELOPING COUNTRIES 12:30-14:00, IETA-WBCSD Business Hub, Hall 3 (Room Paris)	GCCSI
9 December	Industrial clusters and CCS: Delivering climate actions with growth 09:00 - 11:00, Bellona/CICERO pavilion, Hall 3	Bellona
9 December	Global storage mapping 11:45-13:15, IETA-WBCSD Business Hub, Hall 3	GCCSI
10 December	Bio-CCS: The lowest hanging fruit to carbon negative solutions 09:00 - 11:00, Bellona/CICERO pavilion, Hall 3	Bellona
10 December	The role of CCS (Carbon dioxide Capture and Storage) in mitigating climate change 10:15-11:00, EU Pavilion	CO2GeoNet/EERA/EuroGeoSurveys/GCCSI
10 December	Hitting 2C means: investing in renewables, a storage revolution, energy efficiency and CCS 11:30-13:00, Observer rm 03	Imperial College/Danish Society of Engineers/GCCSI/The Carbon Trust
11 December	COULD CCS TECHNOLOGIES CONTRIBUTE TO DELIVERING THE AIMS OF THE UNFCCC? 17.30 – 19.00, Climate Generations Area, Le Bourget	GCCSI



CCS-related Exhibit Booths:

Title/Theme	Organisation
<p>CO₂ capture, usage and storage (CCUS/CCS) represents one of the most important mitigation technology solutions for the global energy and industrial sectors. This exhibit explains what it is and showcases projects; policy/regulatory developments; financing of and co-benefits for developing countries.</p> <p>Monday 7 December – Friday 11 December</p>	GCCSI
<p>Information on Carbon Capture and Storage as a climate-change mitigation technology, energy resource development, capacity building and training, and continuous regulatory improvement. Information from The University of Texas at Austin, CO₂GeoNet, Carbon Capture and Storage Association, and IEAGHG.</p> <p>Monday 30 November – Friday 11 December</p>	IEAGHG/University of Texas at Austin/CCSA/CO ₂ GeoNet
<p>CCS Exhibit</p> <p>Monday 30 November – Friday 11 December, public area</p>	CO ₂ GeoNet/Global CCS Institute/IEAGHG/French Club CO ₂ /University of Texas at Austin
<p>Action Through Connection – Bellona/CICERO pavilion</p> <p>Monday 30 November – Friday 11 December, Hall 3</p>	Bellona/CICERO
<p>US DOE Carbon Management R&D Exhibit</p> <p>Monday 30 November – Friday 11 December, America Pavilion F.19</p>	US DOE

IEAGHG et al Side-event



Carbon Capture and Storage (CCS): Achievements and Opportunities for Developing Country Involvement, 1st December 2015



Tim Dixon, IEAGHG

Mike Marsh, President Saskpower

Philip Ringrose, Statoil

Ton Wildenborg, CO2GeoNet

Jukka Uosukainen, CTCN

Katherine Romanak, University of Texas

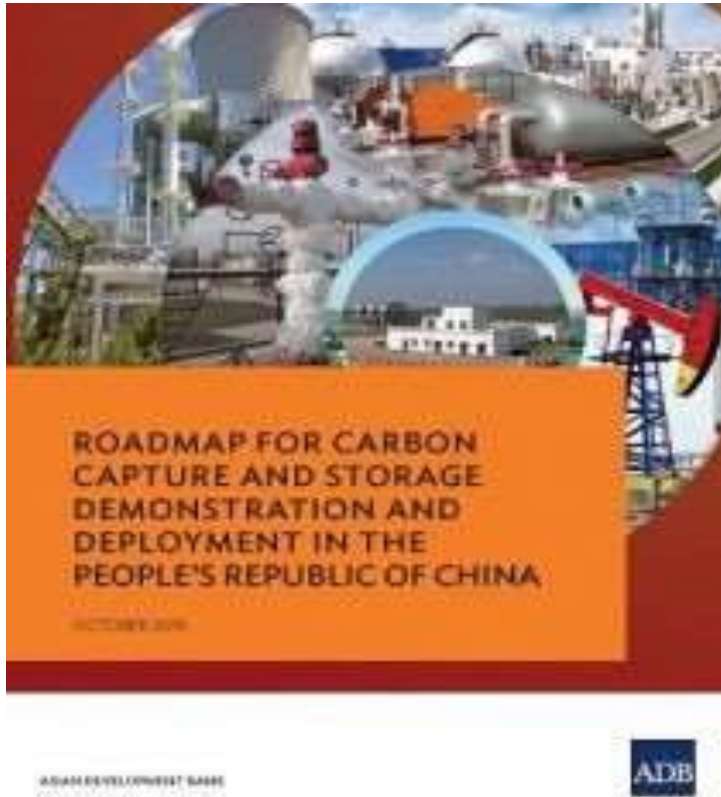
Brad Wall, Premier of Saskatchewan

IEAGHG et al Side Event Outcomes

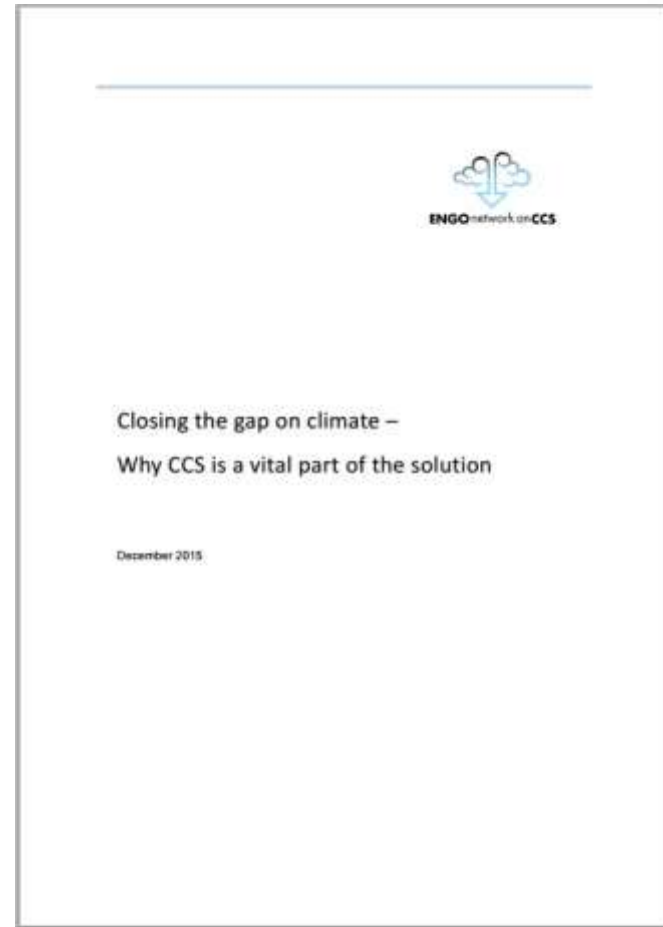


- 200 attendees
- Messages:
 - Philip Ringrose, Statoil, 19 years of Sleipner
 - Mike Marsh, CEO, SaskPower Boundary Dam 3 and hopes to capture 800 kt CO₂ in 2016.
 - Ton Wildenborg, CO2GeoNet, CO₂ storage projects in Europe
- Reported at: www.ieaghg.org & <http://www.iisd.ca/climate/cop21/enbots/1dec.html#event-6>
- Generated a lot of discussion and attendance at **booth in “Blue Zone”**

Associated Activities



<http://www.adb.org/sites/default/files/publication/175347/roadmap-ccs-prc.pdf>



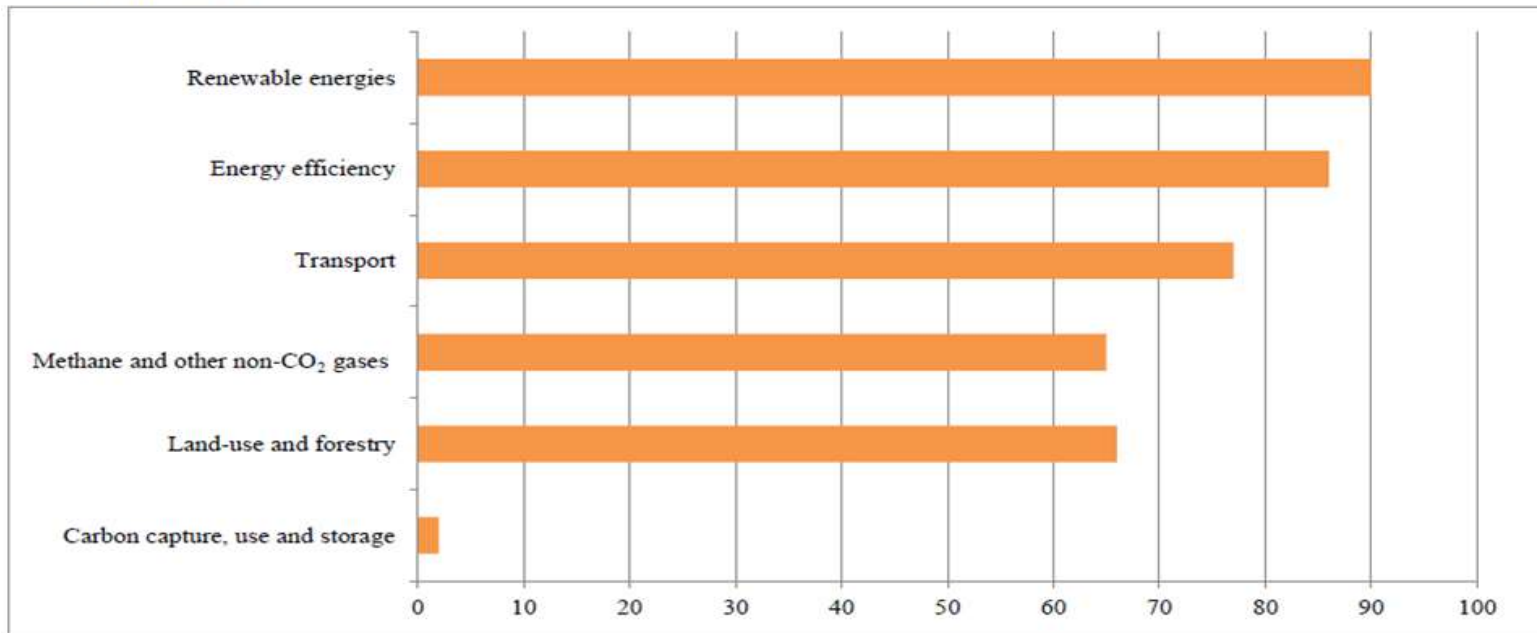
http://www.engonetwork.org/eng_o_perspectives_on_ccs_digital_version.pdf

INDC's



- Cover period up to 2020
 - Low hanging fruit

Priority areas for implementation highlighted in the intended nationally determined contributions



IEAGHG Information Paper: 2015-IP24; INDC's and Implications for CCS
at http://www.ieaghg.org/docs/General_Docs/Publications/Information_Papers/2015-IP24.pdf

Summary



- CCS was profiled quite highly at COP21 as a mitigation option
- **INDC's reflect early action – don't include CCUS significantly**
- **Move now to "below 2⁰C" will require increased mitigation activity after 2018**
- CCS could then start to play role
- Inherent conflict – **NGO's see new goal as option to phase out fossil fuels ("coal")**
- CCS seen as coal option – need new narrative, gas and bio important
- CCS will become key for industry to mitigate CO₂

Progress on / Progress with WPPF TSR on CCS



- TSR
 - Executive Summary drafted
 - Country report drafted
 - US report completed
 - Awaiting feedback/completion of WPPF member country reports.
- CCS Progress report to CSLF Ministerial/COP21
 - 2 page summary report drafted and circulated.