

Coal Mine Methane and World Carbon Markets

**Global Methane Initiative Coal Subcommittee Meeting
Geneva, Switzerland**

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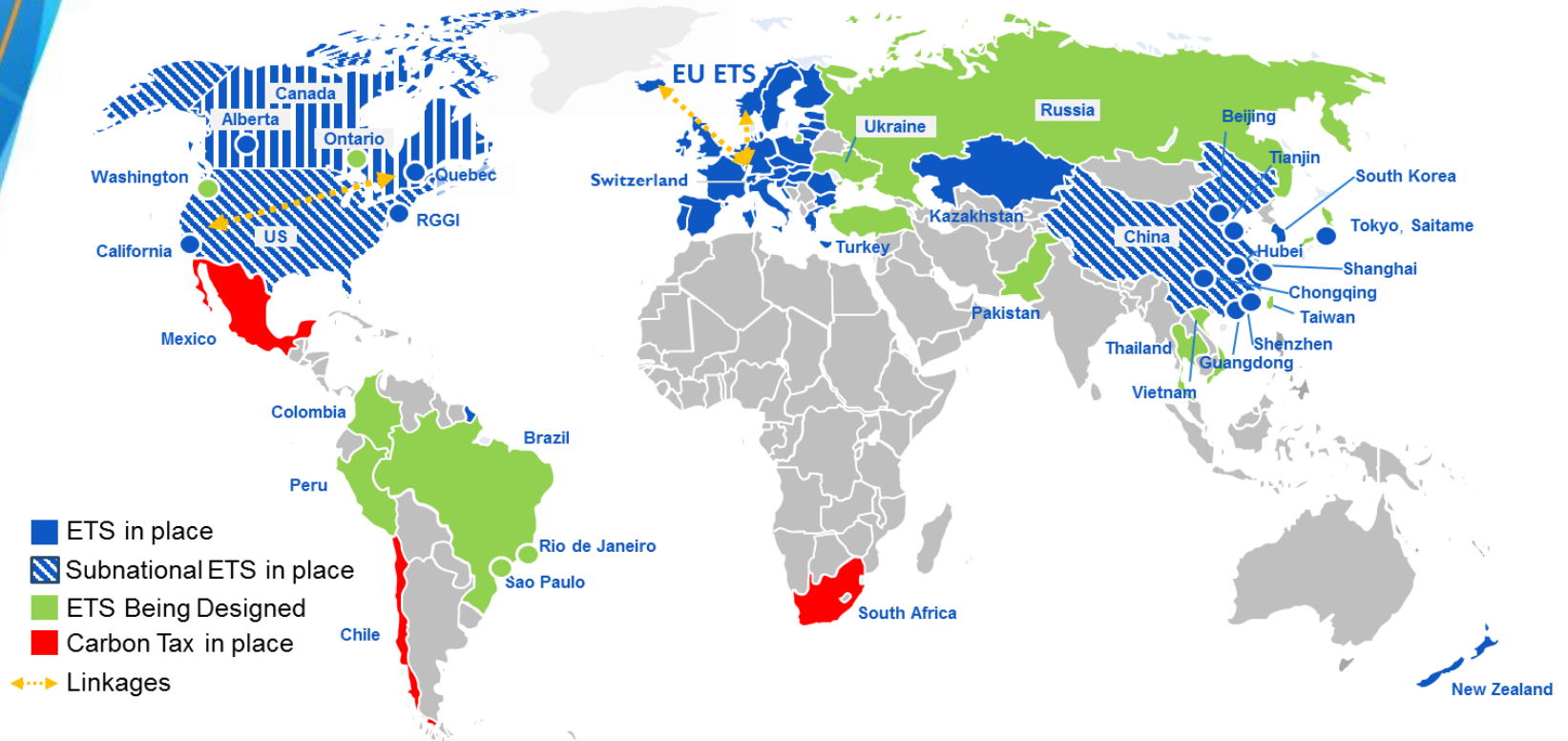
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World Carbon Markets

- Overview of Multi-National, National, and Regional Programs
- Diversity of Approaches, Common Themes and Linking
- Carbon Offsets
- What Can We Do to Include CMM?

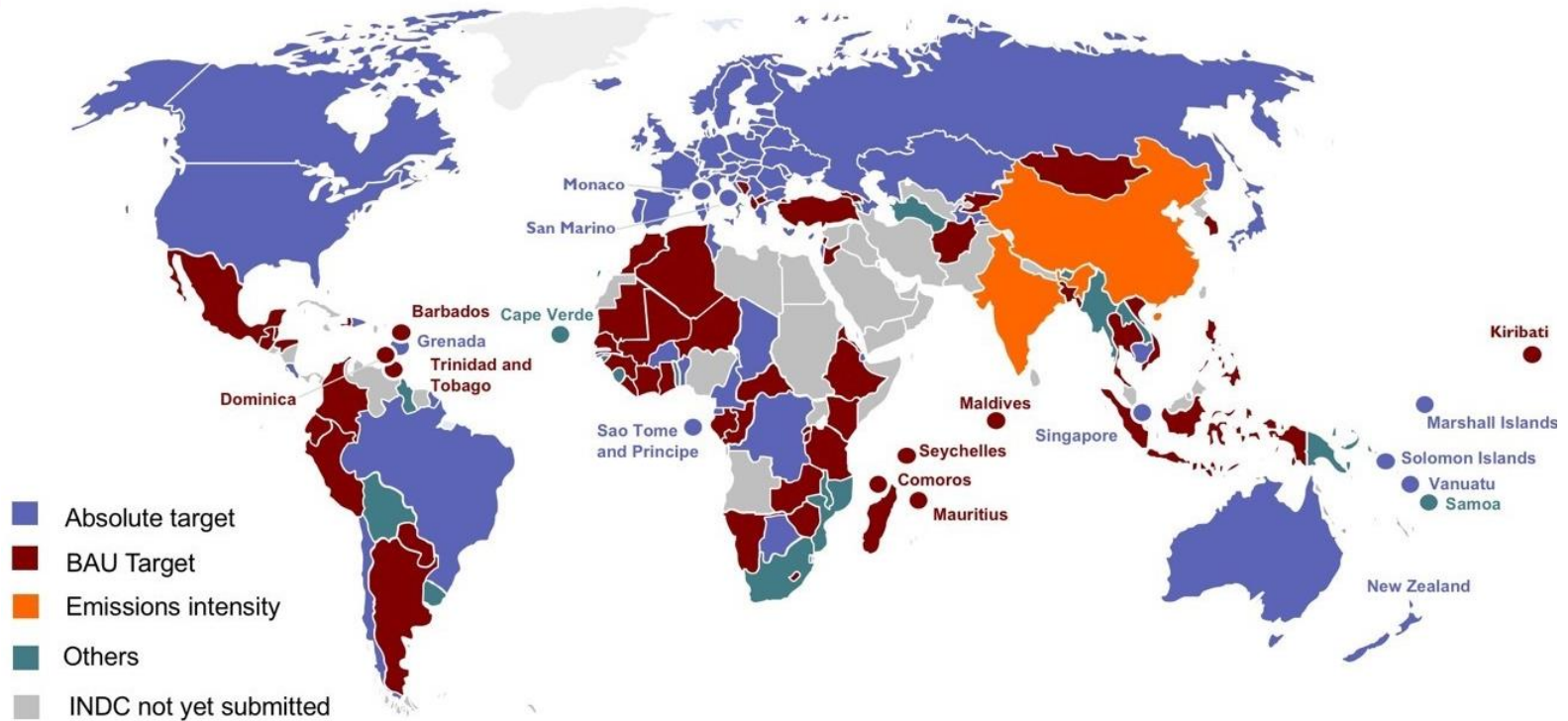
Overview of Carbon Markets



The Post-2012 Carbon Market Era Evolves

Map reference: <http://www.ieta.org/worldscarbonmarkets>

Overview of Carbon Markets



Intended National Determined Contributions (INDC) Target Types

Map reference: <http://www.ieta.org/worldscarbonmarkets>

Multi-National Programs

- EU-ETS Market
 - EU-ETS was the first multi-national cap-and-trade program established in 2003
 - Largest emissions trading system in the world includes 31 countries
 - Phase III Cap (2013-2020) expanded to include 17 industrial activities
 - Amount of international offsets allowed are specified by country ranging from 0-20%
 - Uses certified emission reductions (CERs) and emission reduction units (ERUs)
 - Available CERs and ERUs over 1.6 billion tCO₂e, *thus prices likely to remain low through 2020*

National Programs

- Australia
 - 2011 Clean Energy Act
 - Repealed in 2013
 - Carbon price mechanism repealed in 2014
 - Linking with EU-ETS delayed
 - Uncertainty without emissions caps for covered sectors

- Mexico
 - 2012 Climate Change Law allows, but does not mandate emissions trading
 - Carbon tax began in 2014
 - Rules to use offsets not yet developed

National Programs

■ Kazakhstan

- First Asian country to implement economy-wide cap-and-trade system in 2013
- Phase II ending (2014-2015)
- Allows for domestic offsets only
 - Projects approved prior to December 31, 2015 have crediting period until end of 2020
 - Crediting period for projects approved after December 31, 2015 yet to be determined

■ India

- Has not established a carbon market or carbon pricing policy
- 2012-2015 test phase for Performance, Achieve, and Trade (PAT) initiative



National Programs

- China
 - Seven pilot programs started in 2013 & 2014
 - Carbon-intensity based for power and industrial sectors
 - 5-10% of allocations can be met with CCERs
 - Some must be province-specific
 - Similar to CDM methodologies
 - National-scale system to begin in 2017
 - Carbon-intensity based
 - Transition of compliance obligations from 7 ETS pilots to national program
 - Proposed specific covered sectors not finalized
 - Eligibility for CCERs not defined yet
 - Domestic verification firms only

North American Regional Programs

- **California and Quebec Markets**
 - Implemented cap-and-trade programs in 2012
 - Rigorous approach to ensure environmental integrity of offsets (8% max)
 - Programs linked in 2014
 - Set floor price for allowances
- **Alberta**
 - Fee based on facility-level carbon intensity
 - Offsets can meet up to 100% of obligation
 - Includes a first-of-its-kind Technology Fund
- **British Columbia**
 - Offsets used for carbon neutral government
 - Carbon tax for industrial facilities
 - Nov. 2014 - Offsets allowed for LNG

Diversity of Approaches

- Programs can cover specific sectors, or industries, or be economy-wide
- GHGs covered – Six Kyoto GHGs or CO₂ only
- Can use market (allowances, offsets) or non-market instruments (performance standards, tax)
- Carbon pricing varies from USD \$3-30/tCO₂e

Common Themes

- Voluntary or pilot phases, then mandatory phases
 - Initial mandatory phases usually include 100% free allocations
- Banking and borrowing typically allowed
- Some offsets allowed based on:
 - project type,
 - location,
 - percent of allocation
- MRV required for emissions reporting and offsets program

Linking Mechanisms

- Administrative capacity to manage GHG programs at country level is necessary
- Consider harmonizing monitoring, reporting, and verification (MRV) systems with other programs
- Program must have institutional and legal readiness in place
- Role of UNFCCC or other international organizations to facilitate linking?

Carbon Offsets

- CMM projects included as offset type in:
 - China, California, Australia, EU ETS, and Kazakhstan
 - CMM may be eligible in other markets
- Protocols currently used for CMM projects:
 - ACM0008 (CDM), VMR0001 (VCS), VMR0002 (VCS), CMM Project Protocol (CAR) MMC Protocol (CARB)
 - Quebec and Ontario developing new protocol

Carbon Offsets (cont.)

- Allowance pricing summary table – August 2015

Region	Average Cost (USD)
Mexico	\$3.50/tCO ₂ e
RGGI	\$5.41/tCO ₂ e
EU	\$7.72/tCO ₂ e
China	\$7.83/tCO ₂ e
Australia	\$9.80/tCO ₂ e
South Africa	\$10.00/tCO ₂ e
Alberta	\$11.36/tCO ₂ e
California	\$12.21/tCO ₂ e
Quebec	\$15.14/tCO ₂ e
British Columbia	\$28.02/tCO ₂ e

What Can the Group of Experts Do?

- Participate in Business-Government Partnerships
 - GMI, IETA
- Promote Common Monitoring, Reporting, & Verification (MRV) Policies
 - Ensures the integrity of GHG reporting and offsets programs
 - Enables legislation for linking mechanisms
- Sponsor the Development of Robust CMM Offset Protocols
 - Project-based (ACM0008) vs. Standardized Methods (California)
 - Standardized methods require more up-front research

Thank you!

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