

Carbon Market Linkages

Strategic Planning for Industry



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Enterprise-Wide Approach to GHG Management

Strategy, Organization & Governance



- Opportunity
 - Driven by material risk to Chevron from emerging market-based regulation
- Objective
 - Enable & deliver business unit compliance in regulated jurisdictions at “lowest practical enterprise cost”
- Methods
 - Jurisdictional Optimization (jurisdictional approach rather than by organizational boundaries)
 - Potential for cross-SBU or OpCo capital optimization
 - Ability to mitigate/minimize transaction costs
 - Jurisdictional Planning
 - Process developed and implemented to identify & pursue optimization opportunities
 - Carbon Management Plan
 - Identifies optimal, SBU-supported mix of (1) allowance acquisition, (2) credit acquisition, and (3) emissions reductions for Chevron assets in a regulated jurisdiction
 - Includes anticipated market positions and costs

Global Carbon Markets & Chevron Around the World

Finding, producing & marketing oil & natural gas amidst varied regulatory environments



'WCI' REGION

Status: 2013 start date for prepared member states (Quebec & California)

Cap: 15% below 2005 levels by 2020

CALIFORNIA

Status: Mandatory 2013 start date

Cap: Reduce emissions to 1990 levels by 2020 (economy-wide)

- Among the world's largest integrated energy companies, Chevron is affected by various climate policies throughout the world.

- A jurisdictional approach to carbon management ensures preparedness and efficient & effective compliance.

RGGI (Regional GHG Initiative)

Status: In place since 2009; NY, New England, & Mid-Atlantic States

Cap: Utility industry, 10% below 2009 levels by 2018

EU (Emissions Trading Scheme)

Status: In place since 2005

Cap: 21% below 2005 levels by 2020

2050 Goal: 60% below 1990 levels

CHINA

Status: Mandatory reporting began in 2012, Cap & Trade planned for mid-decade

Cap: Intensity target of 40-45% below 2005 / unit GDP

KOREA

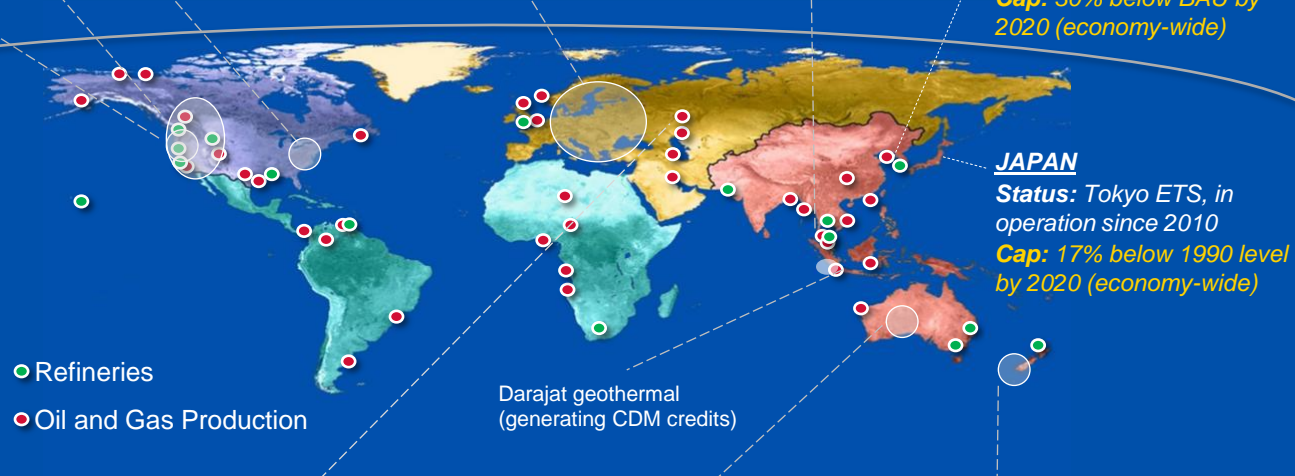
Status: Passed Legislature Mandatory ETS in 2015

Cap: 30% below BAU by 2020 (economy-wide)

JAPAN

Status: Tokyo ETS, in operation since 2010

Cap: 17% below 1990 level by 2020 (economy-wide)



KAZAKHSTAN

Status: January 2013 pilot domestic ETS market launch

Cap: 15% below 1992 levels by 2020

AUSTRALIA

Status: July 2012 fixed carbon price now in effect, transitioning to ETS by July 2015

Cap: at least 5% <2000 levels by 2020

NEW ZEALAND

Status: Mandatory ETS in operation since 2010

Cap: 10-20% below 2000 levels by 2020 (economy-wide)

Emerging linkages in international carbon markets

Despite (or because of?) the absence of multilateral agreements



■ Linkage among existing trading systems

- Kyoto Protocol (Article 17)
- Clean Development Mechanism
- Joint Implementation
- EU ETS
- Norwegian ETS
- Switzerland Cap & Trade
- New Zealand ETS
- RGGI
- Australia Clean Energy Act

■ With new domestic state schemes comes renewed interest in linkage

- California (AB32)
- Quebec Cap & Trade
- China? South Korea? Kazakhstan?

28 June 2012 - ... Board is expected to approve a proposal to link California's market to Quebec's scheme, which will increase the size of California's carbon market by about 20 percent.
-Reuters

14 September 2012 -
...designed to forge a path for a global agreement on climate change policies...
-The Australian

01 Oct 2012 - Australia and California have pledged to "explore options" for linking...
-ICIS

20 September 2012 - ...agreement...will see the EU participate in the development of China's emissions trading system...
-European Voice

Working collaboratively with Air Resources Board

Avoiding economic harm for California and its citizens



“The basic goal of linkage is to develop a broader, more cost-effective cap and trade market. Chevron continues to support ARB’s long-term goal of carbon market linkage. Through broad linkage, California can avoid severely disadvantaging its economy and driving investment

A well-designed cap & trade program that is effectively linked with other programs around the world can be the most cost-effective mechanism that ARB has in its arsenal to achieve the goals of AB32.

Chevron’s primary interest is to ensure long-term market liquidity

- Various market design elements under the control of ARB can impact economic efficiency:
 - Market linkage
 - Offset limits & protocols
 - Auction frequency
 - Holding limits

California's Global Warming Solutions Act of 2006

Two types of linkages to other systems are allowed under AB32



1. Facilities can use offsets (up to 8% of compliance obligation), including *potential* future use of international credits from other jurisdictions
 - Currently limited to four domestic protocols (i.e., not linkage)
2. Facilities can use allowances (unlimited) from directly linked cap & trade systems
 - Likely to include Quebec in 2013 and potentially other WCI members (i.e., not *yet* linkage)



Proposed California - Quebec Linkage

A number of concerns question the proposal (communicated to ARB 26 June 2012)



- No Broad Support
 - California & Quebec alone do not achieve the basic goal of linkage
- Entrenches Flawed Market Policies
 - Keeps or introduces design flaws
- Increases Costs for California
 - Contrary to motivations
- Unnecessarily Complicated
 - Joint auction is not a requirement for linkage
- Administrative Burden on ARB Staff
 - Diverting limited resources from key priorities

It is premature to embark on a costly linkage until California's program design is completed and fully tested and additional partners or a cost-effective & efficient broader cap-and-trade market can be established.

Emissions Market Assessment Committee

EMAC was formed to provide independent analysis to CARB



- EMAC report on linking was finalized 20 September 2012
- Identified 5 specific areas of concern associated with linkage of California & Quebec:
 1. Coordinating legal & regulatory frameworks (international law)
 2. Transparency about market mechanisms and compliance
 3. Definitions & market rules for compliance instruments
 4. Enforcement of market rules
 5. Ability to respond quickly to unforeseen events
- No large potential benefits from linking with Quebec
- Conclusion:

“...prematurely linking with an unproven GHG C&T market could result in administrative and legal costs to California and California’s regulated entities or adverse environmental impacts to California, undermining the goals of AB32.”