Managing GHG Compliance Liabilities in Times of Regulatory Uncertainty

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Managing GHG Compliance in Uncertain Times

Overview

Problems Facing Large Emitters
Improved GHG Compliance Management
Case Study
Improving GHG Compliance Management: The Delphi Approach
Delphi - Who We Are

• Premier strategic consulting firm founded in 1988
• Completed over 500 projects for more than 200 clients
• Work for 15 of Canada’s largest 50 companies
• Climate Change and Sustainability services
  – Strategy development & implementation
  – GHG inventory, reporting & compliance management
  – Regulatory/Policy analysis & design
  – GHG reduction technology assessments and protocol development
Some of Delphi’s Recent Clients
Some of Delphi’s Recent Clients:

- Sanofi Pasteur
- American National Standards Institute
- Crescent Point Energy Corp
- Connacher Oil and Gas Limited
- Talisman Energy
- DuPont
- Capital Power Corporation
- ARC Energy Trust
- ATCO Power
- Keyera
- Sustainable Development Technology Canada™
- MEG Energy
- ConocoPhillips
- Ontario
- ArcelorMittal

Some of Delphi’s Recent Clients
Problems Facing Large Emitters

**Problem:** Difficult to determine present & future corporate-level GHG compliance liabilities

- Emitters often operate in numerous regulatory jurisdiction
- Regulations and compliance requirements vary from region to region and change over time
- Difficult to interpret regulations and calculate corporate-level compliance liabilities
Problems Facing Large Emitters

**Problem:** Difficult to forecast compliance liabilities for numerous potential operational scenarios

- Difficult to model emissions and liabilities associated with operational change, i.e. growth, acquisitions, capital investment . . .

- Often need to model dozens of different potential operational scenarios

- Potential liabilities and compliance costs vary significantly and are often considerable

- Accurate compliance cost models are essential for strategic planning, capital investment decisions and corporate risk management
Problems Facing Large Emitters

**Problem: Difficult to forecast liabilities with carbon market volatility and price uncertainty**

- Carbon prices and compliance costs vary widely looking forward
- Potential liabilities can vary by hundreds of millions of dollars
- Incredibly difficult to accurately forecast potential compliance costs in multiple market scenarios

*Carbon costs would total over $92.8 billion if a market price of $28.24 per metric ton of emissions from companies in the S&P 500 and their direct suppliers.*

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*NEW YORK, NY—(Marketwire - November 2, 2009)—Point Carbon identified the winners and losers.*
Problems Facing Large Emitters

**Problem:** Difficult to assess impact of potential emission reduction projects on the net cost of compliance

- What projects should we invest in?
- What reductions can be made at what cost?
- What impact will actual/potential projects have on overall cost of compliance?
**Need:** To accurately quantify compliance costs for multi-site, multi-jurisdictional corporations

![Bar chart showing Corporate Emissions & Cost of Compliance](chart.png)
**Improved Compliance Management**

**Need:** To accurately forecast potential liability and compliance costs given changes to GHG regulation.

![Graph showing compliance liability comparison between US ACES and Alberta SGER regulations from 2010 to 2020. The graph highlights that in 2020, the liability for US ACES is $410 million compared to $1 billion for the Alberta SGER.](image-url)
Improved Compliance Management

**Need:** To accurately forecast potential liability and compliance costs given changes in business operations:

- Changes in organizational structure – acquisitions, divestitures
- Changes in operations – growth, production increases, expansion
**Need:** To model compliance costs given changes in the carbon market and the cost of offsets, allowance, credits, etc.

Predictions from the US Energy Information Administration, the Congressional Budget Office, and the US EPA range between:

- $13 and $26 per tonne in 2015
- $17 and $93 per tonne in 2020
- $40 and $190 per tonne in 2030
Need: To accurately model the impact emission reductions would have on liability and compliance costs:

- Should we invest in emission reduction technologies?
- What impact would reductions have on our liabilities?
- What are the net effects on compliance costs?
Improving GHG Compliance Mgmt: Case Study

- 3 similar energy sector clients
- Model potential compliance costs between 2010 - 2020
- Modeled 3 regulatory scenarios based on:
  - Alberta (SGER), US Federal (ACES) and Canadian Federal (Turning the Corner)
- 3 operational scenarios:
  - Low, medium & high growth (including acquisitions)
- 3 market scenarios:
  - Low, medium & high cost of carbon scenarios
  - Range between $25 and $100 per tonne by 2020
- 27 different scenarios
Improving GHG Compliance Mgmt: Case Study

Results:

- Enormous ranges in potential compliance costs
- 21 of 27 costs fell within lower green range
Improving GHG Compliance Mgmt: Case Study

Results:

- Highest cumulative cost of compliance by 2020 = $1.24 billion
- Lowest cumulative cost of compliance by 2020 = $99 million
Results:

- Average (green) cumulative cost of compliance by 2020 = $252 million
- Change in cost of carbon has greater impact than change in policy
Step 1: Define operational scenarios

Sequential, algorithmic approach that defines:

- Organizational structure
  - Emitting entities, location, threshold attributes

- Operational throughputs
  - Emissions data (historical and forecasted)
The Delphi Approach

Step 2: Define regulatory rules

Sequential, algorithmic approach that defines:

- **High level regulatory information**
  - Start date, geographic applicability, compliance periods
- **Compliance thresholds**
  - Emission type; emission source; emission quantity; production capacity; etc?
- **Compliance calculations**
  - Baseline calculations; emission, production, consumption data (historical and forecast)
- **Compliance options**
  - Allowances, credits, offsets, etc.
  - Regulated use limits, price ceilings and floors, etc
Step 3: Define cost of carbon profiles to 2020

- Defines cost of carbon price and forecasts by credit type, by year
**Step 4: Define potential emission reduction projects**

Project by project approach that defines:

- Emissions reduction potential
- Cost and revenue streams for reduction
- Marginal abatement costs, NPV, IRR, ROI
Step 5: Calculate actual/potential compliance costs
The Delphi Approach

Conclusions:

• Still a high degree of regulatory uncertainty
• Difficult to calculate/forecast compliance liabilities
• Difficult to model compliance liabilities with regulatory, operational & market changes
• A stepwise, incremental and algorithmic approach:
  – Considerably reduces cost/liability uncertainty
  – Accurately calculate potential costs ranges
  – Accurately define most probable compliance situations
  – Allows for the inclusion of emission reduction activities
  – Significantly increase the accuracy of compliance forecasting
Thank You

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