



# Carbon Markets and Mexico – Key Issues for Market Design

Mark C. Trexler  
Director of Climate Strategies and Markets  
DNV Climate Change Service North America

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# Key Points

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- It's All About the Price of Carbon
- GHG Markets Are Policy Markets
- Policy Makers Determine (Strongly Influence!) the Price of Carbon
- Be Very Careful In Relying on Abatement Cost Curves
- It's All About the Policy Objectives
- Start There

# It's All About Carbon Prices!

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- **Can Society Afford Emissions Targets?**
- **What Will Cap and Trade Compliance Cost Companies?**
- **Will Carbon Costs Promote New Technologies?**
- **What Should Private Sector be Investing In?**

# GHG Markets Are Policy Markets

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- **Demand is (Obviously) a Function of Policy Decisions**
  - **But (Less Obviously) So Is Supply!**
- **Few Other Commodities With These Characteristics**

# Policy Makers Determine Price of Carbon

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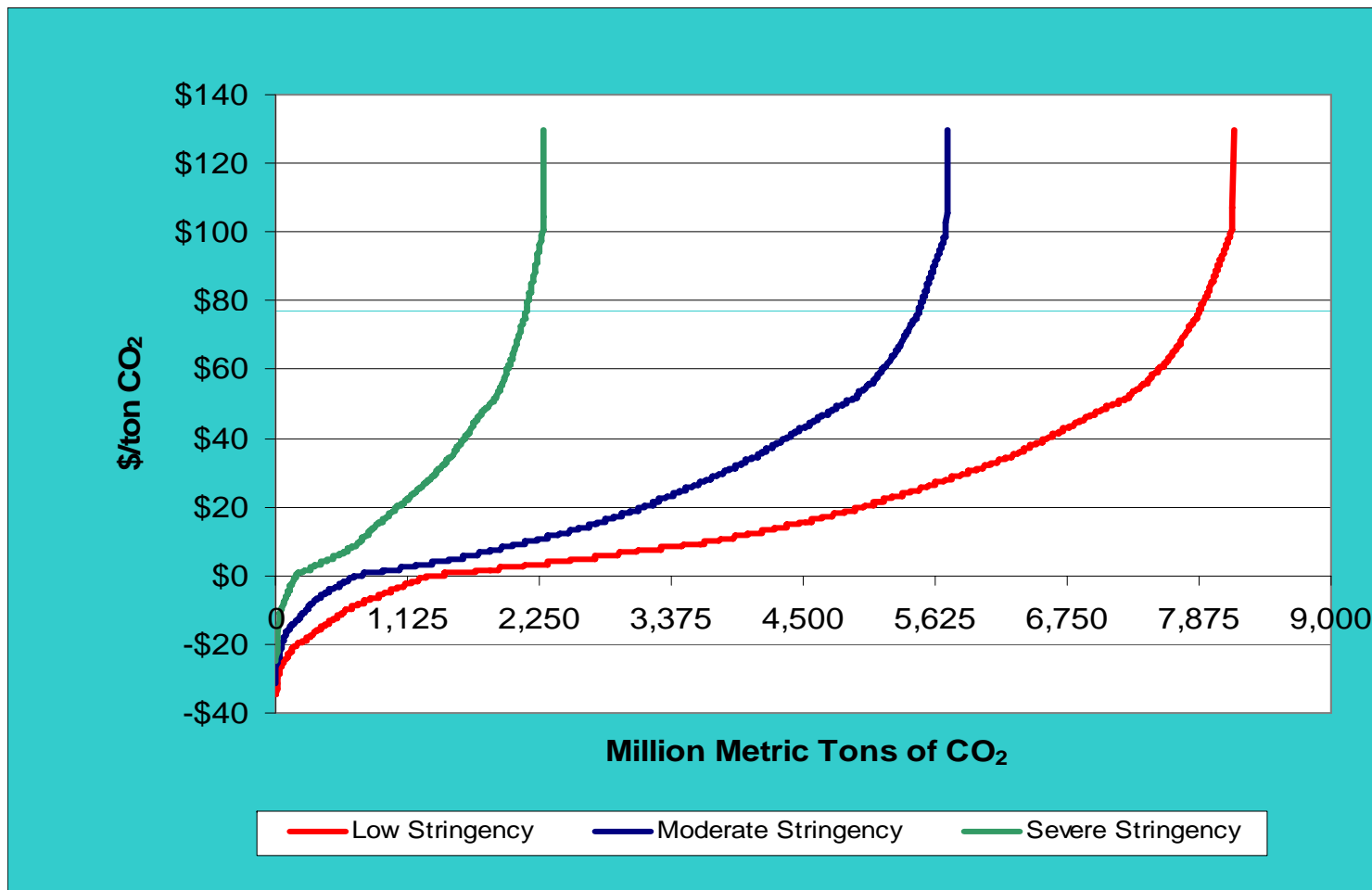
- **Demand Variables (growth, fossil prices, targets)**
- **Supply Variables (what counts, how counted, rules)**
- **Technology Variables (R&D spending, incentives)**
- **Transaction Variables (fees, taxes, transaction risks)**
- **Political Variables (market lifetime, price floors, certainty of rules)**

# The Key Question for Public Sector Policy Makers

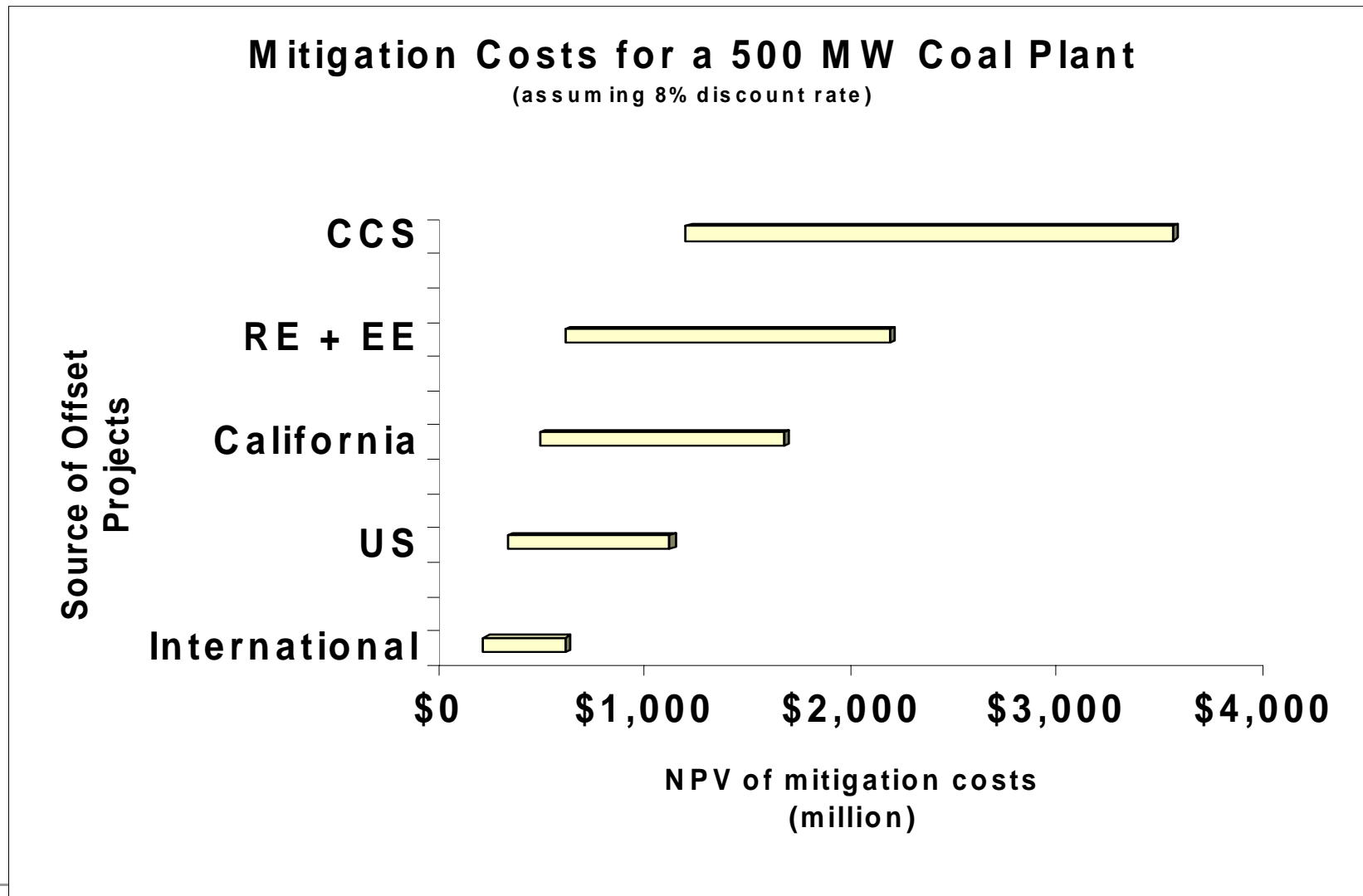
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- “What Carbon Price Do We Want to Implement to Correspond With Our Policy Objectives?”
  - Compliance cost minimization for industrialized countries?
  - Revenue maximization for offset sales?
  - Compliance cost minimization against future national targets?
  - Favor very specific technologies/policies and measures
  - Send a general technology price signal?
- How Can Policy Makers Structure Carbon Markets to Deliver “Specific” Carbon Prices?
  - Modify demand
  - Offset quality constraints
  - Offset supply constraints, overall or sector specific
- These Questions Hold for Public Sector Policy Makers at All Levels, Although Perspective and Answers Can be Very Different

# Policy Decision – What Counts as an Offset?



# Policy Decision – Where Offsets Come From?



# Mitigation Costs – Often a Fragile Number

Typical Project	Natural Gas Price		
	\$2.00/MMBtu	\$4.00/MMBtu	\$8.00/MMBtu
Coal Mine Methane Capture	\$5.80	\$0.70	negative
Large-Scale Wind Energy	\$45.78	\$19.11	negative
Coal-to-Gas Fuel-Switching*	\$15.12	\$72.44	\$187.07
Pulverized Coal CO <sub>2</sub> Capture**	\$52.31	\$59.76	\$74.64

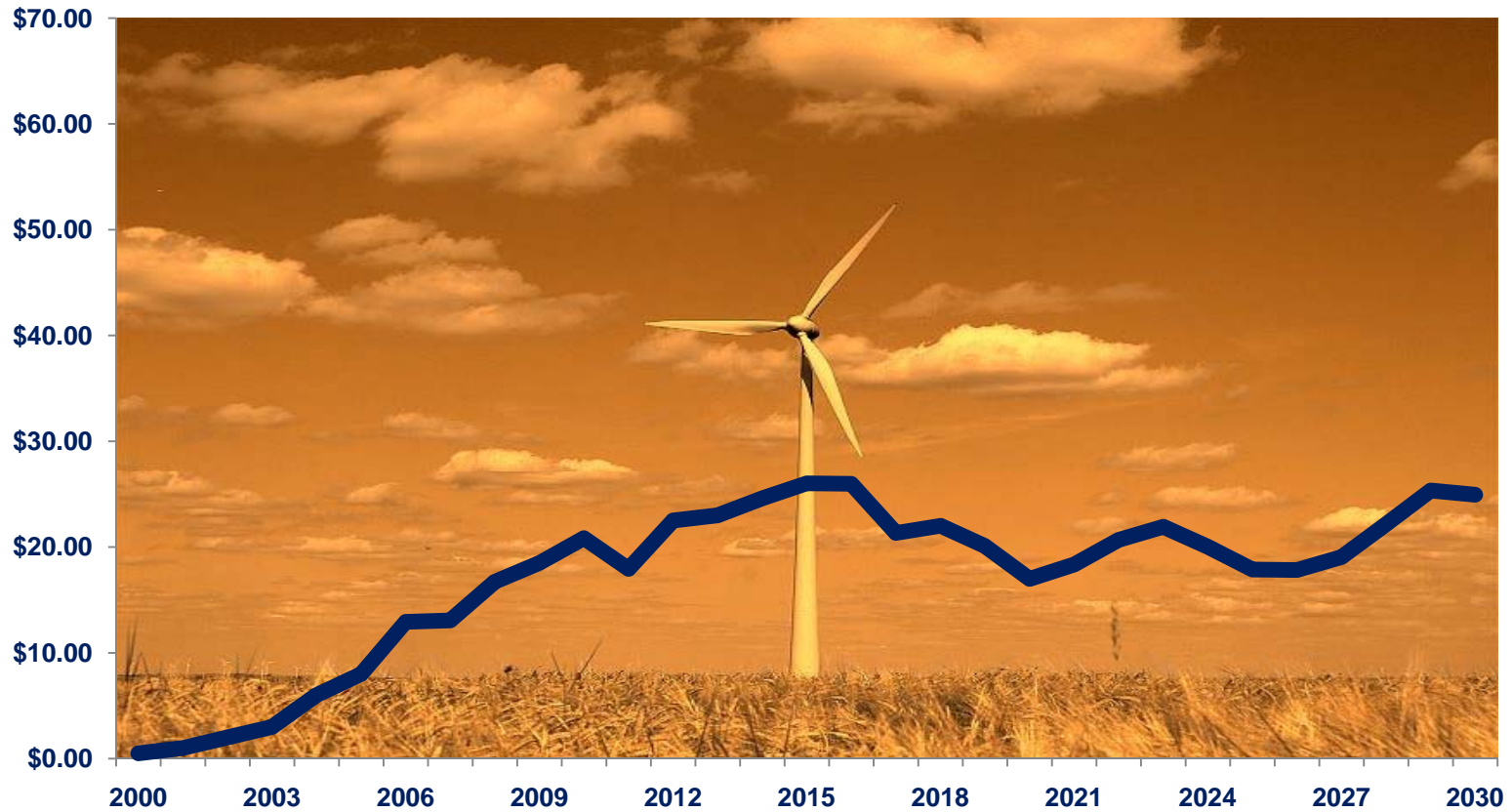
\* Assumes coal prices stay constant.

\*\* Lost electricity sales are assumed due to the energy penalty associated with CO<sub>2</sub> capture.

# Policy Scenario 1 - Policy Stalemate



# Policy Scenario 2: Political Realism



# Policy Scenario 3 - Atmospheric Stabilization



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- It's All About the Price of Carbon
- GHG Markets Are Policy Markets
- Policy Makers Determine the Price of Carbon
- It's All About Mexico's Policy Objectives When It Comes to Designing Market Mechanisms, or Choosing to Participate in Carbon Markets
- These Objectives Aren't Necessarily Consistent in Their Direction
  - Maximize market participation by loose rules and low prices
  - Maximize real emissions reductions through strict rules and higher prices
  - Incentivize new technologies through higher prices
- Start With Clarity of Objectives

# Safeguarding life, property and the environment

Dr. Mark C. Trexler

Director, Carbon Strategies and Markets

[Mark.trexler@dnv.com](mailto:Mark.trexler@dnv.com)

[www.dnv.com](http://www.dnv.com)



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