Towards a Unified Methodology

(for Carbon Credits from Renewables and Energy Efficiency)

Commission for Environmental Cooperation

Workshop July 17-18, 2003

Washington, DC

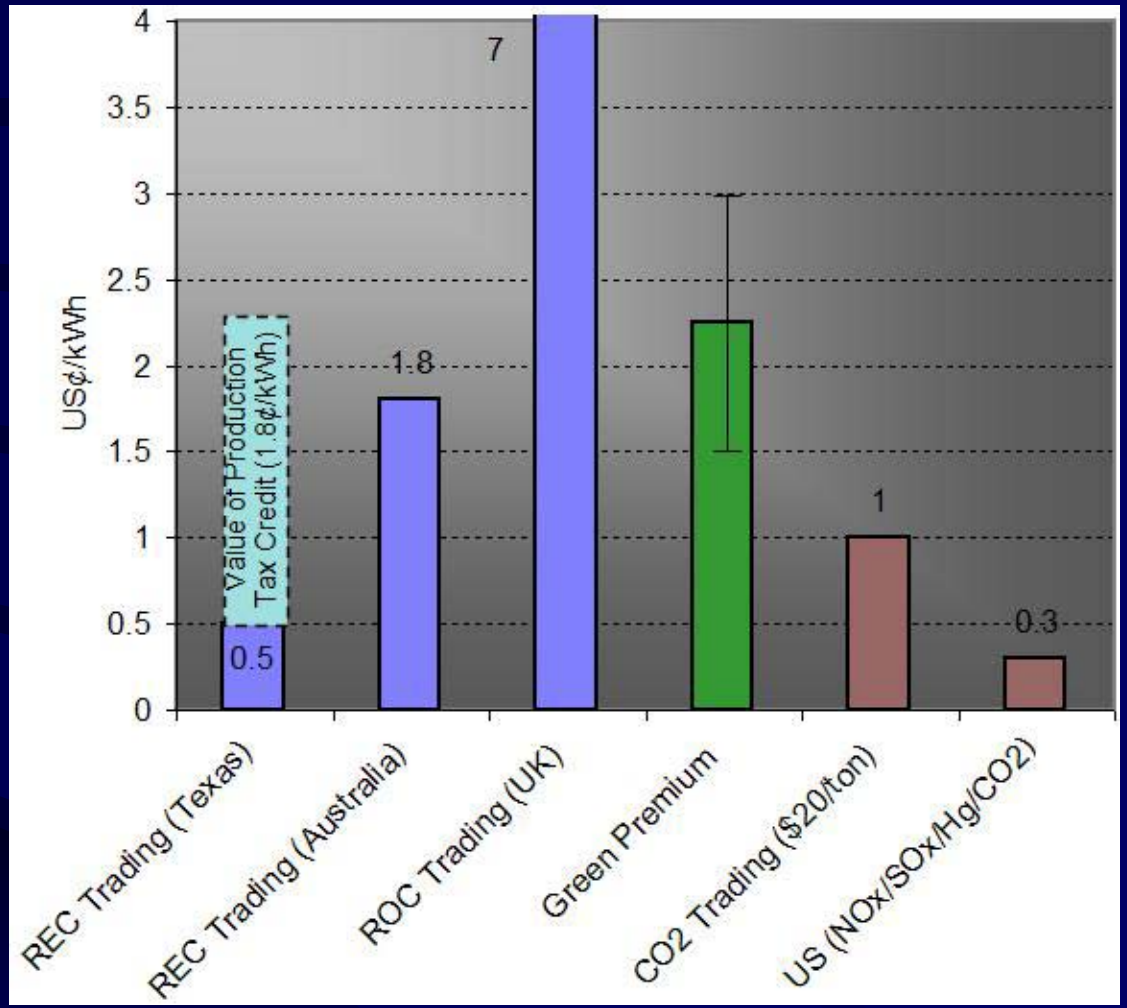
Outline

I. Monetary Benefits from CO2 Trading
II. Some Issues About Methodologies
III. A Plan to Move Ahead

I. Monetary Benefits

- The prices of CO_2 offsets are too low to finance RE projects

(example for wind shown here)



II. Methodologies

"Marginal Dispatch" combined with future displacements is preferred method, but currently many other methods are still in use.

Various Baseline Methodologies					
History	**Average Now**	**Average Future**	**Build Margin**	**Marginal Dispatch**	**Set-Aside**
Canada NEB	CCX		Climate Trust	STAPPA/ ICLEI	Possibly ON?
	VisionQuest	Native Energy		UCS	
CDM	CDM		CDM	ISO-N.E.	
	GERT		Hydro QC	Environment Canada	
	Pembina		BC Hydro	Shell Canada	
	FIDE		PERRL	OTC	
	ATPAE		EPM (ICF)		

Data

- Marginal Dispatch Data not available in Alberta:
  Information identifying the marginal producing unit, output and price offer is likely to be exposed due to unique fingerprints associated with each facility. This is in direct conflict with the requirement for confidentiality within the Power Pool rules, and in contravention of the Electric Utilities Act, 1995.
- "The data accuracy necessary for the calculation of marginal units operating at variable power outputs would likely require high-cost stack emissions monitoring, which is not currently possible or reasonable to expect, especially in real-time at the increments desired."
  (AB Emissions Quantification Working Group 1999)
- BC: good data on build margin, bad data on dispatch margin. AB: vice versa.

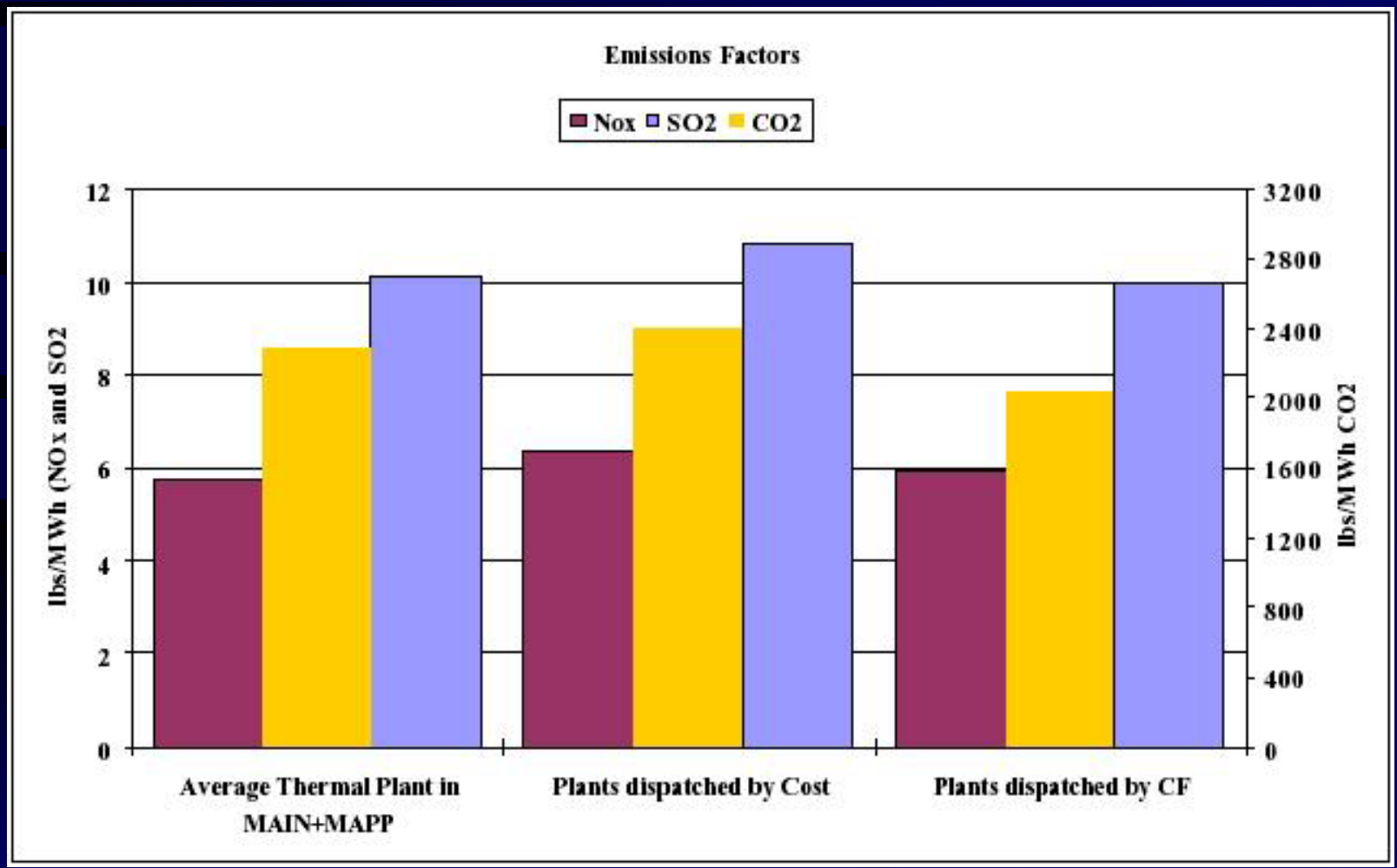
Limitations of the Dispatch Model

Is it really more accurate than other approaches?

- How to incorporate warm-up and cool-down
- Spinning reserves
- Different emission factors for different loads of thermal units
- Transmission and contractual constraints
- "Accidents", dam spills etc.
- Model assumptions influenced by fuel prices, cost of new fossil units, and prices of NOx/SO2 emission allowances
- Splitting electrical grid up into regions leads to errors (and double-counting if overlap)
- Model may become too complicated for use in green power marketing and constant monitoring of all system parameters and policy influences will be necessary to update

Think of Heisenberg's "uncertainty principle"

Dispatch Model (cont'd)



Can We Have Two Methodologies?

- Backgrounder suggests using both dispatch (short-term effects) and build margins (long-term)
- QC, BC, NY seem to be suited for build margin
- AB & others better for *Marginal Dispatch* (either real data or modeling)
- Hybrid approach with marginal dispatch & *Build Margin* seems acceptable for AB, but not for BC or QC!

Don't Write Off "Average" Yet!

Is the purpose to enhance RE development in NA?

- With *Marginal Dispatch*, different emission factors will result throughout NA – will lead to market distortion!
- It's very hard to obtain a correct result, whatever method we use
- The NA grid is interconnected, and activities in one area will somehow affect the others
- By taking the NA average emissions from thermal power stations, one emission factor would result that would give all the same benefits = no market distortion!
- May be the easier compromise, as some issues about delimitation, im- and exports may be contentious

III. A Plan to Move Ahead

1. Agree on a methodology
2. Agree on where to apply it (and where not)
3. Make emission factors available for free to all stakeholders
4. Annual update of data & methodology
5. Annual true-up of predicted emission displacements

Other Areas of Concern

- Will this work affect other sectors, e.g.
  - Emission reporting by energy-consuming businesses?
  - CDM
- Double counting
- Financial additionality

The Next Three Steps

1. Assess the "damage" caused by average emission factors/need for dispatch model
2. Identify and involve the relevant players in North America (e.g., FERG, Canadian Electrical Association …)
3. Governments need to make a decision

Summary

- There are good reasons why various organizations use different models to assess emission credits
- “Marginal Dispatch” does not always seem to be the ideal method and has its own drawbacks
- Alternative use of “Dispatch” and “Build” margins, or even NA “Average” may have advantages
- What method will be used is essentially up to governments to decide. A pragmatic methodology can be acceptable if it receives official support.

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