

Geopolitics and Canadian Energy Markets and Prices

**Presented by:
Marwan Masri, President & CEO
Canadian Energy Research Institute**

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Canadian Energy Research Institute



- Not-for-profit energy and environmental research
- Established in 1975
- Jointly by government, industry and academia
- Short courses and training
- Industry conferences
- Publication education, and ...

- Energy economics research ...
- *Relevant • Independent • Objective*

- **Business World (BW)** is a Liberal World. Economics re-asserts its role in the international landscape later this decade, with the New Economy driving the global economy. Economic liberalism leads to greater prosperity and an increasingly liberal political system.
- **Political World (PW)** is a very dark, Orwellian world, where life is viewed as a zero-sum game. The new Cold War leads to increased geopolitical rivalry and proxy wars, and relatively slow economic growth. Politics dominates this scenario.
- **Environmental World (EW)** envisages a pragmatic environmentalism beginning to permeate the planet by the 2020s. As environmental degradation and climate change worsen over time, the major powers become increasingly serious about achieving sustainable development. Environmental World is neither a Realist nor a Liberal world.

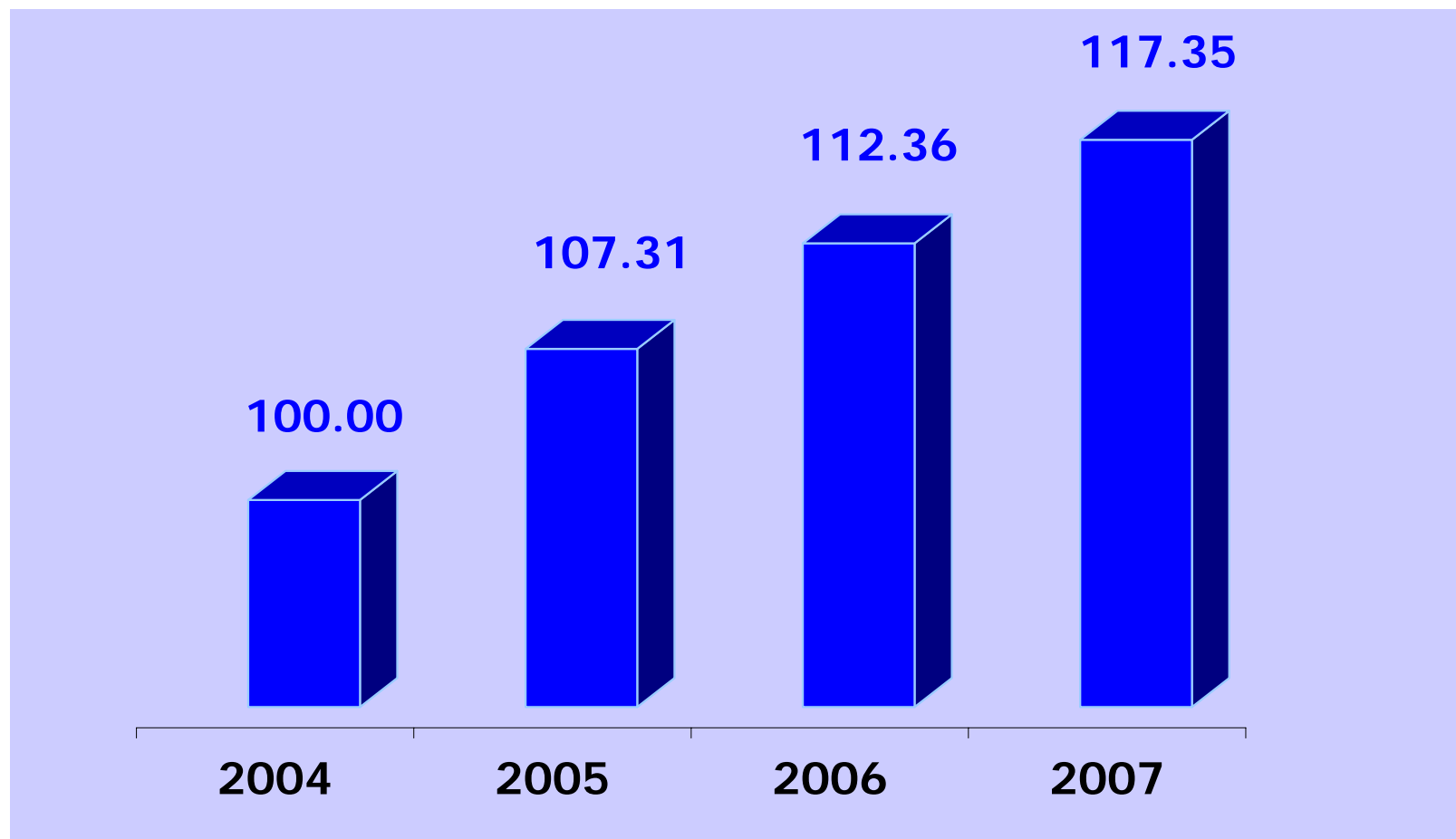
CERI Scenarios: Major Drivers (I)

Driver	Business World	Political World	Environmental World
Environment (Action)	Medium	Low	High
Demography (Population)	Medium	High	Low
Economics (Economic Growth)	High	Low	Medium
Globalization	High	Low	Medium
Geopolitics (Coop/Conflict)	Medium	Conflict	Cooperation
Technology/Knowledge	High	Low	High

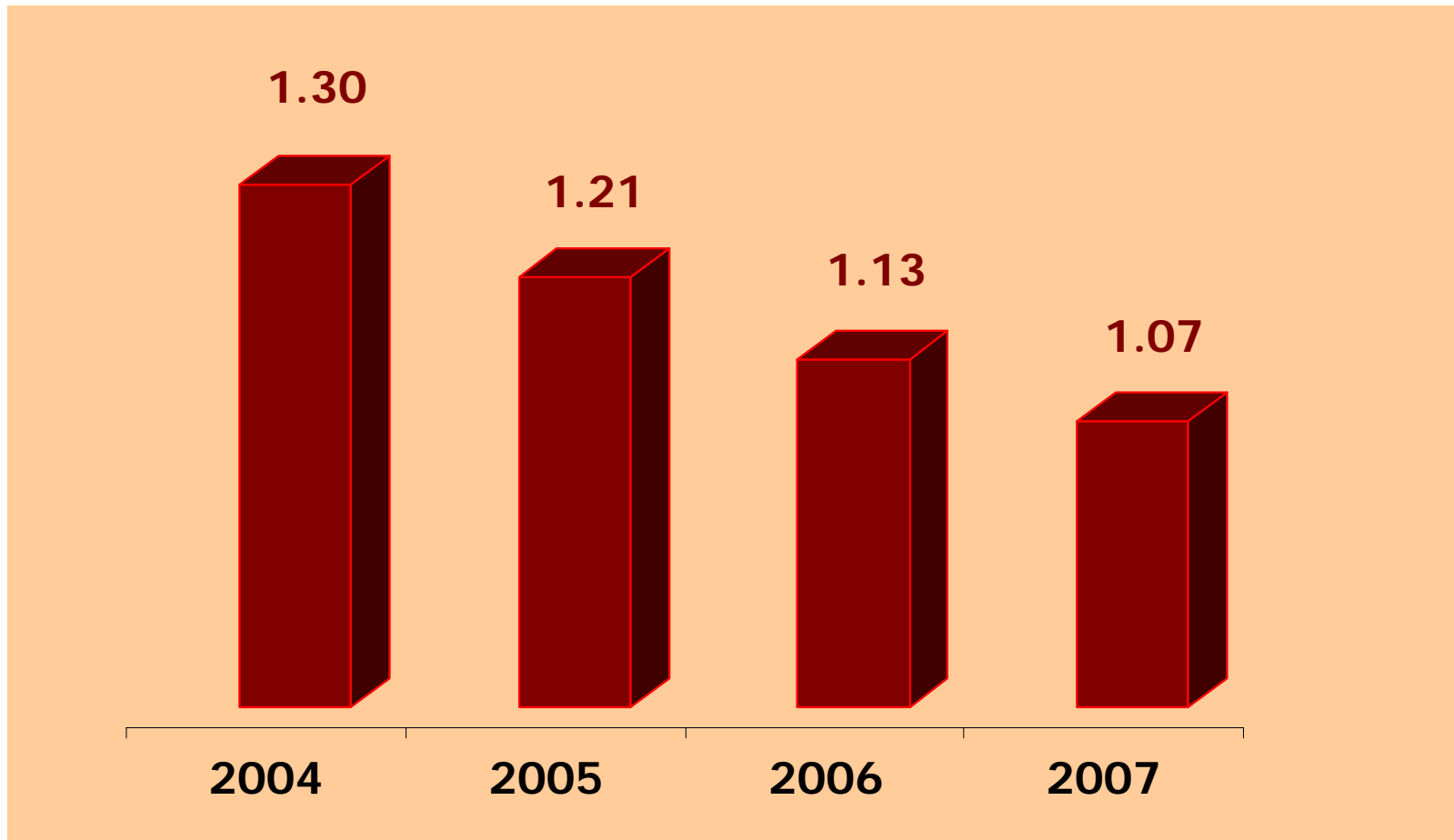
CERI Scenarios: Major Drivers (II)

Driver	Business World	Political World	Environmental World
Economics (Growth)	High	Low	Medium
Resource Availability	Medium	Low	High
Energy Policy (Action)	Low	High	High
Market Structure (Freedom)	High	Low	Low
Technology/Knowledge	High	Low	High

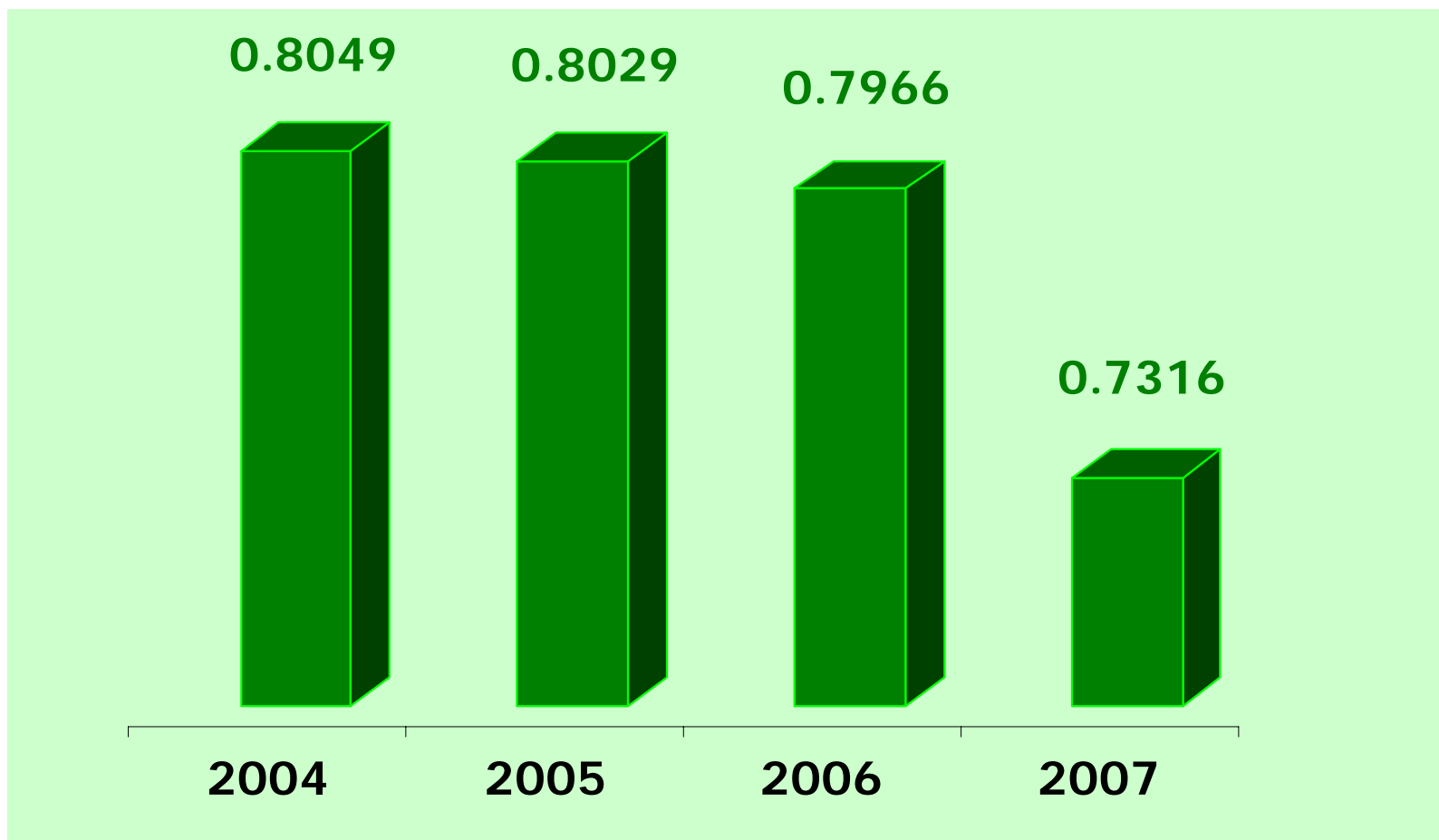
US Producer Price Index



US/Canadian Dollar Exchange Rate



US\$/Euro Exchange Rate



Average 2004-2030 Energy Prices in 2005 US Dollars

	Primary energies	Continuing trends	Fortified islands	Triple E
NEB	WTI, US\$/barrel	52	82	49
	Gas at Henry Hub, US\$/MMBtu	7.31	11.51	7.42
	Gas to oil price ratio	0.82	0.82	0.89
	Primary energies	Business world	Political world	Environmental world
CERI	WTI, US\$/barrel	56	67	44
	Gas at Henry Hub, US\$/MMBtu	7.50	8.06	8.61
	Gas to oil price ratio	0.78	0.70	1.12

External Factors; Longer Term; Up to 2030 (I)

- Higher import dependency of major oil consumers; in CERI Business World scenario import dependencies will rise during 2004 to 2030 as follows:
 - OECD: from 58% to 65% (47% PW; 73% EW)
 - North America: from 43% to 45% (16% PW; 59% EW)
 - Europe: from 61% to 85% (78% PW; 88% EW)
 - China: from 47% to 84% (67% PW; 88% EW)
 - India: from 72% to 92% (83% PW; 94% EW)

External Factors; Longer Term; Up to 2030 (II)

- Higher OPEC market share in world crude oil supply; from 39% in 2004 to 50% in 2030 in CERI Business World scenario
- Rather stable share of oil in world primary energy at about one-third of total (33%)

External Factors; Longer Term; Up to 2030 (III)

- Rising share of Persian Gulf members of OPEC in world crude oil supply; from 24% in 2004 to 31% in 2030 in CERI Business World scenario; means that Gulf producers will be gaining more share within OPEC

External Factors; Longer Term; Up to 2030 (IV)

- Higher import dependency of major natural gas consumers; in CERI Business World scenario import dependencies will rise during 2004 to 2030 as follows:
 - OECD: from 22% to 55% (30% PW; 66% EW)
 - North America: from 3% to 37% (4% PW; 54% EW)
 - Europe: from 38% to 72% (57% PW; 79% EW)
 - China: from 0% to 68% (10% PW; 74% EW)
 - India: from 9% to 65% (11% PW; 72% EW)

External Factors; Short- to Medium-term

- Tight world oil refining capacity
- Low world oil production spare capacity
- Unresolved Middle East (Palestinian-Israeli) issues
- Tensions in US-Iran politics
- Instability in Iraq
- Nigerian internal politics