

# Global & Regional Challenges for the Alternative Energy Sector

Presentation to:

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By:

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# Agenda

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 **The Climate Conundrum**

 **The Global Economy**

 **Energy Security**

 **“Sayonara Nuclear Power”?**

 **What does it all mean for Thailand?**

# The Climate Conundrum



Image Source: [www.treehugger.com/files/2008/05/peak-everything-8-things-we-are-running-out-of.php](http://www.treehugger.com/files/2008/05/peak-everything-8-things-we-are-running-out-of.php)

# Who Cares About the Climate ?

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- ❏ **Climate science and public opinion seem to be moving in opposite directions**
- ❏ **The traveling climate circus – otherwise known as the Conference of Parties – has achieved little**
- ❏ **Improbable that consensus can be achieved**
- ❏ **Need for a rethink ?**

# Politicians Care About Politics

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 **The “iron law” of climate politics:**

**“When policies focused on economic growth confront policies focused on emissions reduction, it is economic growth that will win out every time.”**

**Roger Pielke Jr, from ‘The Climate Fix: What Scientists and Politicians Won’t Tell You About Global Warming’**

# The Global Economy



Image Source: Flickr

<http://www.flickr.com/photos/59937401@N07/5857210610/sizes/m/in/photostream/>

# Diverging Paths

## 🔥 The world as a two-speed economy

- ⇒ US and Europe going nowhere fast  
... with more pain to come?
- ⇒ Increasing interest in Emerging Markets  
... and securing resources



# Diverging Paths

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## Real risk to the downside

⇒ Apparent inability / unwillingness to deal with debt overhang

⇒ Can't keep “kicking the can down the road”

⇒ European banking system overexposed to ill-disciplined European economies

## Asia responding by burgeoning domestic markets, regional trade

# Implications for Alternative Energy

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- 🔺 **Potential impact to the availability of finance ... and the cost of capital**
- 🔺 **Asian financial institutions have learned from Asia Financial Crisis**
  - ⇒ ... emerged stronger, coped reasonably well this time
- 🔺 **Interest in carbon waning ... deals need to make sense from an economic perspective**

# Energy Security



Image Source: <http://eastmagazine.wordpress.com/>

# Energy Security

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- 🔺 **Energy Security is defined as:**  
“...access to adequate, affordable and reliable supplies of energy.” †
- 🔺 **Previously the focus was on supply of oil**
  - ⇒ But supply of natural gas & reliability of power generation increasingly a concern
  - ⇒ And adequacy of investment
- 🔺 **Factors that impact energy security**
  - ⇒ Extent of imports ... and FX cost
  - ⇒ Source country - political stability & concentration of market power
  - ⇒ Logistics - distance from source & potential for disruption to supply chain
  - ⇒ Energy mix & fuel substitutability

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† IEA WEO 2009

# Energy Security Concerns Rising

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- ⚠ **Energy commodity price increases have created significant anxiety across the region**
- ⚠ **Left governments and industry with significant volatility in energy costs (and subsidy bills)**
- ⚠ **Governments have responded by increasing regulation to promote energy self-sufficiency / security**
- ⚠ **Energy security is as much a driver for investment in renewables as concerns about carbon emissions (increasingly more so)**

# Concentration of Market Power

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## Oil: dominant market position of OPEC

- ⇒ Saudi Arabia alone supplies about 10% and has 20% of global resources
- ⇒ Domestic usage in ME and other supply countries will reduce allocation for export
- ⇒ Iraq may feature as a major supplier in the future

## Gas: Russia, Qatar and Iran have over 50% of resources

- ⇒ Less fungible / difficult to transport, so markets more fractured
- ⇒ LNG has opened up gas trade & reduced some security concerns

## Coal: 7 countries account for 91% of global net exports

- ⇒ Australia & Indonesia accounted for 57% in 2008
- ⇒ China (3<sup>rd</sup> largest reserves) has shifted from net exporter to net importer

# Potential Issues & Impacts

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## Interconnectivity of energy sector

⇒ Changing investment / usage pattern impacts entire sector

## Increasing reliance on non-conventional oil & gas sources

⇒ Introduces more risk to projects ... & the energy system, generally

⇒ Expect this to push prices higher

## Transport / logistics sectors remain vulnerable to oil price volatility

# “Sayonara Nuclear Power” ?



Image Source: International Business Times - [www.ibtimes.com/articles/124321/20110318/japan-nuclear-radiation-disaster-site-pictures.htm](http://www.ibtimes.com/articles/124321/20110318/japan-nuclear-radiation-disaster-site-pictures.htm)

# Nuclear Protests in Japan



Image Source: The Australian (AP)

# Nuclear Protests in Japan



Image Source: ABC News (AP)

# ... and in Germany



Image Source: David Ebener / AFP - Getty Images)

# Sunset for Nuclear Energy?

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- 🔺 **Germany propose to phase out nuclear by 2022**
- 🔺 **Japan discussing the phase out of nuclear**
  - ⇒ Presently 76% of nuclear capacity is off-line (>40 GW)
  - ⇒ Increased gas consumption (C. ↑ 15 Mtpa LNG import in 2011; expect ↑ 20 Mtpa in 2012)
  - ⇒ Need to figure out how to replace C. 55 GW of electricity capacity – gas, coal, renewables?
- 🔺 **Switzerland phasing out nuclear by 2034**
- 🔺 **Italy continuing freeze on nuclear**

# Other Impacts

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- 🔺 **Japan rushed through a renewable energy bill**
- 🔺 **A number of countries re-examining carbon commitments in absence of nuclear option**
- 🔺 **Siemens announces withdrawal from nuclear to focus on renewables**
- 🔺 **Expect ↑ demand for gas and coal ... and hence upward pressure on prices**
- 🔺 **To the extent that nuclear can be / is built, it will be more expensive**

# What does it all mean for Thailand?



Image Source: Wat Arun, Bangkok

# Stating the Obvious

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- 🔺 **International energy commodity prices will go up**
- 🔺 **Coal will remain difficult in Thailand**
  - ⇒ Perhaps there's another way?
- 🔺 **Nuclear is off the table ... was never really on it**
- 🔺 **Gas already dominant for power generation (65-70%)**
  - ⇒ Risk that it may go higher ... and get more expensive

# A Change in Mindset

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- 🔺 PDPs since 2007 have changed little ... and never had any chance of being realised
  - ⇒ 9,000 – 12,000 MW of coal and nuclear will not happen
- 🔺 Time for a change in thinking
  - ⇒ Energy sector needs strategic NOT wishful thinking
  - ⇒ ... and, at times, it needs thinking “outside the box”
- 🔺 Make renewables part of energy planning – include this in the PDP

# A Suggested Approach

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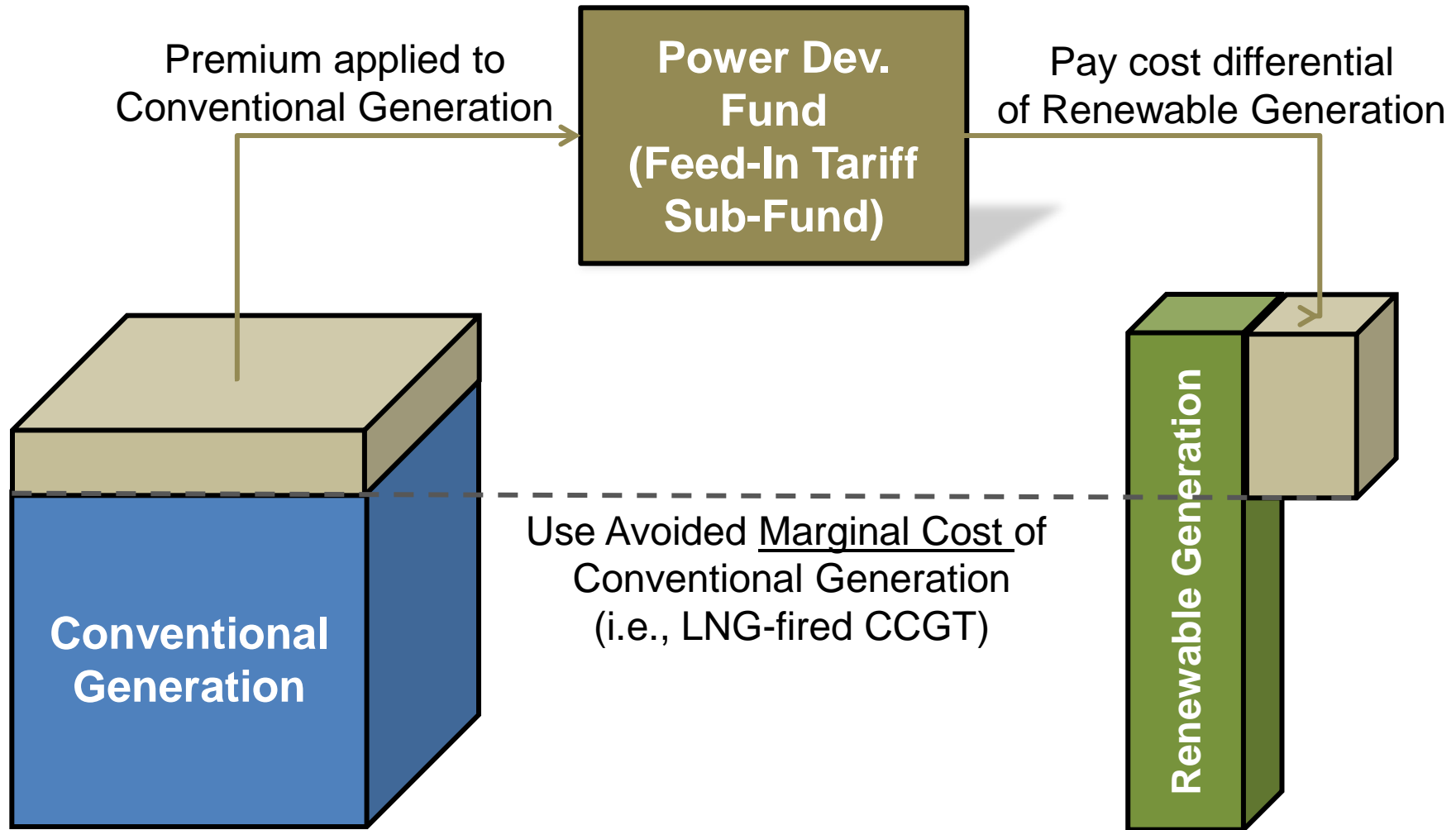
## Focus resources and prioritise the right renewables

- ⇒ Wind and solar may be sexy ... but not core for Thailand
- ⇒ Biomass will be the king of renewables in Thailand ... and much more cost effective than solar and wind

## Move to Feed-In Tariff mechanism expeditiously

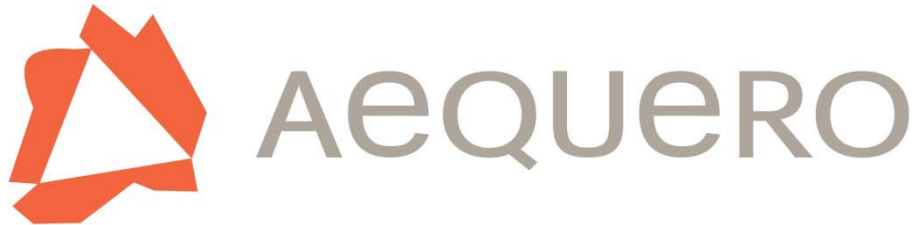
- ⇒ Delink incentive mechanism from (volatile) conventional energy
- ⇒ Use the real avoided marginal cost of energy i.e., CCGT using imported LNG ... not some mythical coal plant that can't be built

# Feed-in Tariff Sub-Fund Mechanism



# Contact

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