

Green Investments Summit Indonesia 2010

Jakarta, 12 – 15 July 2010

Renewable Energy Investment Strategies and Risk Assessment Dr. Johan Bastin, CEO CapAsia



Presentation Structure

- 1. Introduction -
 - CapAsia
 - Key Determinants for RE Investment Viability
- 2. Country Specific Aspects
 - Macro-Economic and Political
 - Legal and Regulatory Framework
 - Political Commitment to Renewable Energy
 - Renewable Resources Availability
- 3. Investment Specific Aspects
 - Technology Risks
 - Sponsor Strength
 - Project Characteristics
- 4. Financing/Capital Structure



Section 1

Introduction



About CapAsia

- Private Equity Infrastructure Fund Manager focused on South East Asia and the non-BRIC countries of Emerging Asia
- Established in 2006 as a JV between CIMB Group and Standard Bank
- US\$460 million AuM targeting US\$1 billion by mid-2012
 - Three PE funds under management
 - SEASAF: US\$147 million focusing on South East Asia
 - IIF: US\$500 million target size focusing on Islamic countries of South East, Central and South Asia
 - AIF: US\$96 million focusing on investment grade countries of East and South East Asia
 - Launch of US\$300 million SEASAF II planned for 3rd qtr 2010
 - A leader in its markets as measured by Assets Under Management and presence
 - The leading mid-market infrastructure PE fund investment manager in South East Asia
 - A leading Islamic infrastructure investment manager in emerging Asia
 - · Gradual expansion into South and Central Asia
 - Middle market focus
 - Investment range US\$10 25 million (SEASAF) and US\$25 75 million (IIF)
 - Expertise in all core sectors of infrastructure including renewable energy
- 18 international investment professionals scheduled to grow to 20
- Offices in Singapore, Kuala Lumpur, Bangkok and Jakarta



Primary Sector Focus

- Transportation & Logistics
- Energy & Power
- Renewable energy (wind; hydro; PV solar; biomass; geothermal)
 - Team members with deep and long-standing experience (> 12 years) in investment in wind, solar, hydro and biomass energy in Europe
 - Main focus
 - wind power and hydro;
 - some biomass;
 - Closely following solar power
 - Ongoing investment review/due diligence of a total of 530 Mw in wind energy in nine parks in Thailand, Philippines, Pakistan and Kazakhstan
- Telecommunications
- Healthcare and Education











Key Determinants for RE Investment Viability

- Country Specific Aspects
 - Macro-Economic and political environment
 - Legal and regulatory framework
 - Sub-sector in country specific context
- Investment Specific Aspects
 - Renewable energy technology
 - Sponsor strength
 - Project characteristics
- Financing



Section 2

Country Specific Aspects



Macro-Economic and Political Environment

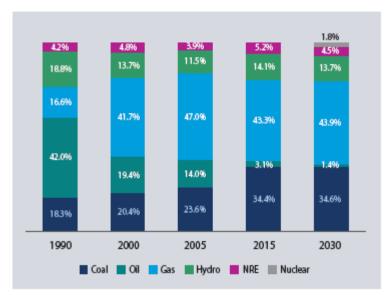
- Monetary and fiscal policies
- Strength and sanctity of regulation and legislation
- Political succession
 - Policy grandfathering
- Political Commitment to Renewable Energy
 - Unilateral/discretionary adverse changes in regulatory framework (incl FIT—e.g. Spain)
- Affordability



Political Commitment to Renewable Energy

- Green policies
 - Targets for CO² emissions reductions
 - Pricing externalities
 - International treaties & marketing
- Affordability
 - Tax or charge?
 - If tax: budgetary costs of green energy policies
 - If user charge: costs to the end-consumer
- Public Awareness of External Costs of Thermal Energy & NGO pressure
- Energy dependency

South East Asia Power Generation Mix 1990 - 2030



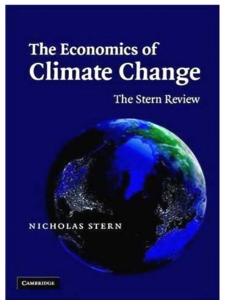
NRE = new and renewable energy. Source: APERC analysis (2009).

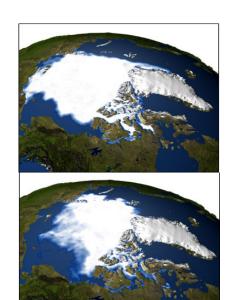


Public Awareness of External Costs of Thermal Energy

Fostering growing awareness of external costs











RE Legal and Regulatory Framework

Conducive for RE investment

- Mandatory off-take
- Purchase price guarantees
- Green bonuses/ adders
- Preferential access to sites and land titles
- Grid connection
- Internalization of CO² emission costs

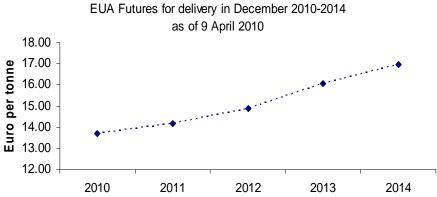
Supporting long-term financial viability

- Level and composition of feed-in tariff
- Green bonus price level and lock-in mechanism
- Time horizon of applicable price and bonus regimes
- Tax treatment
- Counterparty credit

Predictability

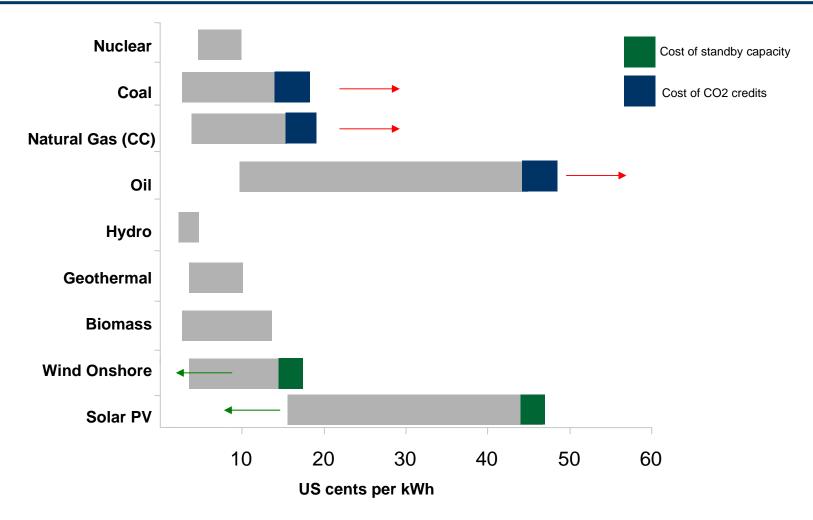
- Regulator
- Arbitration
- Recourse
- Evidence from practice

Price of CO2 Credits/Tonne





Commercial Viability



Source: DnB NOR Market Equity Research, September 2009



Renewable Energy Resources

Quality and quantity

- Wind
- Solar
- Hydro
- Biomass
- Geothermal

Site selection

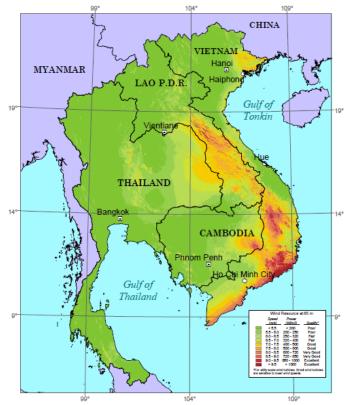
- Data availability
- Grid accessibility
- Land availability
- Proximity to demand

Ease of use

- Resource use
- Land titles
- Zoning regulation
- Control and permitting

Wind Resources Map

Thailand, Laos, Cambodia, Vietnam





Section 3

Investment Specific Aspects



RE Technology Risks

Risks	Wind	Hydro	Biomass	Solar
Regulatory	Medium	Low	Medium	Medium/High
Technology	Moderate	Low	High	Low
Development	Moderate	Medium	Medium/High	Low
Construction & Completion	Medium	Moderate	Medium/High	Low/Moderate
Resource Availability/Price	Medium	Moderate	High	Moderate
Financing/Capital structure	Medium	Moderate	Medium	Moderate
LT Cost competitiveness	Medium	Low	Medium/High	High
Operations	Moderate	Low	High	Low



Strengths of Sponsor and Management

- Track record and reputation
- Extent of commitment
 - Financial exposure
 - Time horizon
- Capability to navigate regulatory system and effectively handle local parties
- Project and construction management experience
- Operating expertise



Project Characteristics

Site specifics

- Renewable energy resource characteristics
- Size, lay-out and accessibility
- Land use and title
- Permits required

Readiness

- Permits, consents & agreements
- Land title and land use rights
- Equipment supply
- Feed stock supply

Financial viability

- Investment costs
- Site specific characteristics (e.g. Yield/availability)
- Risk mitigation
- Robustness capital structure

Technical viability

- Depth and quality of analytical data
- Technology and equipment
- Contractor/supplier reputation and credentials
- Technical and feasibility studies
- Operating expertise



Section 4

Financing, Capital Structure, Exit



Financing

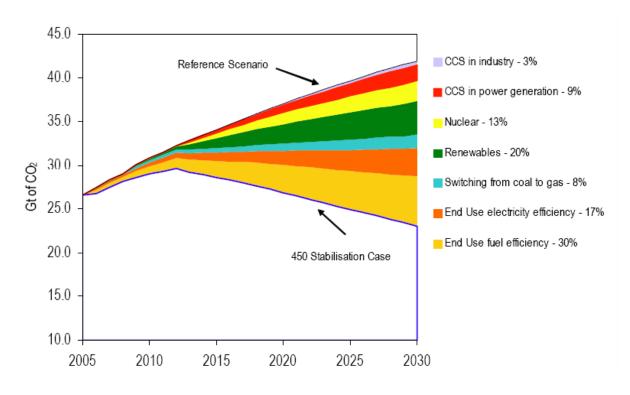
- Overall Costs (USD mln/MW installed capacity)
- Equity Premium (USD/MW)
- Capital Structure
 - Robustness relative to specific RE technology
 - Stability
 - Leverage
- Senior Debt
 - Tenor
 - Currency
 - Terms and Conditions
 - Working Capital

Avoid Excessive Leverage





Finally: A Word of Caution



- Renewable energy contributes only 20% to meeting CO2 reduction targets
- Energy efficiency could help reduce CO2 emissions by up to 50%
- Nuclear regaining respectability (13%)



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