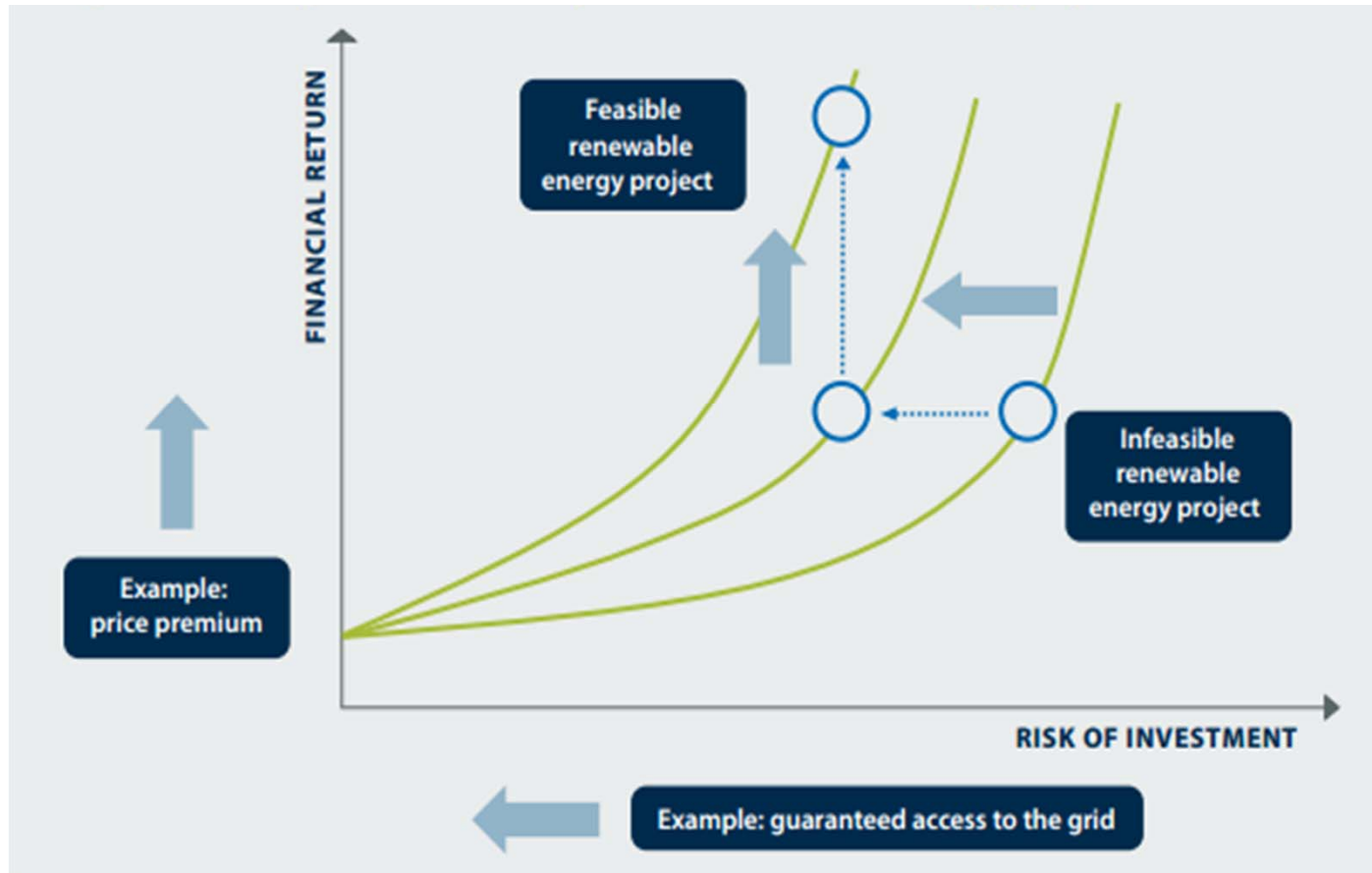




Market driven support policies for renewable energy

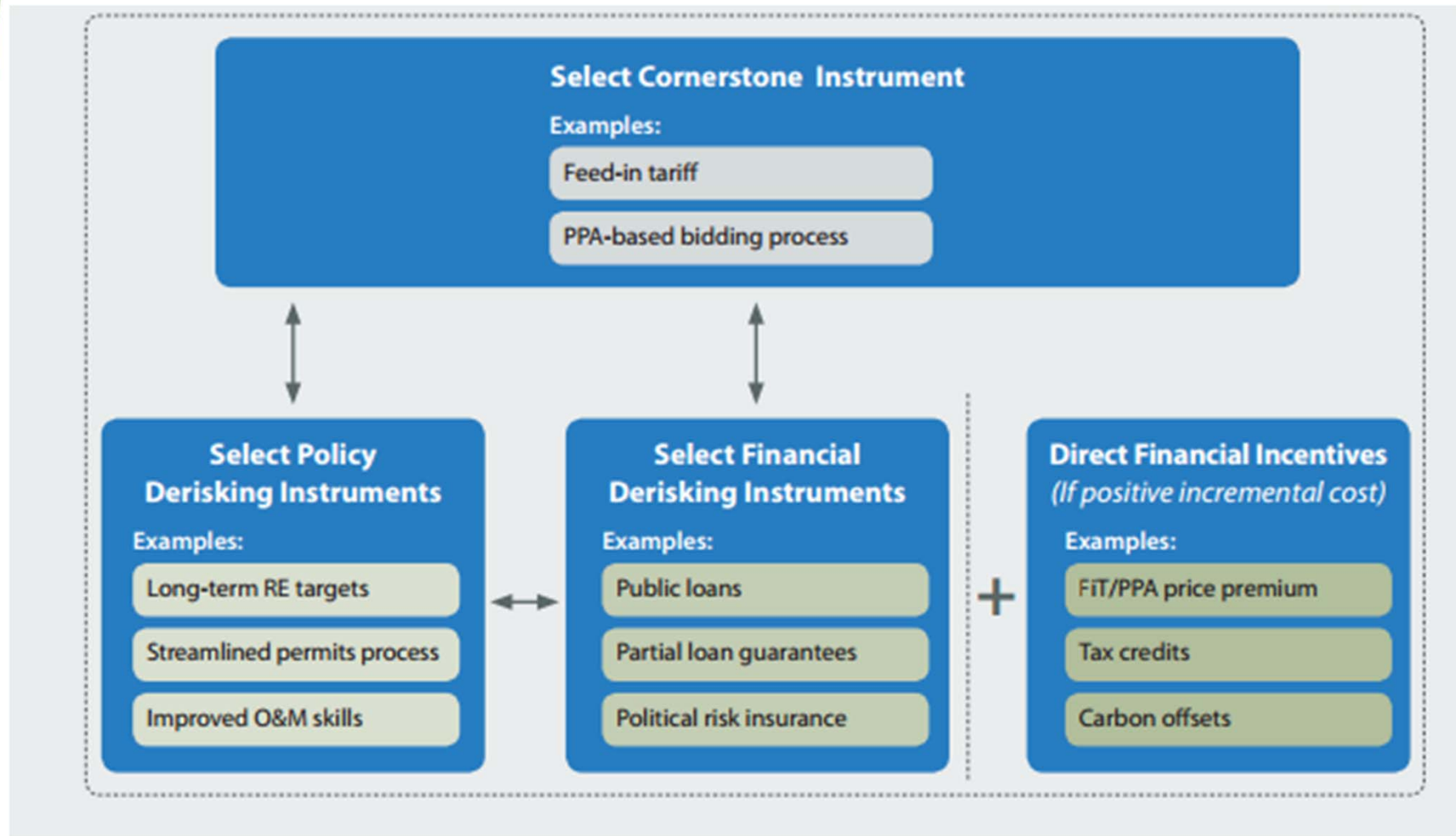
Alexander Ochs, *LEDS Partnership Energy Working Group (Worldwatch Institute)*

What is derisking?



- Source: UNDP Derisking Renewable Energy Investment (DREI), March, 2015

Cornerstone Policy and Derisking



- Source: Glemarec (2011), adapted by UNDP Derisking Renewable Energy Investment (DREI), March, 2015

Prominent barriers/risks to SE investments (1)

- Technological Barriers
 - Lack of available data and information
 - Transmission and distribution challenges
 - Need for integrated resource planning
- Social Barriers
 - Lack of public acceptance
 - Vested interest in business as usual
 - Not In my backyard
 - Need for up-to-date, fully inclusive data gathering and communication

Source: Woldwatch: Study on the Development of the Renewable Energy Market in Latin America and the Caribbean, IDB 2014

Prominent barriers/risks to SE

Market Barriers

- Restricted grid and power market access
- Lack of economies of scale
- High transaction costs
- Counterparty risk
- Fossil fuel subsidies

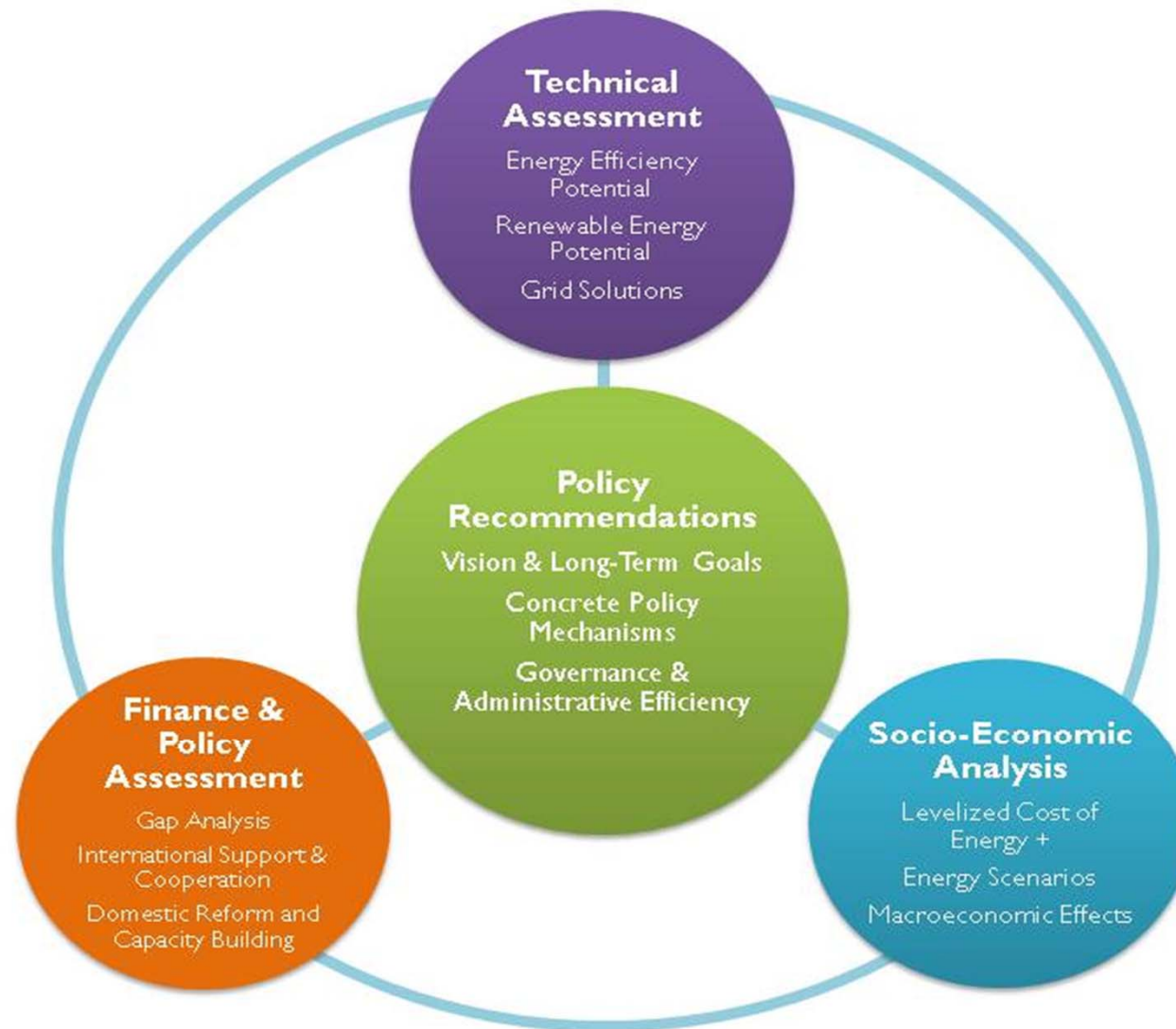
→ The need to create open, fair, and competitive electricity markets

Finance Sector Barriers

- Currency risks
- Inadequacy of financial products
- Underdeveloped financial sectors

→ The need for active financial sector development

Smart government's energy planning



“Long, loud, and legal! “

Importance of frameworks and goals

- Current energy targets
 - China: 20% primary energy consumption from RE by 2030
 - India: 40% non-fossil fuel electricity capacity by 2030
 - Indonesia: 23% of total energy consumption by 2025
 - Laos: 30% of energy consumption by 2025
 - Philippines: 50% primary energy needs by 2030
 - Thailand: 25% of total energy output by 2022
 - ASEAN: RE to be 23% of regional fuel mix by 2020
- Current Energy Policies
 - 146+ countries globally have RE support policies (national or state/provincial level) – are they working?
- Criteria for success
 - Cohesion of development, climate, energy plans & policies
 - Mandatory, short- and mid-term goals, MRV

Slide 7

AO2

- Please include current RE % share for all countries in notes so that I can show the ambition
- for policies, it would be great to have some regional number for Asia (lower priority, please address other comments first)
- please double check on Vietnam (e.g. REN21 world map on website); outdated numbers? why is it then seen as so progressive? are there any know limits to why they are so unambitious?
- please also check current 40% numer for PHL; is this really primary energy consumption - or rather electricity?

Alexander Ochs, 26-06-2016

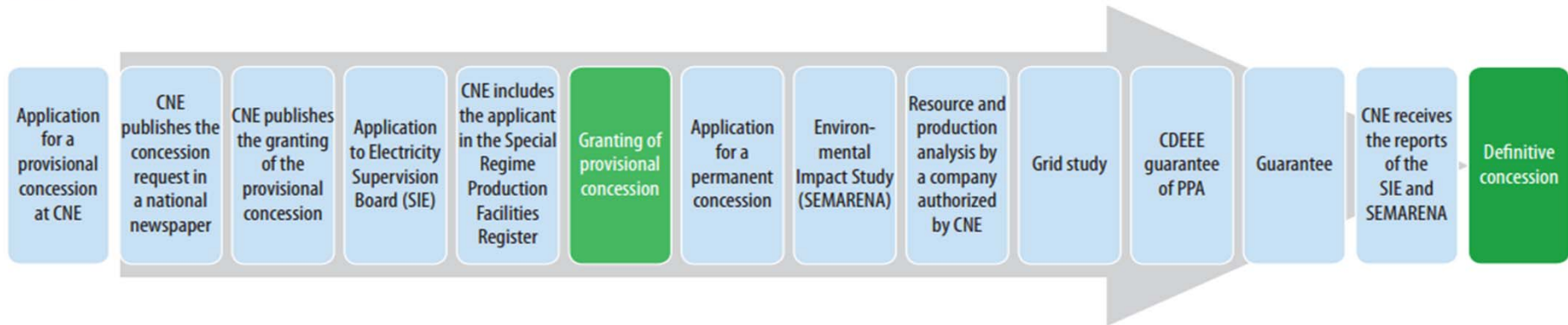
Effective SE Governance

- An institutional home for SE
 - E.g., own department in the energy ministry
 - Liaison in the top office of PM or President; in the finance ministry
 - Agency/commission for planning, data information support
 - Parliamentary committee
 - Stakeholder processes
 - Collaboration with sub-federal level
- Governmental mainstreaming, support from the top, clear institutional responsibilities, necessary human & financial capacities
 - Creating a transparent repository of capacity building needs
 - Developing mandates, tools, guidelines, and management information systems
 - Joining active Communities of Practice

Support policies/cornerstone instruments

- Target key investment risks; the foundation upon which complementary policy and financial de-risking instruments are built
- Regulatory policies/measures
 - e.g., Legal framework for IPPs, grid access regulation, norms and standards (e.g. for RE portfolio, buildings, appliances), role of regulators and individual players
- Market-based policies
 - e.g. tax incentives, FiTs, auctions/tenders, emissions trading
- Driving renewable energy projects most effective when
 - regulatory policies are coupled with market-driven support policies
 - additional policy and financial de-risking measure complement cornerstone policies

Example for permitting process



Solutions

- Streamline process and requirements
- Create one-window stop



Thank You

A

Feel free to contact me with questions or comments at: aochs@worldwatch.org or with the Energy Working Group at energy@ledsgp.org

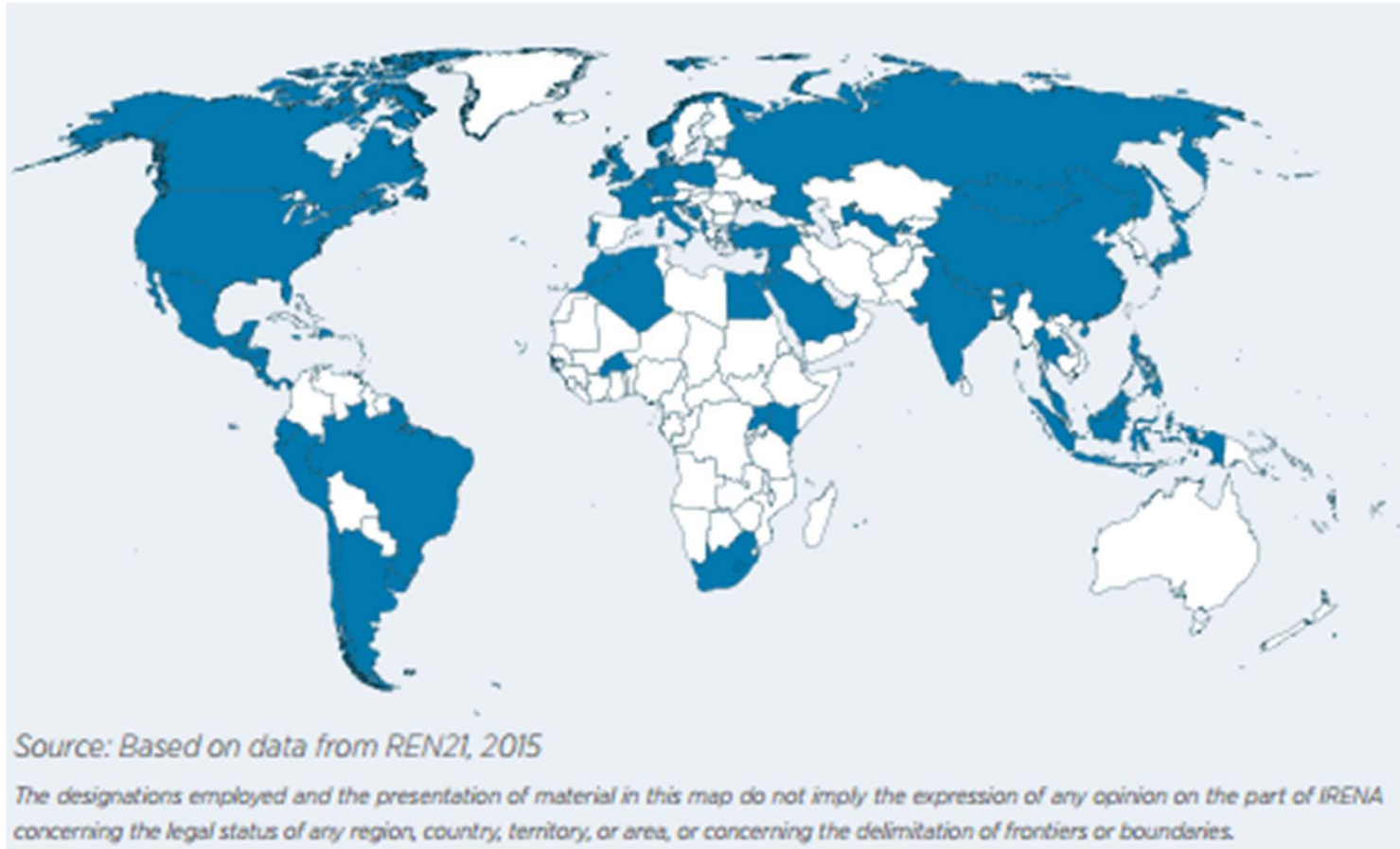
Slide 11

AO3

- Include EWG website at CDKN
- include EWG website at worldwatch
- include my email address

Alexander Ochs, 27-06-2016

Countries Implementing Renewable Energy Auctions (by early 2015)



Source: IRENA *Renewable Energy Auctions: A Guide to Design*, 2015

Reverse Auctions and Public Tenders



Source: IRENA *Renewable Energy Auctions: A Guide to Design*, 2015

- Reverse Auctions
 - Price during auction decreases, instead of increasing
 - Buyer establishes terms and conditions and bidders enter the auction with a price per unit of electricity
 - Bidders reduce price, reaching real prices
- Public tenders
 - Very similar to reverse auctions
 - Takes into account prices but also other conditions

Case Study: India

- India's National Solar Mission (2010)
 - Increase in total capacity
 - Decrease in contracted price
 - 100% of projects installed in timely manner
 - Recent success: Kamataka
 - US\$ 0.072/kWh
 - Five (of six) bid winners were Indian developers

Feed-in Tariffs (FITs)

- Created to promote investment in renewable energy
- Reduces uncertainty in price
- Versatility of FITs
- Variations in FITs
- Degression

Case Study: Malaysia

- SEDA's Renewable Energy Law (2011)
- 2013
 - 1,297 renewable FIT applications approved
 - 14.63MW capacity through FITs
- 2015
 - 7,280 renewable FIT applications approved
 - 1,137.89 MW capacity through FITs
- Challenges

Tax Incentives

- Production tax credits
 - Producers receive tax credit from energy created from renewable energy sources
 - Used throughout the US
 - 2016 Budget extended the Production Tax Credit in wind energy
- Technology import tax reductions
 - Decreases taxes on sustainable technologies, increasing likelihood of imports and deployment of technologies
 - Brazil: REINFA

Accelerated Depreciation Tax Benefit

- Depreciation of a fixed asset so that greater deductions occur in the earlier years
- Methods:
 - Double declining balance
 - Sum-of-the-years' digits
- India
 - Used in wind industry since 1990s
 - Main driver for development of 25GW of installed wind capacity



Emissions Trading System

- Total acceptable emissions are determined, and tradable permits for carbon dioxide production are distributed
- Incentivizes improvements in technology and efficiency
- Lower costs than other taxes or regulations

Pilot Programs: India & China

- CHINA

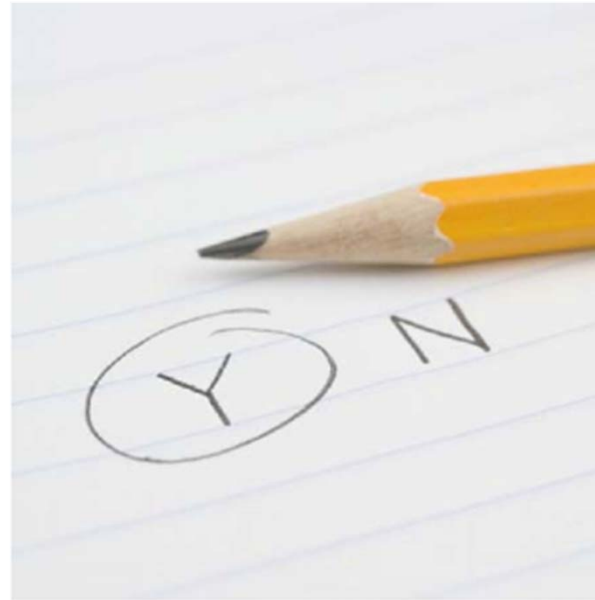
- Pilot phase in 7 cities/ provinces
- Increase in non-pilot programs
- National ETS announced to be launched in 2017

- INDIA

- India's Perform, Achieve, and Trade (PAT)
 - Promotes energy intensity improvements
 - Trade of energy saving certificates
- Pilot emissions trading system: Tamil Nadu, Gujarat, Maharashtra

Survey

- **How did we do?**
- **Your feedback is important!**





For more information

- **Insert links to relevant publications, webpages or further reading**
- **Contact details**