Energy Saving Certificates Trading under PAT Mechanism

27 March 2010

PXIL

Power Exchange India Limited

NSE
National Stock Exchange of India Limited

NCDEX
National Commodity & Derivatives Exchange Ltd.

PFC

GUVNL

MP POWER TRADING COMPANY LIMITED

WBSEDCL

GMR
Creating tomorrow today

TATA POWER TRADING COMPANY LIMITED
Shaping India's Vibrant Power Market

JSW

Agenda

- PAT framework
- Trade of ESCerts
- Issues and Views
- About PXIL

PAT Overall structure

Market mechanism to promote energy efficiency policy

Basic structure

- Designate consumers
- Set targets for these consumers
- Monitor actions and verify actual achievements & reporting updates
- Mix of Incentives and Penalties
  - Penalties for under-achievement and
  - ESCerts issued for over-achievement
- Trade of ESCerts on Power Exchanges and bring market balance

PAT Overall structure…2

Designate Consumers

- 9 sectors
  - Power, Steel, Cement, Fertilizer, Pulp & Paper, Textile, Aluminium, Chlor-alkali and Railways
- 714 designated consumers in these sectors

Set Targets

- Setting targets on the basis of current specific energy consumption
- May take into account Location, Vintage, Technology, raw materials, product mix etc.
- Different targets for plants by grouping them within bands depending upon their as-is SEC
  - Highly efficient plants in a certain industry to have lower targets
  - Less efficient plants to have larger targets

PAT Overall structure…3

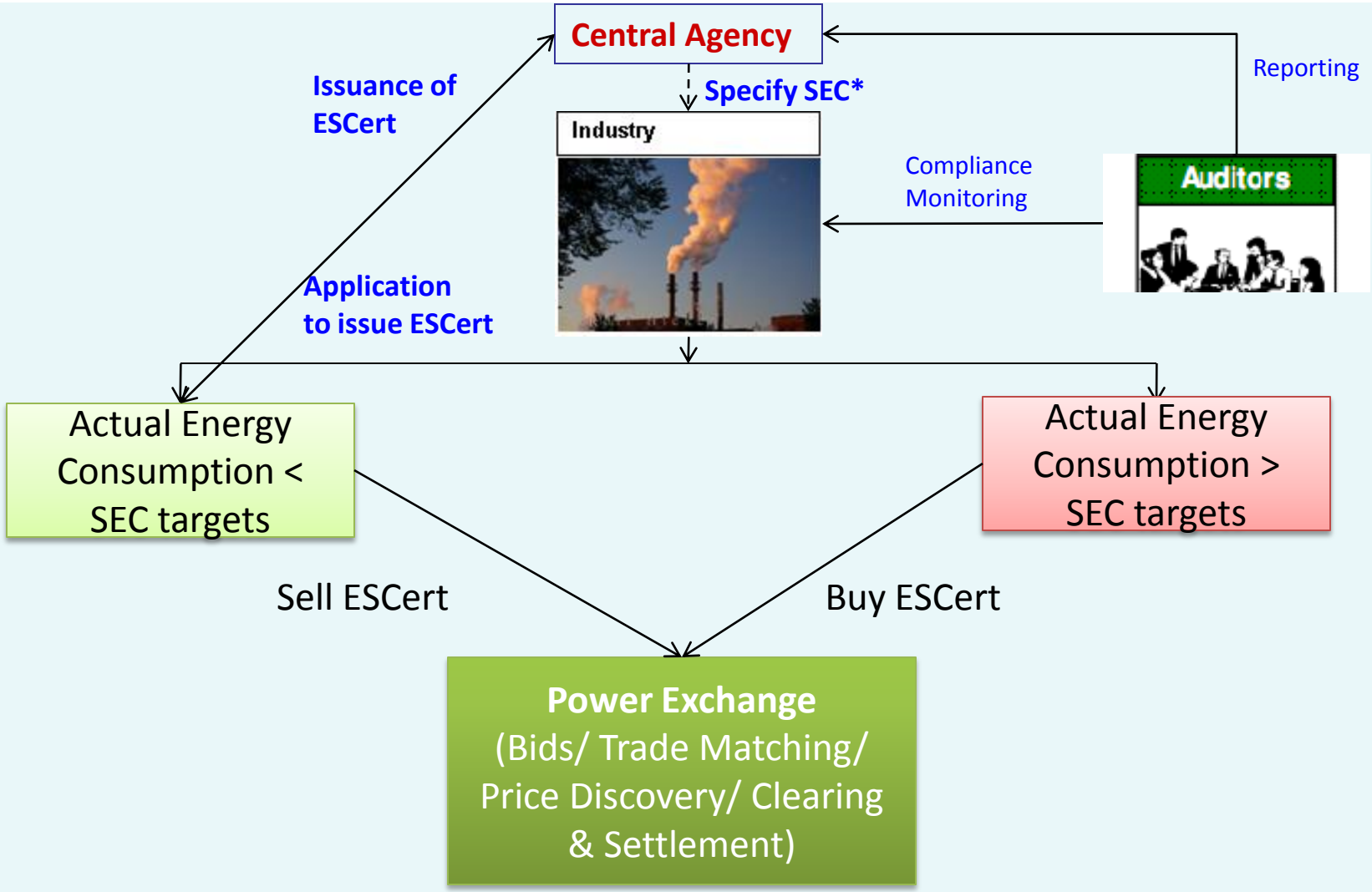
Monitoring & verification of targets by Designated Energy Auditors

- Methodology and Standards of Monitoring, Verification and Reporting
  - Periodicity, granularity of monitoring
- Check if designated consumer has achieved targets
- Underachievement: Obligations to buy ESCerts or pay penalty
- Overachievement: Issuance of ESCerts for banking for later use or trade

Trading of ESCerts

- Participation by Designated consumers
- Platform provided by Power Exchanges
- Tradability
  - Availability of ESCerts for trading (Energy usage allowance than Saving Cert)
  - Adequate demand in the market for a fair price for such ESCerts

ESCerts Trading



*SEC – Specific Energy Consumption

Issues
from the perspective of tradability

Sl. No	Focus Areas	Issues	Some views
1	**Monitoring and Verification**		
A	Has designated consumer achieved targets	Periodicity of checks	High - costly Low – Won't allow traction for trading
B	Underachievement: Obligation to buy ESCerts or pay penalty	Level of penalties	High - reason to trade Low- pay penalty to cover obligations
C	Overachievement: Issuance of ESCerts for banking for later use or trade	Incentive for overachievement	Price of ESCerts >= marginal cost Tenure of ESCerts – ability to hold on for later use
2	**Tradability**		
A	Participation by Designated consumers	Other market intermediaries?	More market intermediaries would bring in traction and liquidity
B	Availability of ESCerts for trading	Is there liquidity in the market	Initial stages may require jumpstart of the market
C	Adequate demand in the market for a fair price for such ESCerts	Are there pricing signals	Ceiling / floor price? Market-makers?

Role of Exchanges

- **Market infrastructure and not a market participant**
- **Transforms the market into an organized activity**
  - Nation wide market place
    - Lower Transaction cost
    - Standardization of contracts allows better trade ability
    - Risk management through appropriate margining eliminate credit risk
    - An easy to access credible market place
    - Transparent market based prices
  - All transactions are automated, online and completely secured
  - Standardized contracts provide certainty and ease in trade

Why Power Exchanges for ESCerts

Power Exchanges

- Provide an electronically accessible common marketplace
- Have a vibrant spot market in operation
- Large number of participants
  - Power generators (including captive owners)
  - State Utilities and distribution companies
  - Large power consumers

Deep interlinkage between energy sector operations and energy efficiency

- Commonality of participants
- Common platform for Hedging, counter positions, manoeuvring future positions, to know the trends and prices, etc
- With power exchanges also being mandated to provide an exchange platform for Renewable Energy Certificates, the linkage grows stronger

Deep Policy and Regulatory inter-linkages in the Indian context

Green Products traded on Exchanges

European Energy Exchange(EEX)

- EEX trades the European Union Emission Trading Scheme
- Trading participants can trade futures and options on the EUA as well as CER futures

Nord Pool

- Trade of EU allowances since 2005 with 348 Trading Members as of Mar. ’08
- Provides trading, clearing and delivery of European Union allowances (EUA) for the whole Kyoto period.

Financial and Energy Exchange, Australia (FEX)

- Australian Emissions Allowances (AEAs)
- Certified Emissions Reduction Units (CERs)
- European Allowance (EUAs)
- Renewable Energy Certificates (RECs)
- NSW Greenhouse Gas Abatement Certificates (NGACs)

Chicago Climate Exchange

European Climate Exchange

- Trading on ECX began in April 2005 on EU Allowances
- Options on EUAs introduced in October 2006
- Futures and Options on CERs were introduced in 2008
- ECX 2009 volumes increased by 82% year on year equivalent to €68 billion.

Promoters & Equity Partners

PROMOTERS	
National Stock Exchange (NSE)	National Commodity and Derivatives Exchange (NCDEX)

EQUITY PARTNERS		
Central Government Entities	**State Government Entities**	**Private Sector Entities**
PFC Limited	GUVNL	JSW Energy Limited
	MPPTCL	Tata Power
	WBSEDCL	GMR Energy Limited

THANK YOU