Flexible Fiscal Incentives and Policy Reforms: What works for Clean Energy Investments?

VENKATACHALAM ANBUMOZHI, ERIA

Objective of Fiscal Policy Reforms– Revenue Mobilization for Clean Energy in Changing Context



Fiscal Concept for Clean Energy Investment



Fiscal Policy Reforms are tied to Energy Sector Reforms



Country	Pledges of carbon emissions reduction
PRC	Cut in carbon emissions/GDP by 40–45% below 2005 levels by 2020
India	Cut in emission intensity by 20–25% below 2005 levels by 2020
Indonesia	26% below BAU projection for 2020

Japan: Base Taxation Rates on Fuel Consumption Plus Carbon Tax Schedule

Ye	ar	Petroleum and Petroleum Products (kiloliter)	Gaseous Hydrocarbons (tonne)	Coal (tonne)	
Base tax rate		JPY 2,040	JPY 1,080	JPY 700	
2012 increase		JPY 2,290	JPY 1,340	JPY 920	
2014 increase		JPY 2,540	JPY 1,600	JPY 1,140	
2016 increase		JPY 2,800	JPY 1,860	JPY 1,370	
Source: MOEJ, 2014 By 2016 – the estimated revenue is JPY 240 billion – JPY 310 billion per annum 1/3 rd from power companies with the reminder paid by primary and secondary consumers					
	All revenue from the tax will be allocated to introducing renewable energies and promoting energy efficiency				

Fiscal Policy Reforms are Tied to Market Maturity of Technologies



PRC: Funds required and Fiscal Policy Instruments to support RE in 12th FYP Period (RMB 100 million)

Clean Energy Investment	2011	2012	2013	2014	2015	Total
Subsidies for RE power prices	280	381	473	557	632	2,323
The golden Sun project	72	72	65	65	57	331
New energy cities	23	45	55	45	23	191
Green energy demonstration counties	10	10	10	10	10	50
New energy micro-grid demonstration	6	6	6	6	6	30
Straw energy utilization	4	4	4	4	4	20
R& D of clean energy technology	8	8	8	8	8	40
Source: CNREC, 2013 Type of policy instruments used						
Revenue Generating Instruments Budget Revenue Providing Instruments Non-Revenue Instruments						

Charges, taxes, carbon market schemes

Direct subsidies, tax expemtions

Deposit refund systems, permit tradong

India: Clean Energy Investment Trends



Source: Bloomberg New Energy Finance, UNEP FI Reports

A lot of progress depends on Progressive Fiscal Polcies to correct the Market Failures

Policy Framework	Wind	Solar
Renewable Energy Certificates Market based instruments to meet the state renewable purchase obligation (RPO)	Introduced in 2011	Introduced in 2011
Income Tax Exemption A 100% tax waiver on profits for any single year period during the first 15 years of the operational life of a power generation project	Introduced in 2002: expired in 2013	Introduced in 2002: expired in 2013
Other Benefits (excise, wheeling) Concessional rates of excise (reduced from 8% to zero) and customs duty (reduced by 5 – 2.5%)	Introduced in 2002 (Rotors and turbine controllers are fully exempted from excise duty)	Introduced in 2002 Introduced at the central govt level (Transmission equipment used in the setup stage is exempted from excise duty)

Impact of Interest Rate on Reduction in Support Prices for RE

Concessionary	Reduction in Total Support Subsidy*		
Interest Rates	Wind	Solar	
3%	-7%	-8%	
5%	-9%	-10%	
7%	-10%	-11%	
10%	-11%	-10%	

*Reduction in total support subsidy relative to no interest rate concession

Source: RBI, 2012

Fiscal stimulus for invigorating clean and green investments



Source: Anbumozhi et al, 2013

Indonesia: Fiscal Policy Focus -> Phasing out energy subsidy



Source: Ministry of Finance

.....and achieving pro-growth, pro-job, pro-poor RE targets

Fiscal Policies for Clean Energy Investment: Key Messages

- •Fiscal policies are of critical importance to redirect the investments towards clean energy.
- •Governments use variety of fiscal policy instruments such as dynamic tax shifts, incentives, subsidy removal and stimulus packages, thus becoming flexible enough to bring catalytic changes in investment environment.
- •Tax reliefs accelerate clean energy investments. In general, taxing bad investment is preferable to subsidizing clean energy investment, but in some cases, both might be useful to bring revenue neutrality.