

The China Renewable Energy Scale-up Program **(CRESP)**



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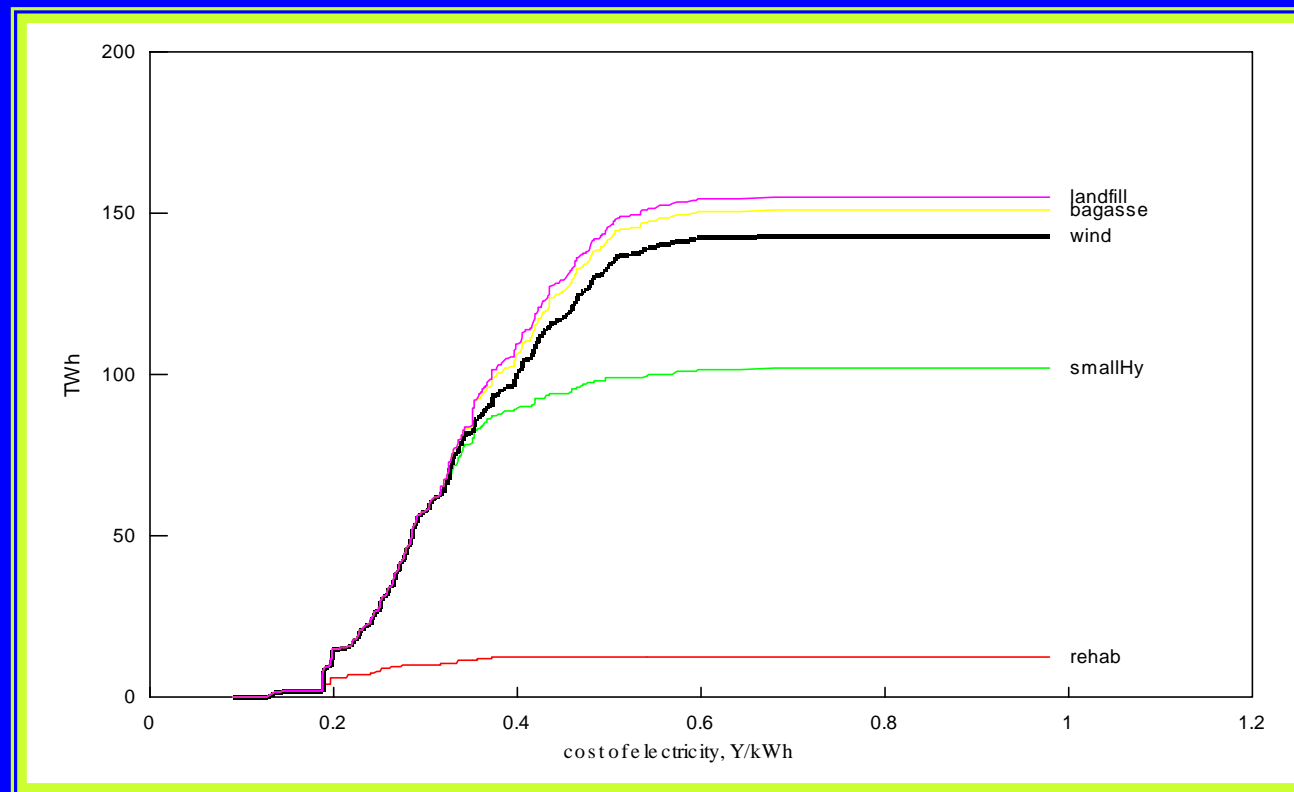
Last Year Taught Painful Lessons on Renewable Energy in China

- Bank/GEF REDP Project restructured to remove 170 MW of windfarms and cancel \$87 million Bank loan, \$8 million GEF grant
- Project was designed to achieve economies of scale through large windfarms
- Break-up of State Power's regional grids made it hard to sell high priced windpower on small provincial grids
- No agreement on how to spread incremental cost broadly

REDP Demonstrates Barriers

- Environmental damage costs not reflected in costs of conventional power
- Costs of renewables are high because of immature technologies, insufficient competition, weak manufacturing and service industry
- Renewables have poor operating record and reputation
- Markets limited to environmentally or socially conscious cities and provinces, while best resources are in poor western provinces
- No mechanisms to spread incremental costs broadly across provincial grids during scale-up

Economic Analysis Shows Large Potential for Renewable Electricity in China



Economically Justified Renewables in China

	TWh
Current level renewables	20
Economic without externalities	48
Justified by local externalities at 2000 values	65
Justified by local externalities at 2010 values	75
Justified by local externalities at 2010 values + Global at \$20/ton c	92

GOC Recognizes Need for Policy

- Bank assisted SDPC to prepare renewable energy 10th FYP in 2000
- Resulted in recommendation for mandated market share (MMS) policy in energy 10th FYP in 2001
- MMS policy is legal requirement that a share of electricity should come from renewables
- Decision marks major change from supply driven to market creation policy
- Motivation is local environmental protection and industrial development

CRESP Supports GOC Policy Initiative

- Core is support for implementation of MMS
- Program also supports:
 - ▶ Training for the public, industry, financial sector
 - ▶ Introduction of fiscal and other incentives for investors
 - ▶ Streamlined arrangements for project development (e.g. concessions) and sale of power (PPAs, pricing)
 - ▶ Mechanisms for trading renewable electricity among regions, e.g green certificates
 - ▶ Local technology cost reduction and quality improvement
- No capital cost subsidies

CRESP Phases (over about 10 years)

- Phase 1—Pilot policy framework in 2-3 Provinces
- Phase 2—Roll out policy to about 10 provinces
- Phase 3—Roll out policy to all remaining provinces



CRESP Target and Supporters

- Target \Rightarrow working estimate for renewable electricity is increase from “business as usual” of 22 TWh to 60 TWh/yr in 2010 (3X).
- Supporters include SDPC, SETC, SEPA but also strong support from MOF.



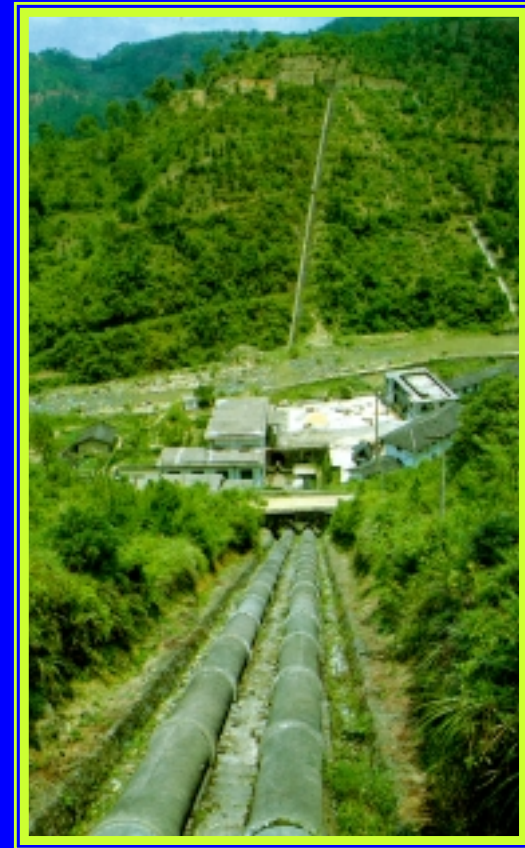
CRESP Budget*

	Phase 1	Total Program
Private/Commercial	62.3	154.8
GOC	2.4	5.0
World Bank	49.4	100.0
GEF	40.2	140.0
Other International	15.5	30.0
	169.8	429.8

*Excludes investments catalyzed by MMS policy, estimated to be about US\$5-7 billion

Risks Are High But So Are Rewards

- CRESA is high risk but needs to be undertaken
- Enabling environment needed for all projects, including those supported by CDM
- Aims to mobilize \$5-7 billion largely private investment in projects
- Such programs are in the interest of renewables and environment worldwide



CRESP Is Only The Beginning of Scale-up

- India has requested that the Bank and GEF develop a Partnership Program.
- Seeds of Partnerships are being sown in other countries like Indonesia, Vietnam and the Philippines.
- ASTAE is working for Partnerships to include both renewables and efficiency.
- ASTAE will increase linkages to other climate change initiatives, e.g. PCF, piloting green certificates, etc.