

*The Renewable Energy Law of
The People's Republic of China:*
drafting process, essential features,
comments, and lessons for Thailand

DEDE

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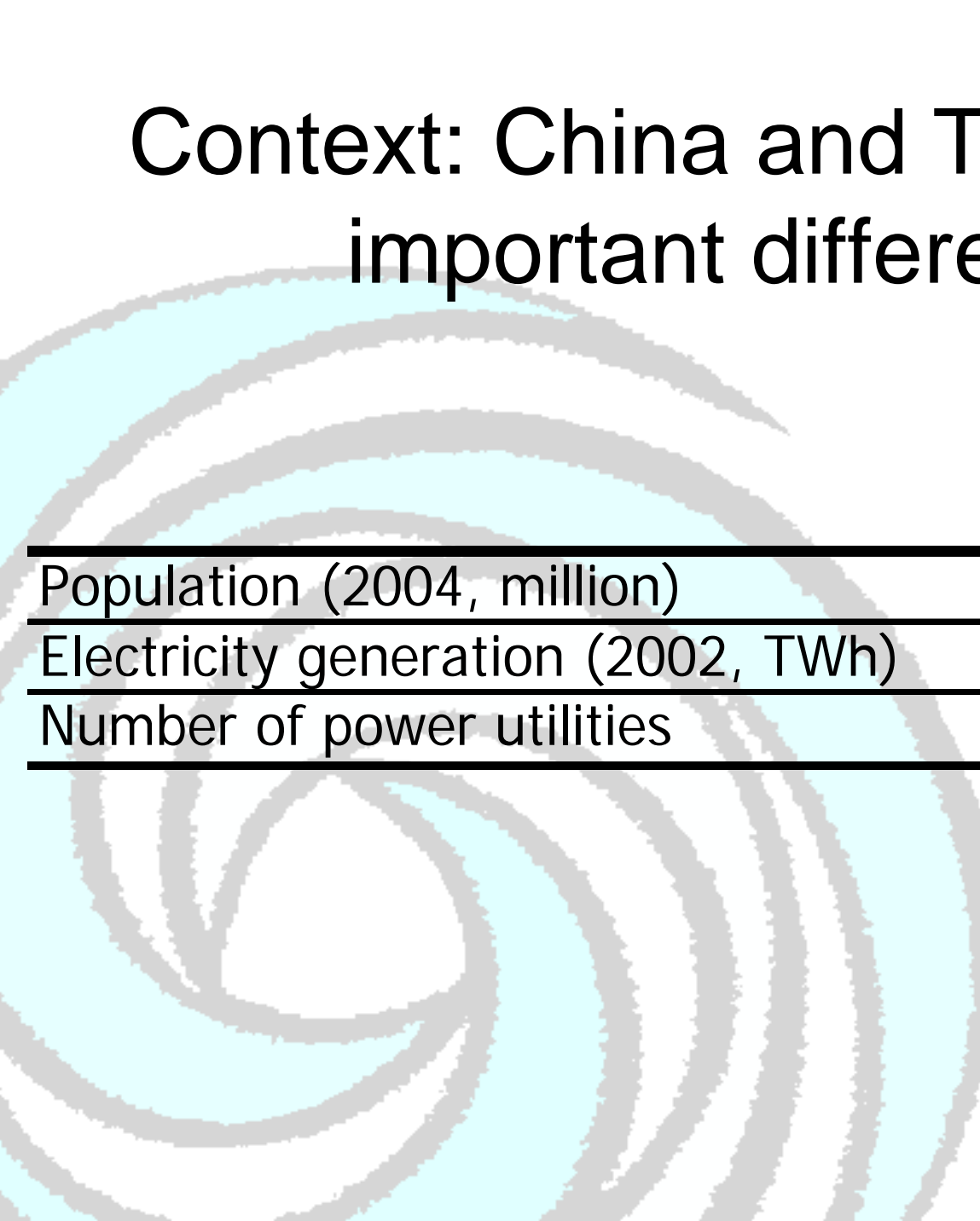
Outline

- Introduce document handouts
- Context: China vs. Thailand
- Notes on process of developing renewable energy laws in China
 - Study tours: USA, Australia, Europe
- Chinese Renewable Energy Law (Draft July 2004)
 - Essential features
 - Comments by international renewable energy policy experts
- Conclusions & next steps

Document handouts

- Chinese study tour trip reports:
 - To USA & Australia
 - To Europe
- *The Renewable Energy Law of The People's Republic of China*
- *Comments on the August 2004 Environment and Resources Committee Draft Renewable Energy Development and Utilization Law of China*

Context: China and Thailand have important differences...



	China	Thailand
Population (2004, million)	1,300	65
Electricity generation (2002, TWh)	1,575	102
Number of power utilities	many	3

...but they share many similarities

	China	Thailand
GDP Growth (2004)	8.1%	6.3%
GDP per capita (2003)	\$1,085	\$2,512
Energy consumption per capita (2002, mil BTU)	33	49
Fuel share of primary energy (2002)		
- Commercial energy (incl. hydro)	83.2%	83.0%
- Traditional energy	15.0%	16.5%
- Renewables	1.8%	0.5%

Context: Thailand and China are confronted with similar energy issues

- Power sector
 - State-owned power utilities being privatized
 - No independent regulatory body
- Renewable energy
 - Goals: diversify energy supplies, safeguard energy security, protect the environment, sustainable development of the economy and society
 - Desire to benefit from renewable energy technology imported from industrialized countries, while nurturing domestic renewable energy industry.

Notes on process of developing renewable energy laws in China

- Through 1990s, the Chinese government adopted renewable energy laws
 - RE included in *Agenda 21*
 - “*Guidelines of 9th five-year plan*”
 - “*Long term Objectives of Economic and Social Development in China*”
 - State Council. 1995. “*New and Renewable energy Project in Priority*”
 - Ministry of Electric Power. 1996 “*Parallel Operation Regulations for Wind Power Generation*”
- Administrative directives, not enforceable statutes
- Not ratified by highest authority – National Peoples Congress (NPC)

Steps towards national renewable energy law

- Lack of renewables implementation → clear need for nation-wide, enforced renewable energy law
 - Many felt that Renewable Portfolio Standard (RPS) used in USA & Australia was appropriate
 - Others interested in Feed-in tariff used by Europe
- Long-term policy support provided by US & Germany since 1990s
 - US
 - National Renewable Energy Laboratory (NREL)
 - Center for Resource Solutions
 - Worldwatch Institute
 - Germany
 - Center for Solar Energy and Hydrogen Research

Steps towards national renewable energy law

- The Environment and Resources Committee of the NPC requested drafts of a RE law from
 - National Development and Reform Commission (NDRC)
 - Tsinghua University
- Study tours on renewable energy laws
 - UK, Spain, Germany: Mar 21 – Apr 9, 2004
 - USA & Australia: Mar 30 – Apr 15, 2004
- Each team: 12 high level energy/law policy makers involved in drafting China's renewable energy laws

Study Tour Findings – UK, Spain & Germany

“The experience of Europe indicates that targets of these countries (10% by 2010, 20% by 2020, 50% by 2050) can be achieved.” (p. 17)




Study Tour Findings – UK, Spain & Germany

“We do not have the perfect electricity market like European countries, and Chinese enterprises do not have strict self-discipline, like Germany enterprise. Therefore, simple, effective, easy for check and supervise measures are the main method in renewable energy legislation. Fixed or incremental renewable power price [feed-in tariff] might be the first choice.” (p. 19)

Study Tour Findings – UK, Spain & Germany

“The seriousness of the law is the guarantee to implement the law smoothly. In UK the order clearly [says] that if the enterprise cannot [comply] it will be fined... up to 10% of the enterprise’s turnover. So there should be... clear penalties to Chinese enterprises if they do not carry out their obligation according to the law” (p. 19)

Study Tour Findings – USA & Australia



“Market reform of the power system is essential for implementing the compulsory market quota system (RPS).”(p. 4)

Study Tour Findings – USA & Australia

“In practice, we can take the purchase law [feed-in tariff] as the dominant measure to promote the development of renewable energy, and then promote the market mechanism driven by the quota objective [RPS] after the perfection of the market mechanism” (p. 18)

Chinese Renewable Energy Development and Utilization Promotion Law

- June 2004 – draft for discussion
- June – Dec 2004 – revise draft
- Support for renewable energy from highest level of government
 - in National Peoples Congress (NPC) legislative plan for 2004
 - Incorporated into National Economic and Social Development Plan (NESDP) for 2004.
- 41 Articles
- 15 pages (English translation)

Essential features of Chinese renewable energy law (1)

- Renewable energy no less than:

Article 7

- 5% of total energy consumption by 2010.
- 10% of total energy consumption by 2020.

- Feed-in tariff

Article 23

- "Fixed-term differential price for grid connected renewable energy"
- "Prices based on principle of favoring development of renewable energy"
- Prices announced publicly on a regular basis

- Government concessions


Article 14

- Government approved concession to use open bidding process

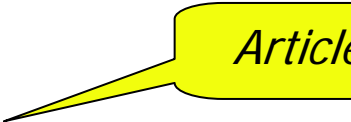
Essential features of Chinese renewable energy law (2)

- Renewables = priority power — *Article 15*
 - “Power grid enterprises must purchase all the power that is generated from qualified renewable facilities connected to the grid.”
- Grid construction costs — *Article 16*
 - “Renewable power generation enterprises invest in and construct the transmission connection from the project substation to the closest tower of the main grid, while the power grid enterprises invest in and construct other transmission connection components.”

Essential features of Chinese renewable energy law (3)

- Electricity price sharing 

Article 24

 - “Additional fees paid by grid enterprises for purchasing grid connected renewable power (including the fee for operating and maintaining independent renewable power systems) are shared by all power consumers.”
- Access to renewable energy plan 

Article 9

 - “Formulation of the renewable energy development plan should seek inputs and comments from relevant agencies, experts and the general public. The approved plan shall be made public except for parts that are confidential.”

Additional areas covered by Chinese renewable energy law

- Penalties for non-compliance (esp. by utilities)
- Standards, including interconnection standards
- Financial support
 - Capital subsidies
 - Loans
 - Value Added Tax (VAT) reduction/exemption
- Testing and certification
- Research and development
- Off-grid renewables
- Liquid fuels
- Heat
- Solar thermal

Comments by international experts

- *Prepared by eight renewable energy experts from USA & Germany who have worked for years on China renewable energy policy support process.*
- *12 excellent comments, of which I will discuss five*

Comments by international experts

1. “Implementation of feed-in tariff is most critical near-step in supporting bulk renewable energy development in China, but design requires care:”
 - *Set schedule for developing and revising tariffs*
 - *Guide to tariff setting:*
 - *Price should be sufficient to attract investment*
 - *Price should be known in advance by project developers, and stable*
 - *Projects should have access to known price for at least 15 years*
 - *Reductions in price or changes to the policy should only be made prospectively for new contracts (not retroactively, affecting existing contracts)*

Comments by international experts

2. Increase detail of law by specifying sector-specific targets (e.g. electricity, heat, transportation, etc)
3. Require standard power purchase agreements
4. Clarify the relationship between the feed-in tariff and bidding/concession.
 - When would feed-in tariff apply?
 - When would concession apply?

Thailand has done this!

Thailand has done this!

Comments by international experts

5. Require a Status Report to the State council every two years

- *would signal how important this law is to China*
- *would encourage agencies to aggressively implement the law.*

Conclusions

- *China energy/renewable situation has important similarities with Thailand*
 - *High-growth developing country*
 - *Commitment to significant renewable energy by 2010*
 - *State-utility → privatization in weak regulatory environment*
- *Multi-week study tours key in developing China renewable energy law*
 - *Trip reports conclude that feed-in tariffs are best choice for China considering Chinese regulatory/market situation.*
- *China has made significant progress in drafting national RE law*
 - *Sets renewables target of 10% total energy by 2020*
 - *Relies on feed-in tariff and bidding, open access to grid*
- *International experts comment on Chinese law*
 - *Feed-in tariff is “most critical” near step. Details should be clarified, tariffs determined, timelines set.*

Next steps?

- *Communicate Chinese experience to Energy Minister*
- *Further study China renewable energy law and experience to extract lessons for Thailand*

(I volunteer to help if/when appropriate)

For more information

<http://www.nrel.gov/international/china/publications.html#Fact>

<http://www.resource-solutions.org/Library/Library-INTrenewpolicypage.htm>

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