Work Stream 5 – Tariff setting mechanisms for hydropower projects in China

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Objective & Outcome

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- Objective of Work Stream 5
  - Create a better understanding of tariff setting mechanisms for hydropower projects in China
  - Try to correct current EB approach to assess hydropower tariffs in China
- Desired outcome of Work Stream 5
  - Joint submission to the EB regarding tariff setting mechanisms in China (potentially together with submission from Work Stream 5)
  - A fair assessment of hydropower projects at EB level

Background on the "tariff issue" (from WS 4)

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- In May 2009 the EB started raising questions regarding the tariff applied by (nearly all) wind/hydro in China:
- (Initially) *The DOE should clarify how the investment analysis was validated as appropriate, in particular the basis for the assumed tariff in the FSR and whether the change in tariff is not considered to be an E+ policy, according to EB 22, Annex 3, para. 6*
- In December 2009 the EB rejected 10 projects
- EB53 (March 2010) attempted to clarify what the EB's requests means
- EB54 (June 2010) published the "Information Note on the highest tariffs applied by the EB"
- By then 24 wind projects had already been rejected
- Several rejections of hydropower projects followed

Background (2)

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- Information Note 7 (on the highest tariffs) provided much needed clarity for projects, and the rate of reviews/rejections has significantly reduced, but continue
- Welcoming the publication of the list which provides clarity – but disagreeing with the concept – in July 2010 the PDF submitted information to the EB to provide more background about hydropower tariffs and correct several errors in the published list, with clear references to existing validated documents submitted to the EB

Background (3)

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- The PDF submission also contained two annexes with general information on tariff regulations and their historic development in China
- The PDF submission demonstrated very clearly that the simplified EB approach to apply one tariff per province was not appropriate and in contradiction to existing tariff setting mechanisms in China
- However, this approach is still being followed, and projects continue to the be reviewed or rejected on the basis of this information

Proposal

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- **Joint submission** providing more background about tariff setting mechanisms and the actual practices in different provinces across China
  - Provide background on historical development of hydropower tariff setting mechanisms in China
  - Highlight the complexity of the issue and the significant differences across different provinces and within provinces with regards to existing regulations and current practices
  - Clarify misconceptions related to application of one highest tariff per province
  - If possible, provide a clearer picture for all or at least some provinces in China
- **Open question** for discussion: Discuss tariff setting mechanisms in the context of E+/E- policies

Historical Development of Tariff Setting (1)

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Before 1985:

– Hydropower sector 100% run by the State

1986 to March 2002:

- Permission for private sector involvement in stations up to 25 MW
- State-owned enterprises dominate the sector though
- 1996 Electricity Law established: principle of cost based tariff setting is introduced, leading to “one station, one tariff” pattern
- Tariff was requested by developer and approved by the Government based on project specific costs (also called “loan period tariff”)

Historical Development of Tariff Setting (2)

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After March 2002:

- "*Electricity Power Sector Reform*" is introduced, separating electricity generation, transmission, and distribution (general electricity sector reform not specific to hydro only)
- "loan period tariff" is replaced by the "operation period tariff" mechanism – a more market-oriented mechanism, with government's supervision on a minimum tariff limit
- Bilateral agreements can be established between the generator and grid companies
- Both the *"China Price Law"* and the "*Law on Regional National Autonomy*" give Provinces and other regional authorities at prefecture, county or city level the right to determine tariff setting mechanisms

Historical Development of Tariff Setting (2)

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After March 2002:

- "*Renewable Energy Law*" is enacted in 2006 does not apply to hydropower (it introduces "power grid tariff standards set by regions" and "the allocation of the cost differential between renewable energy and conventional energy")

Current practice in China (1)

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- Based on centralised policy, the provincial and local authorities determine a local government-guided tariff (= a standardized tariff applicable within a certain region), taking the local situation into account
- Chinese legislation specifies that price determination shall be undertaken considering the local situation, which leads to exceptions to the rule
- Implementation of these regulations varies widely across different provinces and within the provinces themselves leading to a complex and diverse pattern for tariff determination that is very specific to the location of the plant
- Some provinces still rely on the old system of tariff setting based on bilateral negotiations (without a standardized tariff)
- In some provinces relevant tariff – provincial or local – will be considered, depending on the level of the electricity grid at which the produced power is dispatched

Current practice in China (2)

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Following patterns can be observed:

A) Tariff establishment based on government-guided tariffs (at provincial level)

- One single tariff at province level, established by the government
- applies 100% in certain provinces (Gansu, Guangxi) and only to provincially dispatched stations in others (Yunnan, Sichuan)

B) Tariff establishment based on assessment by government authorities of project's feasibility

- Corresponds to the pre 2002, tariff determination system ("loan period tariff")
- Is still in practice in some provinces (e.g. Jinlin Province)

Current practice in China (3)

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C) Implementation of local reference tariffs for locally dispatched projects

- Based on China's Law on Regional National Autonomy
- Allows for pricing by local government authorities based on needs and conditions at prefecture/county or city level(applicable to projects exporting to local grid company)
- Aims at adaptation to local conditions, especially in underdeveloped zones
- Widespread in Yunnan and Sichuan Provinces

D) Cross-regional tariffs

- Applies to projects exporting electricity to another province

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Backup slides from WS 4

EB22 Annex 3 (E+/E-)

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- *7.(a) Only national and/or sectoral policies or regulations under paragraph 6 (a) [**E+ policies**] that have been implemented before adoption of the Kyoto Protocol by the COP (decision 1/CP.3, **11 December 1997**) shall be taken into account when developing a baseline scenario. If such national and/or sectoral policies were implemented since the adoption of the Kyoto Protocol, the baseline scenario **should** refer to a hypothetical situation without the national and/or sectoral policies or regulations being in place*
- Can the pre-1997 policies in China (government pricing be considered an E+ policy? If yes, how to develop a baseline scenario based on hypothetical scenario based on pre-Electricity Market Reform (from 2002)??

EB22 Annex 3 (E+/E-)

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- *7. (b) National and/or sectoral policies or regulations under paragraph 6 (b) [**E- policies**] that have been implemented since the adoption by the COP of the CDM M&P (decision 17/CP.7, **11 November 2001**) **need not** be taken into account in developing a baseline scenario (i.e. the baseline scenario **could** refer to a hypothetical situation without the national and/or sectoral policies or regulations being in place).*
- Even if any of the recent policies (2002 Electricity Reform, local policies post 2001 or the 2006 Renewable Energy Law would be considered E- policies, there would be no need to change the way baseline scenarios are assessed.

Hydro: Gansu, Guanxi, Qinghai
Expected vs actual

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- IN7: Gansu Large RoR highest tariff 0.29
- *This was expected tariff. Actual is 0.227*
- IN7: Guanxi SSC RoR highest tariff 0.304
- *This was expected tariff. Actual is 0.285*
- IN7: Guanxi Large Reservoir highest tariff 0.333
- *This was expected tariff. Actual is 0.26. Highest (other project) is 0.29*
- IN7: Qinghai Large Reservoir highest tariff 0.227
- *This was expected tariff. Actual is 0.21*

Hydro: Hunan
VAT

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- IN7: Hunan SSC Reservoir highest tariff 0.315 incl VAT and 0.314 excl VAT
- *VAT is incorrectly applied. VAT is 17%. Tariff should be 0.315 incl VAT and 0.269 excl VAT*

Hydro: Sichuan, Yunnan
Provincial vs regional

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- IN7: Assumes that all tariffs in Sichuan and Yunnan are regulated at the provincial level. However, this is not correct.
- Only projects dispatched at the provincial level are also regulated at the provincial level.
- Projects dispatched by local grids are awarded local prices, which may vary widely depending on the wealth of the region and other variables.

Hydro: conclusions

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- The majority of corrections are due to PDDs using the ex-ante expected tariffs from the FSR. However, the actual awarded tariffs were different from the ex-ante estimate.
- As the tariff for non-provincially dispatched projects are set at local levels rather than provincial levels, the appropriate highest tariff comparison should be at the same local level. Projects need to be compared in the same investment climate.

Wind: Gansu

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- IN7: Highest tariff 0.585 for Gansu Jieyuan Technical Innovation Project (2001-2002)
- This is demonstration project with ODA from Denmark and Spain
  - Validated by BV (2916), DNV (3512), Tüv Rheinland (2766), Tüv Süd (2883)
- Next highest is 0.5599 for a single concession project (2193) (limited to 30,000h only)
  - All others are 0.54 or less
  - Current tariffs: wind resource II 0.54, wind resource III 0.58

Wind: Hebei

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- IN7: Highest tariff 0.65 for Zhangbei (1996-1998) and Chengde (2001) projects
- Both are small demonstration projects. Prior to power sector reform. Zhangbei received ODA from Denmark
  - Validated by BV (4095), DNV (4046), SGS (3800), Tüv Nord (2865), Tüv Rheinland (3079), Tüv Süd (3399)
- Hebei is divided in two wind resource regions, with different tariffs. Next highest in region II is 0.60 for 6 projects
  - Others and current are 0.54, two concession are 0.5006
  - Region IV is 0.61 for 30,000h
  - Validated by BV (3312), SGS (3800), Tüv Rheinland (3079), Tüv Süd (3399)

Wind: Heilongjiang

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- IN7: Highest tariff 0.79 for Fujin project (2004)
- This is a small demonstration project with ODA funding.
- Second highest is 0.78 which is also demonstration project and it received ODA from Germany and ADB
  - Validated by BV (2777), DNV (2124)
- Next highest is 0.72 for 4 projects (all CDM) as special commercial trial, which is not a standard tariff
  - Validated by DNV (2124)
- Others 0.61 for 30,000h
  - Current 0.61

Wind: Shandong

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- IN7: Highest tariff 0.76 for Jimo project (2000-2003)
- This is a small demonstration project. Started prior to power sector reform. It received ODA from Germany.
  - Validated by BV (3353), DNV (2397), Tüv Nord (2814)
- Next highest is 0.61 for 30,000h
  - Current tariff is 0.61

Wind: conclusion

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- Except Heilongjiang, the conclusions are unequivocal. The tariffs listed in the IN7 are for ODA-funded and/or demonstration projects. Thus erroneous and must be corrected. These errors are damaging to the integrity of the CDM
- For Heilongjiang, it is clear that the listed highest tariff is for ODA-funded demonstration projects. However, the next highest tariff could be considered 0.72 or 0.61. 0.72 was clearly only temporary, and as such we believe it should be 0.61, which is also the current tariff