IRP 2010 Public Hearings

The Case for Hydro Power as an attractive option for inclusion in the South African Integrated Resource Plan for Electricity

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Background

- Currently there is only 1 opportunity for developers of hydro projects provided for in the IRP 2010, namely the allocation under REFIT1.
- REFIT1 timelines for power on grid by 2013 are at risk due to delays in the procurement process.
- Projects are limited to 10MW in the original REFIT1 announcements and total allocation to hydro is very limited.
- Next opportunity is potentially only in 2020 provided under the Renewable allocation.
- If no further provision is made Hydro Developers will be discouraged from investing in project identification and development and the opportunity to maximize South Africa's hydro potential will be lost.

Attraction of Hydro Generation for South Africa (1)

- Hydro projects satisfy the key measurement criteria for projects to be included in the IRP very well and arguably the best of all technologies considered.
- Hydro has the highest percentage local spend of all the renewable technologies considered under REFIT and IRP.
- Substantial local job creation, especially during construction.
- Dependable, mature technology with long plant life.
- Relatively low operating costs.
- No water consumption.
- Relatively high load factors are possible and substantially higher than wind and solar.

Attraction of Hydro Generation for South Africa (2)

- More affordable option than wind, despite claim in IRP 2010 that wind is cheapest.
- Many of the opportunities can be constructed in less than 24 months.
- Grid connection more distributed and smaller than required by bigger wind and solar farms, with less need for substantial grid strengthening. This should enhance grid stability.
- No hydro specific dam construction required. In South Africa mainly run of river or pipe hydro.
- Historic water flow data available for extended periods resulting in relatively low risk.

Conclusions

- Hydro is a attractive low risk option for South Africa that satisfies the selection criteria set out in IRP 2010 very well.
- From our experience we believe there is at least 300MW – 400MW economically attractive hydro opportunities in South Africa that can be developed in the medium term.
- Potential for hydro developments are with Private Developers, Water Boards, Municipalities and Eskom.
- Allocation to Small Hydro is not sufficient in the current IRP 2010 to allow the existing potential to be developed.
- PPAs could be REFIT, Bi lateral agreements and own use.
- Limiting hydro plant to 10MW as suggested in original REFIT documents results in sub optimum plants sizes to be considered.

Recommendations (1)

- Make provision for a more flexible renewable energy procurement approach to ensure the best long term options are given every chance to succeed.
- Consider relaxing REFIT1 requirement of power on grid by 2013 to accommodate the delays experienced in the procurement processes.
- Do not limit hydro projects to 10MW as it will result in sub optimal projects. South African opportunities are by their nature small.
- Consider putting wind and small hydro in same procurement category and pick the most viable projects that will give South Africa the best value for money over the long term.

Recommendations (2)

- Allow for the procurement of hydro power in both REFIT 1 and next REFIT procurement rounds (2014).
- Allow and encourage projects to be developed for own use or sale under bi lateral agreements.
- Remove any remaining constraints/perceived constraints like water use licensing to support the speedy development of quality projects.
- This can be achieved without putting the overall IRP or country security of supply at risk.

Questions?

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