

MSCI ESG THOUGHT LEADERS COUNCIL

FROM MSCI ESG RESEARCH INC.

SUSTAINABLE HYDROPOWER | APRIL 2015

INTRODUCTION TO THE MSCI ESG THOUGHT LEADER COUNCIL

The goal of the MSCI ESG Research Thought Leader Council is to maintain our leading edge in research methodology by regularly seeking feedback and opinions from external experts in key industries and relevant ESG issue areas. The MSCI ESG Research Thought Leader Council consists of a series of about four panels annually, with three to seven members on each panel. We aim to assemble international experts with recognized leadership and expertise on the topic area related to the panel.

The fifth council was held on April 8, 2015 on sustainable hydropower. Panel members* were asked to review MSCI ESG Research's proprietary IVA Rating methodology, as well as specific industry and company reports before participating in the official panel call with MSCI ESG Research analysts.

KEY TAKEAWAYS

- Panelists stressed the need to recognize that each project is unique in the context that it is developed. Consequently it is difficult to judge the sustainability of a particular project solely on the basis of any one criterion such as size, technology etc.
- Given the above point, panelists highlighted that the reputation and track record of the project developer were extremely important factors for the sustainable operation of a hydropower project. In the absence of standards that investors can apply to decisions, local regulatory requirements as well as a company's track record, environmental credentials (e.g., tools to measure and manage GHG emissions, and biodiversity and community impacts) and operational excellence programs are key to gauging risk management capacity.
- Project risk assessment cannot be locked-in; it must remain flexible because a project that is deemed very risky on the surface could become less risky with time, whereas a project that is not risky, could encounter problems with time; hence the need for continuous risk assessment.

COUNCIL MEMBERS*



Bert Wickel
Stockholm Environment
Institutes



Plet Klop
PGGM



Shafiqul Islam
Fletcher School of
Law and Diplomacy,
Tufts University



John Matthews
Alliance for Global
Water Asapation

* Panelists also included two representatives from World Bank

KEY DISCUSSION POINTS

1. PHYSICAL SITE EVALUATION

Participants acknowledged that hydrology (i.e. historical precipitation patterns), geology conditions (seismic and underground conditions) and access to power evacuation (i.e. transmission lines) are some of the standard criteria to account for while evaluating a hydropower project for its physical site.

Panelists also stressed resilience to climate change as an important consideration for a project, as climate variability is considered an increasingly important risk for this industry. The presence of a climate change adaptation plan can help to reduce a project's vulnerability to the impacts of climate change. For instance, many existing and proposed projects located at higher altitudes (e.g., Nepal) are predicted to experience faster rates of climate change, thereby posing a risk to the sustainable operation of such projects over the long term. Participants also remarked that tropical and subtropical regions such as Brazil tend to be more at risk from an ecosystem disturbance standpoint.

2. REGULATORY & LOCAL ENVIRONMENTAL STANDARDS

Panelists identified local regulatory frameworks and environmental assessment standards as important. Panelists noted that as regulations set environmental standards, the degree of government policy tools to promote hydropower can differ from region to region, thereby impacting a project's environmental credentials. Projects in countries with strong regulatory frameworks are expected to have relatively strong environmental risk assessment and management initiatives in order to conform to the local regulations, and vice versa.

Two particular caveats were raised by the panel: 1) Regulatory frameworks may lag concrete indicators and sometimes tend to set "low floors" and not "ceilings." Although Europe's water framework stands out as relatively stringent compared to emerging markets, participants remarked that it still lacks an encompassing scope; 2) Despite the fact that some countries may have lax regulations and poor environmental standards (e.g., frontier markets),

participants highlighted the issue of "social costs" associated with disregarding projects based solely on "surface" regulatory risks. In some cases, a "non-sustainable" project from an environmental standpoint is in fact sustainable from a social standpoint and vice versa.

3. SIZE

Panelist felt that project size was not a very useful parameter for sustainability evaluation. Panelists noted that Small HPP projects are not necessarily more sustainable than larger ones although they are more often less risky than reservoir-based large projects. For instance, sometimes a chain of several small projects on a particular river may pose greater environmental risk on a cumulative basis than each of the projects evaluated individually, stressing the need for cumulative impact assessment. In general, panelists agreed that proper siting and risk management capacity (Point no.6 below) were more important for a project to qualify as sustainable, including small and large hydro projects.

4. TECHNOLOGY

Panelists agreed that while traditional run-of-river projects may have less environmental impact relative to large reservoir-based projects, a holistic assessment is still required irrespective of the technology as every project is unique.

Pumped-storage hydro projects were also discussed in depth and there was consensus among panelists that in general such projects generate a positive externality given that they aid in energy storage in addition to being less environmentally intensive compared to traditional reservoir-based plants. For instance, the high growth of renewable power in the EU was partly attributable to the presence of large pumped-storage capacity in the region to enable storage of the intermittent solar and wind-based power. Nonetheless, greenfield pumped-storage projects should be scrutinized with the same rigor across all parameters like any typical large or small greenfield project.

5. BROWNFIELD VS. GREENFIELD

Panelists noted that brownfield projects might have a lesser environmental impact than green-field projects (in most cases).

On the one hand, retrofits to existing plants have been acknowledged as positive from an energy efficiency standpoint. However, retrofits that imply elevating dam height should be carefully evaluated as these can potentially result in fresh submergence of land or alteration of established operational conditions.

6. COMPANY RISK MANAGEMENT APPROACH AND TRACK RECORD

Panelists recognized that a very important factor (in addition to the forgoing criteria) is the project proponent's risk management approach and whether it enforces conformance to internationally recognized hydropower tools such as the Hydropower Sustainability Assessment Protocol, as well as the International Finance Corporation (IFC) performance standards. However, currently there are no third party certifications available for these tools/standards. Panelists suggested that investigating the level of adoption of the hydropower sustainability protocol by

frequently visiting the project site and assessing the level of development could be a useful approach to gauge conformance to these tools and standards along different stages of the project lifecycle.

Panelists suggested that investigating the level of adoption of the protocol, along with frequently revisiting the project developer assessment could be useful metrics to gauge conformance to these tools and standards along different stages of the project lifecycle. Another important factor cited by panelists to determine the level of potential environmental and social risk associated with a hydropower projects could include assessing the professional track record of the primary developer of the project. For instance, if a large project involved displacement of thousands of people, the experience of the developer in managing similar such displacement projects (and the outcome) could be critical determinants in assessing the future success of resettlements of such scale

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