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Hydropower Roundtable: New Growth for a Mature Industry

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The recent federal stimulus package is touted as the key to building new clean energy industries in the U.S.; but it's also helping the most established industry -- hydropower -- redefine itself and continue to lead the penetration of renewable electricity throughout the country.

Hydropower makes up roughly 75 percent of renewable energy capacity in the U.S. But a lack of strong growth in recent decades has created a general misperception about how much the industry can expand. As a result, fast-growing industries like wind and solar get all the attention, while some see the hydro industry as fully mature and unable to add more capacity quickly.

That's not even close to the truth, say industry representatives.

Last week, a group of hydropower experts sat down with RenewableEnergyWorld.com for a roundtable discussion at the Renewable Energy World conference to talk about the future of the industry in the U.S. and internationally.

The panel included: Linda Church-Ciocci, executive director of the National Hydropower Association (NHA); Marla Barnes, chief editor at Hydro Review Magazine; and Julie Smith-Galvin, director of communications for Brookfield Renewable Power.

Like every other clean energy technology, hydro has received a significant boost by the stimulus package — a move that could help the industry realize the addition of 23,000 MW of new capacity in the U.S. over the next 15

years. The development of new marine energy technologies, expansion of existing hydro facilities and the creation of electrical generation facilities on non-powered dams offer a new range of options for developers.

"There has been a real resurgence of hydropower in the United States. It's a very exciting time...I have worked for this industry for 20 years now and I have never seen the growth that's occurring within this industry or the opportunity for tremendous growth within the industry," said NHA's Church-Ciocci.

Now that developers are able to take the Investment Tax Credit (ITC) or a 30-percent cash payment from the Treasury in lieu of the Production Tax Credit, companies can get a faster infusion of capital. This could especially help companies develop new wave, tidal and in-stream hydrokinetic technologies that are much more expensive to install and test.

The stimulus package also opens up loan guarantees to the industry and explicitly targets incremental hydro, which will allow developers to add to existing capacity. In addition, Secretary of Energy Steven Chu recently called for 20,000 MW of new pumped storage capacity, which could mean a new ITC will be created for that sector of the industry.

"Now with so much incentive for renewables, there is indeed a re-birth in that arena," said Marla Barnes, chief editor of Hydro Review Magazine.

The boom is not just happening in the U.S. South America and Asia are leading the way with new development. China could see around 250 GW of capacity by 2013. However, because those projects are much bigger than projects in the U.S., they are sometimes considered environmentally or socially hazardous.

Not all of them host power facilities. Most of them are for water supply and management. But with China adding electricity demand each year that is equal to France's total peak demand, proponents say that electrical generation units will be an important part of the picture.

"The world commission on dams report...said that the dams that performed the best, when they performed all the analysis, were ones with hydropower [facilities] on them," said Ciocci.

NHA and other organizations are trying to take that message to the U.S. as well. Only three percent of dams in the U.S. currently generate electricity. That means that over 77,000 dams are theoretically available for hydropower development. The expansion of these dams could mean

thousands of MW of new capacity.

“People are shocked that there is still so much hydropower there, and we're finally getting the recognition and the incentives that we need to add some more, so it's a great time,” said Brookfield's Smith-Galvin.