Climate change lines up big hit for hydro plants

Water shortages caused by climate change will affect two-thirds of the world’s hydro-electricity generation plants by 2069, a new report shows.

The World Energy Association Road to Resilience paper, previewed at the Asia-Pacific Energy Leaders Summit in Wellington yesterday, says the problems will be exacerbated by poor water management, and calls for immediate action to secure a resilient energy infrastructure.

World Energy Council secretary general Christoph Frei says that the energy–water–food nexus poses a systemic risk which could impact the robustness of the energy supply and demand over many years to come.

“Power plants across the world could be affected by changes in precipitation patterns, which are combining with increasing competition between water users to adversely affect the resilience of energy services,” he said.

“Clear co-ordination and integrated planning needs to take place now, or we will start to see the effects of water scarcity on energy supplies in the very near future.

**Cooperation vital**

He says that assuming a water price during project planning is one way to trigger the right signals.

“If we are to counter the problems of water access, then cross-border cooperation is vital,” he said.

“We should be taking full advantage of the 261 international trans-boundary basins that cover 45 per cent of the earth’s land surface. Energy resilience can only be achieved by moving from individual to joint efforts.”

The report recommends:

- Improve understanding of the water footprint of energy technologies in order to mitigate the risks of stranded assets.
- Account for the price of water, particularly in areas of water stress,
- Consider a wider range of financial and insurance instruments to hedge short term risks such as adverse weather incidents and associated electricity price volatility,
- Give investors the confidence to invest by providing them a full risk assessment that includes
different climate and hydrological scenarios in financial analyses,
• Provide a reliable and transparent regulatory and legal framework that takes into account water issues and competing stakeholders’ interest.

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