Battery energy storage technology development 360 kWh

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As the technology for generating renewable energy has advanced at breakneck pace – almost tripling globally between 2011 and 2022 – one thing has become clear: our ability to tap into renewable power has outstripped our ability to store it.

Storage is indispensable to the green energy revolution. The most abundant sources of renewable energy today are only intermittently available and need a steady, stored supply to smooth out these fluctuations. Energy storage technologies are also the key to lowering energy costs and integrating more renewable power into our grids, fast.

If we can get this right, we can hold on to ever-rising quantities of renewable energy we are already harnessing – from our skies, our seas, and the earth itself.

When it comes to ramping up storage in developing countries, many creative actors are already working hard to get the mix right: setting out regulatory frameworks that can successfully monetize the value of new storage technologies, pioneering innovative new business models, and building the kind of infrastructure needed for a huge scale-up.

Storage projects are risky investments: high costs, uncertain returns, and a limited track record. Only smart, large-scale, low-cost financing can lower those risks and clear the way for a clean future.

And in the Maldives, CIF is supporting the government’s efforts to hit one of the most ambitious climate targets in the world: net zero by 2030. Getting there will take a concerted effort. While sunshine is plentiful, the population of the Maldives is spread across more than 200 islands and is 95% reliant on generators driven by expensive and highly-polluting diesel.

In 2017, CIF and the Maldives embarked on our signature partnership model: the country led the process, backed by large-scale, long-term, and low-cost finance from ourselves and our multilateral development bank partners (in this case, the Asian Development Bank and the World Bank).

Within four years (from 2017 to 2021), the cost of electricity dropped from 21 cents to just 11 cents. And that initial support package has spurred an ambitious follow-on initiative expected to mobilize an incredible $152.4 million in new investment, install 90 MWh of battery storage, and save the country $42.38 million annually on diesel imports.

Over 4,000 miles away and with a population one hundred times larger, another country is making great strides in energy storage. Thanks to $250 million in concessional finance from CIF, South Africa is soon to

see 100 MW of new storage capacity come online. With technical assistance provided under this project, national grid codes and other essential policies were created, ultimately leading to 455 MW of battery storage being backed by private investors – to the tune of approximately $605 million.

That’s why CIF has just launched a first-of-its-kind $400 million Global Energy Storage Program (GESP), dedicated to breakthrough storage solutions. This is the largest climate funding vehicle in the world solely focused on energy storage.

Twelve new projects across the developing world have already been approved, including in Bangladesh, Brazil, Colombia, Haiti, Honduras, India, Indonesia, the Maldives, and Ukraine. In the next three years, CIF plans to create 1.8 GW of new storage capacity and integrate an additional 16 GW.