Below are extracts from two articles in the last week, focusing on the continuing trends and initiatives in the transition to clean energy globally. These articles are published by The Financial Times (ft.com 26th April 2024) and the Irish Times (25th April 2024) as referenced below.

The FT describes how critical batteries will be for future renewable energy storage, and the Irish Times reports that despite the headwinds, the clean energy revolution is progressing well around the globe.

G7 to target sixfold expansion of electricity storage.

In their recent Financial Times report , Mooney, A ,Bryan, K and Hancock, A (2024) reveal how a recent meeting of the G7 countries agreed new targets for electricity storage which is seen as a critical step to meet demand in the transition to clean energy. The same agreement outlines the goal of phasing out the use of coal power, from which emissions are not captured, shortly after 2035:

G7 countries are set to agree a global target this weekend to increase electricity storage capacity sixfold from 2022 to 2030, as countries grapple with how to keep the lights on while shifting to intermittent wind and solar power. Ahead of a two-day meeting starting on Sunday, climate ministers have "agreed in principle" a global goal for electricity storage capacity of 1,500 gigawatts in 2030, up from 230GW in 2022, according to a draft document seen by the Financial Times.

That includes the use of batteries, hydrogen, water or other solutions to store electricity. There are fraught discussions on several other areas, with coal among the most contentious, along with energy efficiency and methane targets. Japan in particular has pushed back against an ambitious shift away from coal. The current text, which has not been agreed, says countries should phase out the use of coal power from which emissions are not captured shortly after 2035. Under new rules unveiled by the US on Thursday, coal plants planning to stay open beyond 2039 will have to cut or capture 90 per cent of their carbon dioxide emissions by 2032. The talks mark the first time G7 energy and climate ministers have met since almost 200 countries agreed at the UN COP28 climate talks in December to "transition away" from fossil fuels.

At the meeting in Dubai they also agreed to double energy efficiency and triple renewable energy capacity by 2030. The burning of fossil fuels is by far the biggest contributor to global warming, but the shift to renewables has raised major questions about energy supplies at times when the wind is not blowing and the sun is not shining. One official involved in the G7 talks said the energy storage target was a "good" solution and showed that countries were taking the agreement reached in Dubai seriously by focusing on implementation. Energy storage aims to stockpile excess energy when conditions for renewables are optimal, using options such as batteries, then discharge it as necessary.

Mooney, A ,Bryan, K and Hancock, A (2024)

According to Mooney, A ,Bryan, K and Hancock, A (2024), the International Energy Agency(IEA) expects batteries to account for 90 per cent of new energy storage, with growth in batteries outpacing almost all other clean energy technologies in 2023 . Again with reference to the G7 gathering , Mooney, A ,Bryan, K and Hancock, A (2024) tell us that it backed a push to end subsidies for fossil fuel development abroad, by the world's richest countries:

Hydroelectric dams currently provide the greatest store of renewable energy, but only about 15 per cent of energy is generated by hydropower. The International Energy Agency expects batteries to account for 90 per cent of new storage. The G7 will "promote stationary battery storage development and deployment to increase storage efficiency and reduce storage costs," as well as "encourage a diversified, sustainable, secure and transparent supply chain for battery storage", according to the draft.

The International Energy Agency said this week that the "rapid expansion" of batteries would be critical to meeting the energy goals set at COP28. It found that growth in batteries outpaced almost all other clean energy technologies in 2023, with 42 gigawatts added to electricity supplies around the world thanks to falling costs, better technology and supportive industrial policies. Battery costs have fallen by more than 90 per cent over the past 15 years, one of the fastest declines ever seen in clean energy technologies, the IEA said. In draft language not yet signed off by ministers, the document also proposed backing a push by the world's richest countries to end subsidies for fossil fuel development abroad, the biggest source of international public finance for the sector.

Ahead of discussions scheduled in June, the US and the EU have differed over the extent of a proposed ban on OECD countries extending export credit agency loans and guarantees for oil, gas and coal mining projects.

Mooney, A ,Bryan, K and Hancock, A (2024)

Green energy growth a glimmer of hope amid worsening climate crisis.

Meanwhile in an article in recent weeks , Irish Times (2024) gave us some published statistics from the International Renewable Energy Agency (IRENA) , reminding us that 2023 set a new record for renewables deployment in the power sector. At the same time, it highlights that the transition to clean energy is not moving fast enough and concludes that renewables are essentially the only technology capable of achieving the goals set out in the Paris Agreement:

Faced with record temperatures and dire warnings, the urgency of rising to the challenge by powering up renewables capacity is clear. How often has it been said the world is at a pivotal point in addressing the interlinked crises of climate disruption and nature loss? At this juncture, in the first half of 2024, it is the case like never before because of a multiplicity of exacerbating factors.

Record temperatures have been increasing month on month and are now the highest at any time in human history. Meanwhile natural systems have never been under so much pressure, depriving the planet of a great many nature-based solutions to global warming, and climate-related extreme weather events increase in number and severity.

Add to this a lack of urgency in applying known solutions, and geopolitical uncertainty that is not helping the collective pursuit of sustainability that is in all our interests. Arguably, delay on key political decisions is the new form of climate denial, given what science is indicating, most notably the rapid approach of climate tipping points. In this year of elections – at home, elsewhere in Europe, in the UK and in the United States – political upheaval and short-termism risk rowback on climate policies that are needed as catalysts for decarbonisation at scale, ie ratcheting up renewables while phasing out fossil fuels.

Worsening the prospects, mega fossil fuel companies are abandoning their emissions targets for the coming decades and even their commitments to reaching net-zero emissions, which is insidious given what is immediately facing the Earth.

It is hard to find optimism within that cauldron where polarisation and misinformation are constantly distracting and fuelling the perception that climate action is synonymous with economic pain, when benefits can be quickly realised in the form of cheaper energy, improved wellbeing (especially in cities) and less environmental pollution.

In spite of all of this, there are strong indications that the clean energy revolution is progressing well globally. The Renewable Capacity Statistics 2024 released recently by the International Renewable Energy Agency (IRENA) show that 2023 set a new record for renewables deployment in the power sector by reaching a total capacity of 3,870 gigawatts (GW).

However, this growth is unevenly distributed across the world, indicating a trend far away from meeting the critical target of tripling renewable power by 2030, while many developing countries are being cut off unfairly from the benefits of the energy transition. The 473GW of renewables expansion was led once again by Asia, with a 69 per cent share (326GW). This growth was driven by China. Africa had some growth but it paled in comparison, with an increase of 4.6 per cent, reaching a total capacity of just 62GW.

"This extraordinary surge in renewable generation capacity shows that renewables are the only technology available to rapidly scale up the energy transition aligned with the goals of the Paris Agreement," IRENA director general Francesco La Camera said.

Irish Times (2024)

The Irish Times (2024) continues to outline how emerging markets and developing economies are being left behind in the race for climate reduction and the transition to clean energy. It states that developing countries should be a priority for investment in technologies such as battery storage in particular:

Nevertheless, the data also serves as a telltale sign that progress is not moving fast enough to contain global average temperature rise to within 1.5 degrees. La Camera added: "Policy interventions and a global course correction are urgently needed to effectively overcome structural barriers and create local value in emerging market and developing economies, many of which are still left behind in this progress.

"The patterns of concentration in both geography and technology threaten to intensify the decarbonisation divide and pose a significant risk to achieving the tripling target."
In the EU, enhanced policy focus, increased permitting of renewables projects and heightened energy security concerns have become the main catalysts for rapid growth, apart from the increasing cost competitiveness of renewables compared to fossil fuel alternatives. IRENA's "1.5 degrees scenario" recommends a massive scaling up of financing and strong international collaboration to speed up the energy transition, putting developing countries as a key priority. Investments are needed in power grids, generation, flexibility and battery storage. The pathway towards tripled renewable power capacity by 2030 also requires a strengthening of institutions, policies and skills, it says.

The Republic is scaling up across all these headings, with some indications of this in the latest issue of Sustainable Ireland. But key policy gaps remain and need to be urgently addressed, such as legislation on marine protected areas that will in turn facilitate the process of designating where offshore wind projects will be located. If such issues are addressed and complemented by targeted investment under the priority headings identified by IRENA, the State's clean energy revolution can gather sufficient momentum to make the Government's ambitious climate targets realisable. Irish Times (2024)

References

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