Summary of the US Zero Emissions Climate Action Plan By Dr. Hari Lamba

Proposed in Book, "Brighter Climate Futures – A Global Energy, Climate & Ecosystem Transformation," Dr. Hari Lamba, Regent Press, Berkeley, California, USA, Sept. 2020. This summary is also downloadable from the website www.brighterclimatefutures.com.

Declared US Goals

As per Mr. Biden, the declared US goals are for all electric power to be zero emissions by 2035 and the US to be carbon neutral by 2050.

Situation Faced by the US

What the US commits to at COP26 in Glasgow, UK will depend on what he can get the US legislatures to agree to. The current US president Mr. Joe Biden should be commended for rejoining the Paris Agreement and for promising a bold climate change and energy plan during his presidential election campaign. At the time of this writing, the US is facing a tough situation nationally in meeting its commitments to Climate Change. Many of the solutions that the current President Joe Biden promised, he is having a tough time on delivering. Much will depend on what legislation he is able to get passed in the US Congress and Senate. These are as follows:

"Infrastructure Investment and Jobs Act": Passed by the Senate at $1.2 trillion ($550 billion in new spending), this includes investments in modernizing and upgrading the electrical transmission lines and grid ($ 65 billion) , electric vehicle charging installations ($ 7.5 billion) , replacing thousands of school and transit buses with battery electric ones ($ 7.5 billion) and increasing cyber security and resilience to extreme climate related weather events ($ 47 billion). As we can see, there is very little for climate solutions in this bill.

"The FY2022 Budget Resolution" which started out with a $3.5 trillion amount is likely to be considerably reduced and many items eliminated depending on the negotiations. Initially include the following: Address forest fires, reduce carbon emissions, and address drought concerns ($ 135 billion), and develop clean energy ($ 198 billion – this is most of Biden effort to convert all electrical power to renewable energy). The latter is likely to get recued in a big way.

Compared to his big promises made during the election campaign, the above proposed investments are very small. He will most probably look for other ways to reduce emissions than

to transition out of coal, because of the opposition he is getting from the opposition party and from a couple of Senators of his own party. So, Mr. Biden is going to have to decide as to what he's going to declare and commit to at Glasgow (November 2021).

SUMMARY OF WHAT THE LAMBA PLAN PROPOSES FOR THE US

The plan that I proposed in my book for the US, as of September 2020, is much more aggressive than any plan proposed and actually describes a path through which the US can achieve the whole climate change transition by 2050, and in order to meet the US part of the goal of keeping the global average temperature rise below 1.5 degrees Celsius. Here's a brief summary of what I have proposed.

US fossil fuel use was at 81% of its total energy use in 2017. With Business As Usual (BAU) scenarios, this is still projected to be at 71% by 2050. My plan presents how the US can transition to over 50% of its expanded energy use in 2050 coming from solar, with other renewables providing 15-20%. For electrical energy to be carbon neutral by 2035, fossil fuel power plants can be replaced with Solar PV plus Battery power plants. Road transportation can be electrified with Solar PV plus battery system highways and service stations. Electrifying as much as possible will need added Solar PV (and some Concentrated Solar Power - CSP) plus battery energy, but this must be as distributed as possible to minimize electrical transmission costs.

Then, stand-alone Solar PV power plants can produce green Hydrogen (that stores vast quantities of solar energy), that can be used to overcome the variability of solar energy, and provide a portable energy dense non-carbon "fuel" for use in transportation (fuel cell vehicles) and industry. Ammonia is another portable energy dense non-carbon fuel that can also be produced by Solar PV power plants. To make this happen will need federal, state and local pushes to provide funding and incentives, with the public policy, regulatory, utility reforms, and codes and regulations having to align with this massive effort. Then, on one hand big programs and policies will need to encourage states and cities to "solarize" (encourage solar plus battery systems in every way). On the other hand, through energy democracy, the benefits of solar will need to be spread throughout the population through distributed businesses and employment, and the fossil fuel workers and businesses helped to transition to these opportunities in the new transformed clean energy economy. How this can be achieved is described in the full accompanying document.

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