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Green Entrepreneurship

Parth Verma* and Shruti Gupta**

ABSTRACT

India's Conference of Parties-26 commitment to net-zero by 2070 is the primary threshold that is set to create over 50 million new green jobs in the climate sector for discerning individuals as the country achieves this target. India is also emerging fast as a green innovation hub globally, which when supported by the government via subsidies & incentives, well along with the development of Green-Tech business incubators and Research & Development centres, will advance the growth of job opportunities manifold. With the target of 500GW Renewables by 2030 or Electric Vehicle adoption & whatnot, Green Jobs are the future. So, this paper is more focused on Green Entrepreneurs alongside different technologies, their challenges and the upcoming demand for Green Jobs.

Keywords: Green entrepreneur; Carbon capture use storage (CCUS); International energy agency (IEA); Sustainable development goals; Clean development mechanism (CDM); Decarbonisation.

1.0 Introduction

Innovation does not happen on its own, it needs leaders to drive it, we call them Entrepreneurs. Entrepreneurs and their innovations have shaped this world in the past and will also bring solutions to our on-going problems. The worldwide global warming crisis has been growing rapidly for the last few decades. We, as the people, are hardwired and rigid to innovate and evolve. Unfortunately, our effect on the environment is massive, not just for the planet but for us. Now, the need of the hour is to bring change

^{*}Corresponding author; Founder, Bakz4ever & Student, S. V. S. U., Gurugram, Haryana, India (E-mail: pattie.pb@gmail.com)

^{**}Chairperson, SFMSR, Shri Vishwakarma Skill University, Gurugram, Haryana, India (E-mail: shruti.gupta@svsu.ac.in)

and instead of creating new problems, we need to start bringing solutions. Major changes which affected the environment happened to facilitate industries.

The latest report from the UN's Intergovernmental Panel on Climate Change (IPCC) explains that large-scale carbon removal must now be an essential tool for limiting global warming by 1.5 degrees Celsius and avoiding some of the worst impacts of climate change. By some estimates, the world will need to remove 10 billion tons of Carbon dioxide and/or its equivalent from the atmosphere each year until 2050 to stave off those effects.

The world also needs to decarbonize, moving rapidly away from fossil fuels. But to deal with some emissions that are harder to quickly eliminate, as well as the legacy emissions that are already in the atmosphere, we'll also need carbon removal. From now till this century's end, the IPCC report says, the Technology of Direct Air Capture (DAC) alone may collect as much CO₂ or equivalent to 310 billion tons from the air. The carbon removal industry barely exists now, but by the middle of the century, it may need to be the size of the current oil and gas industry. How can it grow quickly enough?

1.1 No more waiting, climate change is here

"Widespread" are the impacts related to Climate already and, in a few cases, "irreversible," according to the IPCC. Human mortality related to heat has risen. Extreme weather events and temperatures have exposed millions of people to food insecurity and malnutrition. Agriculture, tourism and other climate-sensitive sectors are seeing losses. Fisheries are in decline in some regions. Migration tied to climate shifts is rising.

1.2 'It is now adapt or die'

Rich countries which are actually responsible for GHG emissions, especially CO₂ pollution have the most resources for effects preparation if they choose to do the same. Poorer countries with little to no responsibility for climate change face the brunt of the assault — and aren't receiving the promised help from the developed world. The divide also holds within countries; low-income and marginalized communities in prosperous nations are more vulnerable than their immediate neighbours.

1.3 The clock is ticking

If countries miss their emission targets and the world heats above 1.5°C, scientists describe it with a word: "overshoot." This idea implies that by using nature or technology to draw down greenhouse-gas levels, people can return the temperature below the limit. The IPCC's recent report warns that even if countries can do that, there will still be additional severe risks, some of which might be "irreversible" when compared without overshoot scenarios. Up to 14% of land-based animal species are at risk of extinction once the 1.5°C threshold is passed, the IPCC warned.

1.4 What's needed beyond cutting emissions

For emission cuts, the task is clear. The planet needs to reduce GHG emissions to zero by 2050 and by 2030 halve their 2010 levels, the 2018 IPCC report. But still, some further warming is unavoidable, and countries' preparedness matters a lot. Effective adaptation measures are critical. The problem is that the efforts so far tend to be fragmented and short-term, according to the IPCC. Plus, adaptation efforts are often underfunded. And as warming increases, their effectiveness will go down.

1.5 Not enough is being done

The rate of global emissions growth had plateaued in the years before the pandemic, and inexpensive renewable power makes it possible to sharply curtail emissions. But atmospheric CO2 levels are not falling soon and as the report clearly says, they are not pursuing anything resembling the far-reaching changes that societies will need for protection.

For some years, the Green Entrepreneurship concept has emerged and is growing largely. Also, most people are confused by this term, seeing as simply hearing one thinks of a business which not only uses recycled materials and uses alternative power sources to operate its systems but also covers a much bigger range of activities that go beyond. So now, we would define Green entrepreneurship as the activity of consciously addressing environmental needs and problems, and coming up with disruptive innovative entrepreneurial ideas which will bring out solutions to them. The ideas have a high-risk level which helps maintain financial sustainability while at the same time it has a positive effect on nature.

Therefore, we can say that green entrepreneurship is companies and businesses coming up with solutions to help save the environment which may have a worldwide application. Also, that business should not be affected financially provided the solution. All things green is the new buzzword across all industry sectors, the economy and the fever has caught on with the HR world as well. Green equates to sustainability, which refers to a balanced use of resources by the current generation in such a manner that they can be preserved for future generations as well.

2.0 Literature Review

The Sustainable Development Goals (SDGs) constitute the core of the Sustainable Development Agenda and guide all endeavours of regional, national and global development until the year 2030. Adopted in 2015, the SDGs were built on the Millennium Development Goals and completed that which it left unachieved. They are universal, integrated and indivisible, and seek to balance sustainable development's three dimensions: the social, economic and environmental. The breadth and scope of the SDGs reflect the complexity and scale of the challenges to be addressed in the modern era. Green Entrepreneurship can be the framework for Sustainable Development.

If the world is serious about reducing greenhouse gases, the place to start is Fossil-fuel Industries. Fossil energies provide 83% of the world's energy and 73% of the world's greenhouse gases. Alone, oil and gas provide 57% of the world's energy and 50% of the world's greenhouse gases. In a new report for the U.N., the fossil-fuel industry is heading in the wrong direction with emissions, conducted by Stockholm Environmental Institute. 15 large fossil fuel-producing countries were evaluated against the Paris Agreement by the Production Gap Report which included Saudi Arabia, Australia, Russia, the U.S. and the U.K.

It notes that to keep the temperature rise below 1.5 degrees Celsius globally by 2100 requires a 45% cut by 2030 in total greenhouse gas emissions, based on 2010 levels. Yet these 15 countries are not curbing fossil fuel production, rather they are essentially ramping it up. These countries are planning a 110% more production of oil and gas which would be incompatible with a 1.5 degrees Celsius temperature rise and continue a 190% excess growth by 2040. Reducing greenhouse-gas emissions by transitioning to renewable energy is a major dilemma for energy companies because, in the meantime, the world still needs fossil fuels. If the production of oil and gas stopped immediately, the world would starve. Oil and gas are food to rails, ships and trucks by which our food is transported. If fossil-fuel production stops, which has already happened many times around the world, there would be no electricity, heat or air conditioning, or the power to drive industries that manufacture cement and steel to see frequent cuts.

Depending on regulations, soon the oil industry must either cut back on production enough to meet the climate goals of the Paris Agreement or it must reach for an escape hatch and get rid of its greenhouse emissions using carbon capture and storage as negative technology. Carbon capture and storage, which is collecting greenhouse gases, mainly CO₂ and burying them deep underground in a basaltic or nonleaking rock layer, is a promising technology. But it is not known if carbon capture will scale fast enough to fight this enormous challenge.

Currently, 65% of the carbon market is in the U.S.A., with about 10% each in Europe, Australia, and the Middle East. ExxonMobil is claiming to store 9 million tons of CO₂ each year, equivalent to the exhaust emissions of 11 million cars per year. Exxon plans to invest \$3 billion on 20 such new facilities because the company sees it as an expanding industry and a way to keep pumping. A Direct Air Capture wall of fans is being built by Occidental Petroleum in West Texas that will capture and separate the CO₂ from the air for underground injection, obviously for Enhanced Oil Recovery (EOR), in old oil fields. The company is looking forward to a new business vertical that will get rid of its CO₂ and assist other companies.

The U.K. and U.S. governments have funded the research to field-test for the same, also seeing it as an expanding industry and a necessity. However, last year, carbon capture stored only a puny 40 Mt/year. The energy consultancy Rystad predicts the carbon capture industry will need to grow to 400 Mt/year by 2030, an increase of 10 times, and 8,000 Mt/year by 2050, a total increase of 200 times, to meet net-zero the emissions of Paris Agreement by 2050. This might represent Carbon capture growth by 20% year-over-year—a scenario that's hard to fathom. The carbon capture industry would grow as big as the present Fossil-fuel industry by 2050, according to Rystad. The growth will be impossible to achieve because of the production gap of fossil energy. The cost of fossil fuel production combined with carbon capture will make fossil fuels more expensive than renewables.

Carbon Capture from ambient air was commercialised in the 1950s as a pretreatment for cryogenic air separation. In the 1960s, Carbon Capture from the air was considered a feedstock for the production of hydrocarbon fuels using mobile nuclear power plants. Klaus Lackner, in the 1990s, explored large-scale Carbon Capture as a Climate risk managing tool, now commonly known as Direct Air Capture (DAC).

3.0 Objectives: Green Jobs

India's net-zero commitment can create over 50 million new jobs in the climate sector; environment and climate sciences should be added to the school curriculum and children should be introduced to the climate crisis early on. There is, however, an urgent need to develop a skilled talent pool for climate and environmental action in India. Nature-related jobs drive green recovery for the country's economy, but without a well-trained workforce, this transition will not be impossible. The availability of rightly skilled workers for green jobs is crucial for the transition to a green economy.

For this, the right amount of knowledge, as well as a deep passion for Climate and social sustainability, is required in equal amounts amongst employees.

In addition, environment and climate science should be added to the school curriculum and children should be introduced to the climate crisis early on. Industry experts should also increasingly partner with academia to help bridge the talent crunch. As climate experts, while we are waiting for a future where more businesses adopt sustainable solutions, we are also strongly advocating for the creation of a skilled workforce with our consistent on-the-job training that includes educational sessions for existing employees and internship opportunities for students.

Renewable energy is an important part of green recovery, particularly in a developing country like India. Because clean energy technologies like solar are significantly more labour-demanding than traditional energy sources, the renewable industry is not only economically competitive but also has enormous job-creation potential. For example, if India wants to achieve its target of 500GW of renewable power by 2030, it needs to absorb over a million people by creating clean energy jobs. This is projected to come primarily from Distributed RE, which will offer local job possibilities. Such measures might also support the formation of new enterprises and aid in the expansion of existing ones. India could potentially become a manufacturing centre for emerging technologies such as green hydrogen and battery generation.

India's capacity building through skill development is a top priority. This will address the shortage of skilled employees in India's electricity sector, not just within DISCOMs but also in the private sector, grid management corporations, regulators, and policymakers. In India, well-designed training programmes are the need of the hour.

Thus, employment generation, infusing liquidity for financial relief, improving economic competence for enhanced trade prospects, and guaranteeing a green energy transition should be the four goals of the country's green recovery package. A comprehensive approach, like policy changes and Incentives, that considers several complementary solutions by recognising essential areas such as Power Generation, Storage, Distribution, Manufacturing and Technological Innovations will help extensively towards the nation's targets in this regard.

The onward journey from here to a sustainable future is all set to rejuvenate the entire job ecosystem in India and opportunities in the field are all set to boom and become the next big thing in the country.

4.0 Research Gap

One of the biggest global challenges is Reducing GHG emissions today. Companies track their emission-related data which is one of the key metrics to measure

the progress toward climate targets and communicate their climate goals. Also, it is one of the key point indicators which will affect access to capital finance in the future.

Datasets related to Emissions are inaccurate, unreliable, incomplete, complex and large. While some companies disclose a number of emission metrics and measurements, the data is not standardized, which does not make it feasible enough to benchmark companies, sectors, compare data and asset portfolios.

Globally, the industry and power sectors account for about 50% of all greenhouse gas (GHG) emissions. The CCUS or Carbon Capture, Utilization and Storage programme aims to capture CO₂ and does not enter the atmosphere resulting in the reduction of carbon emissions by either reusing or storing. Decarbonization of 'hard-to-abate' industries would require outstanding efforts to achieve the net-zero goals like Steel, Cement etc.

India still needs to fill this green research gap but a lot of research is done on the international level. Especially, while considering IPR, most countries are more focussed on product patents rather than process patents. Only the USA recognises process patents so often, but as new process innovations are being done, the world should spread awareness and recognise process patents too. Robert Balch from New Mexico Tech says that the Paris Agreement targets can only be met by scaling the carbon capture method. But it is expensive to do. The Petra Nova experiment was done in a Texas power plant for testing carbon capture from a chimney and used the collected CO₂ to produce extra oil by EOR from an oilfield. That project was shut when the oil prices fell below \$50 per barrel. The extra steps of storing and capturing carbon proved to be an unviable cost.

Indian Policy Initiatives for CCS include the 'Clean Energy Tax' 2010, which goes into the National Clean-Energy Fund. The NAPCC or National Action Plan on Climate Change was expanded in 2012 to include clean coal and clean carbon technology to minimise CO₂ emissions. The Institute of Reservoir Studies is currently doing field studies for CO₂ capture and EOR in Gujarat.

The costs of wind and solar energy, and batteries have sustained decreases of up to 85% since 2010. An increasing range of laws and policies have improved energy efficiency, accelerated the deployment of renewable energy & reduced the rates of deforestation.

Major transitions are needed in the energy sector for limiting global warming, which will involve widespread electrification, substantial reduction of fossil fuel usage, use of Energy Storage or alternative fuels like hydrogen & Biogas, and improved energy efficiency.

For ensuring a successful transition to sustainable, climate-neutral growth by the mid-century, carbon management solutions should be an essential part of any emissions reduction strategy, along with renewables and electrification. Carbon management takes two forms i.e., Mitigation (Nature-based solutions such as afforestation) and Adaptation (investment in clean energy technologies, storage, capture, and/or use of carbon dioxide emissions to optimize industrial and biological processes).

5.0 Methodology: Clean Development Mechanism

A shadow price market dealing in a mysterious commodity — "negative carbon" — has been in existence for more than 22 years now. Air passengers would have often seen the fine print on a ticket indicating the tonnes of climate change causing CO₂ that would be emitted during the course of the flight, coaxing them to pay a small fee to ease their conscience. The COP-26 Summit at Glasgow last November finally agreed on a "rule-book" for two new carbon market mechanisms that were created in the 2015 Paris Agreement. These mechanisms are expected to enable countries to accomplish their promises — "nationally determined contributions" (NDCs) to reduce their carbon emissions more cheaply than without them. Negative carbon would be generated in countries where it is cheap to do so and bought by countries where the same is expensive. Both sides would gain, as in international trade for any good.

The first carbon markets were set up under International law as the Kyoto Protocol (1996) which became operational in 2000. The protocol binds mandatory reductions in emissions, not in developing countries, but in developed ones and sets up 3 instruments of the carbon market:

- The emissions trading scheme under which developed nations could trade abatements, which fell short, exceeding their mandates with others;
- Joint Implementation trades, individual projects generating negative carbon, between corporates in developed countries
- Clean development mechanism by which such credits, traded to developed countries' corporations, are generated from developing countries' projects.

Decarbonisation is about reducing CO₂ emissions resulting from human activity, with the eventual goal of eliminating them. In practice, transitioning from fossil fuels to alternative renewables or low-carbon energy sources is the requirement for getting zero net emissions.

In response to the ambition of the 2015 Paris Agreement, many business leaders and governments have set targets and made commitments to reduce carbon emissions. There has been an increase in the demand for environmentally friendly products, the consumer today is more concerned about the climate and moving toward a greener market. Environmental sustainability and entrepreneurship focus on the production of green goods. Research studies available in the public domain; sustainable development, developing green markets, and new-age entrepreneurship work together; each is linked to the other. Specifically, the green market's effect on Sustainable development and green entrepreneurship is still unexplored in-depth.

Speaking of Green Entrepreneurship, we should also define the position & the concept of a Green Entrepreneur who is the main character behind the scenes, who runs the entire Business. For the success of Green Entrepreneurship as a concept, those companies must adopt a novel business model that will help both turn green themselves and promote green ventures. For old companies which already have a particular way of working, this may take a longer time to achieve. Fundamentals need to be changed and in some cases, businesses simply do not have the funds for it. Still talking of new ventures, finance plays an important role.

The issue of intellectual property rights (IPRs) is assuming increasing importance, especially for innovative firms seeking international growth. This leads to an increasing need for IPR research. Nevertheless, so far, it is not known how well the current research answers this emerging need

6.0 Limitations / Scope for Future Work

The IEA's report Roadmap to Net Zero 2050 highlights the task of placing the global economy on a net-zero emissions path by the mid-century. The transition to a clean energy system affects every aspect of society, with uneven impacts across sectors, communities, regions and countries. Employment is a top concern for policymakers. Where will jobs be gained, and where will they be lost? And how will this affect the wider economies and communities these jobs support?

This net-zero emission transition will lead to a job increase in the energy sector. In the pathway set out in the IEA's Net-Zero Emissions (NZE) by 2050 Scenario, an estimated 14 million new jobs are generated in energy supply by 2030. Over the same period, fossil fuel production could lose 5 million positions, resulting in a net gain of 9 million in this pathway. Moreover, clean energy industries like automotive, construction and efficiency would require more than 15 million workers, which means a total of 30 million jobs or more could be created in low-emissions, clean energy and energy-efficient technologies by 2030. They also include new roles for existing workers

in construction, in the manufacturing of emissions-reducing products like EVs and hyper-efficient appliances, and innovative technologies such as hydrogen.

However, new jobs will not always be in the same places or sectors where employment is lost (for example, shown by the World Bank report about coal mines in the US, Europe and China). Job losses would be most pronounced in communities which are based around fossil energy production, especially coal. Even where the number of direct energy jobs lost is small, the impact on the local economy can be significant. With appropriate long-term planning, many dislocated workers can readily find work in related sectors, minimising the near-term effects of dislocations.

Many workers in traditional energy industries have experience pertinent to clean energy transitions. Employment creation can be targeted in key geographical areas and communities that are impacted by the decline of local industries (even those beyond energy) or that are historically underdeveloped or disadvantaged. Government assistance can be linked to criteria focused on equity and inclusion, and on ensuring the jobs of high quality are well compensated – while still maintaining the competitiveness of clean energy. Making sure the energy world benefits all people can help advance human and economic development goals, especially in emerging and developing economies, and it is critical to increasing the public acceptance of energy transitions.

India, to take advantage of its demographic dividend, has taken some initiatives. The Government of India under the Ministry of Skill Development and Entrepreneurship runs multiple programs to empower the youth. One of the initiatives launched by the Government of India is the SCGJ or Skill Council for Green Jobs which is aligned with the National Skill Development Mission and is promoted by the Confederation of Indian Industry (CII) & Ministry of New Renewable Energy (MNRE). Its objective is to identify the skilling needs of manufacturers/ service providers as well as service users, within the Green Businesses sector, and implement Industry led, nationwide, collaborative entrepreneurship development & skill development initiatives that will enable India's potential for Green Businesses.

The categories in which the key sectors covered under the SCGJ and green skilling is happening for future-ready jobs are:

6.1 Sustainable development

Green transportation: The national policy on Biofuel in 2008 plans to blend in biodiesel and bioethanol which are made from the by-products of agriculture residue, and Bio CNG can be generated from solid waste & sewage treatment. Also, in 2020, the National Electric Mobility Mission Plan was rolled out for the faster adoption of electric, as well as hybrid vehicles including Hydrogen based vehicles for which

- recently, the National Hydrogen Policy was announced for the supply chain of Green Hydrogen.
- Green construction: All types of buildings are adopting Green and sustainable initiatives, including Metros, Schools, Townships, SEZs, Factories, Hotels, Hospitals, Institutions, Convention Centre, Airports, Banks, Residential, Offices, IT Parks along with the Smart City Mission. National issues like energy efficiency, water efficiency, handling of consumer waste, reduction in fossil fuel use for commuting and conserving natural resources can be addressed by adopting green techniques and concepts in the building sector.

6.2 Environment, forest & climate change

- Municipal waste management: The latest revision of the solid waste management rules along with the Swach Bharat Abhiyan to tackle the waste disposal problems are effective for the treatment of different types of waste.
- Water management: India is one of the countries using the least water consumption per capita but still, some parts are water stressed, and the ground water has depleted. Now, the initiatives like waste-water treatments and the Catch the rain campaign for Rainwater harvesting and management are trying to ensure that we don't run out of water.
- E-waste management: The national E-waste Legislation demands reduce, reuse, recycle and repair of e-waste in stages. There are treatment facilities, which reduce the negative impacts and in an environmentally-sound way recover the valuable materials
- Carbon Sinks: Unfortunately, the Government of India only recognizes the naturebased solution as Carbon sinks and so has adopted the Sustainable Forestry Management for Afforestation. But recently the draft of the Carbon Capture policy is out as an alternative.

6.3 Renewable energy

- Solar PV & thermal: The International Solar Alliance and National Solar Mission are leading the Renewable space since the cost has come down but it requires storage technology as well. The SCGJ is making standards and up skilling youth for Innovative Clean Energy solutions.
- Wind energy: One of the oldest forms of energy, which the Indian peninsula is blessed with, has huge potential for on-shore as well as off-shore wind energy. Still, innovation is needed for scaling the capacity, building the supply chain & training manpower.

- Small hydro: Scientists say that it is better to make 100 small hydro projects across a small river rather than making a big one. The SHP program is good but the industry still needs innovation to tap its potential, especially for run-of-the-rivers ideas.
- Energy storage: As we are transitioning from Fossil fuel-based power to Renewable power, storage becomes a must because of intermittency & curtailment issues as well as Grid stability. In all the key sectors, there are skill gaps of different levels to be filled globally so Green Entrepreneurs can fight climate change with their innovation.

7.0 Conclusion

Several obstacles persist toward reaching economies of scale for the CCUS. These include energy penalties, large upfront costs, regulatory hurdles, poor market signals, and lack of public acceptance due to other concerns and safety. These challenges can be resolved through creative incentivization programs, placing a price on carbon, ramping up research, development, deployment (RD&D), and enforcing regulations that address CCUS liability issues - solutions that need to be fast-tracked to expedite CCUS investment.

CCUS projects also require far greater government support to accelerate economy-wide deployment. Beyond comprehensive CCUS strategies that governments guarantee policy goals and offer investors greater certainty that will meet some acceptable cost, an international collaboration with market stakeholders, governments, and international organizations sets up a CCUS mechanism which could help catalyze investments and broaden the policy scope of CCUS or Negative emission Technology.

The IEF maintains a comprehensive approach to CCUS that will strengthen financial market stability, enhance access to Industry sustainable finance, and support for energy transition, broaden public acceptance and climate change goals in consumer and producer countries both. Reducing perceived and real hurdles to CCUS by formulating strategies is essential for sustainable, swift and secure recovery that meets climate goals and affordable energy access.

A growing array of governments and businesses are confronting global warming, announcing climate initiatives and emissions goals daily. Often the efforts are focused narrowly on the organization's operations itself. What's needed is a holistic systems approach that unlocks opportunities by working at the intersection of lowcarbon initiatives in transition to an emerging low-carbon economy.

Governments, consumers, businesses and industries all have to take their responsibility and re-enforce each other to build a better future.

The government's role in facilitating the surge has not been discussed much despite the important role of public support for further research from which a number of new ideas have come out despite the government's increased targeted interventions to overcome the particular challenges faced in the area of clean energy by start-ups. The highly regulated, hardware-intensive sector faced a fragmented and uncertain policy environment; also the investment community is often not that familiar with energy and at times, is poorly aligned with the funding needs being capital intensive. To meet the technological requirements for the future of net-zero emission, a sustained "wave" of investment in a broad range of ideas is required which are potentially disruptive.

Carbon Capture has proved that it can reduce the Carbon footprint. Its role goes beyond 'clean-coal technology'. The last 20 / 30 years of experience have highlighted the diversity of Carbon Capture applications. Early opportunities for the deployment of Carbon Capture exist but must also be cultivated. Policy framework stability & Longterm commitment is critical. Tailor-made policies will be essential in providing a financial incentive for investment in the near future. Careers in sustainability also spark a sense of joy and satisfaction amongst employees as everyone comes together to work towards creating a balance between the environment, society and economy. All climate heroes in the industry together are building a healthier tomorrow and we want to encourage more people to join this bandwagon. When more hands and minds come together, we can achieve the country's climate goals faster.

India's decision to go "net zero" by 2070 has been lauded as a game changer around the world. By the end of March 2022, the country will have reached about 110 GW of renewable energy. Furthermore, renewables received \$35 billion of the \$122 billion in energy-related investment, about twice as much as fossil fuels. Green hydrogen has also received government support, with the recent introduction of the Green Hydrogen Policy, which provides the first support for green hydrogen and ammonia generation in the country. Green hydrogen will be a critical piece of the puzzle, not just for achieving net zero but also for establishing India as a global manufacturing powerhouse for green hydrogen.

References

capture won't save oil and gas, BARRON'S. Retrieved from: https://www.barrons.com/articles/carbon-capture-wont-save-oil-and-gas-51637592327

Carbon Circular Economy. International Energy Forum. Retrieved from: https://www.ief.org/programs/circular-carbon-economy

Five key takeaways from the new IPCC climate risk report. Bloomberg. Retrieved from: https://www.bloomberg.com/news/articles/2022-02-28/five-key-takeaways-from-thenew-ipcc-climate-risk-report.

Keith, D. W., Holmes, G., Angelo, D. S., Heidel, K. (2018). A process for capturing CO₂ from the atmosphere. Joule, 2(8), 1573-1594.

Green energy pivotal to safeguard against climate change. Invest India. Retrieved from: https://www.investindia.gov.in/team-india-blogs/green-energy-pivotal-safeguardagainst-climate-change

Make carbon markets work for the developing world, Business Line. Retrieved from: https://www.thehindubusinessline.com/opinion/make-carbon-markets-work-for-thedeveloping-world/article65089899.ece

Skill council for green jobs. Retrieved from https://sscgj.in/

The importance of focusing on jobs and fairness in clean energy transitions. International Energy Agency. Retrieved from https://www.iea.org/commentaries/the-importance-offocusing-on-jobs-and-fairness-in-clean-energy-transitions.