MARCH 2023 • Vol. 8 • Issue 12
MONTHLY • Pages 64
₹ 200

RNI No.: DELENG/2015/67140; Published on: Every month; Posted at Lodi Road HPO, New Delhi on 9-10th of every month

THE AWARE CONSUMER

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G20 भारत 2023 INDIA

- India Leads From the Front

World Consumer Rights Day

15th March, 2023

Clean Energy Transition

IN FOCUS
Empowering Consumers For Energy Citizenship

RESEARCH FEATURE
Keys to a Resilient Energy Transition

INTERVIEW

AMITABH KANT
India's G20 Sherpa & former CEO, NITI Aayog

PLUS ROUND UP • MY MARKET • THE PRESCRIPTION

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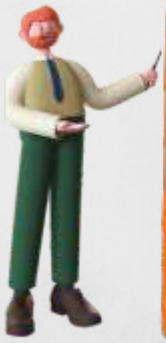

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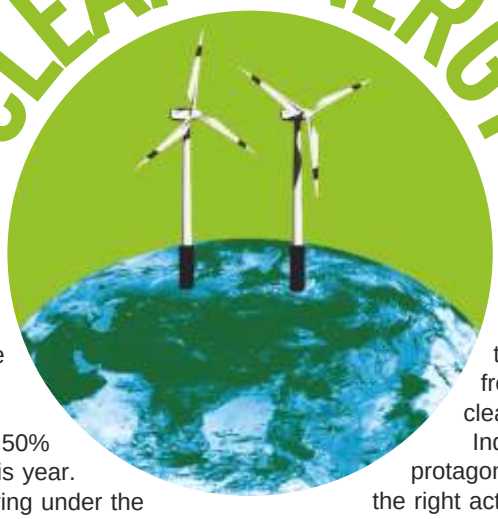
VIEW POINT

MESSAGE FROM PUBLISHER & EDITOR

Tipping Point for a CLEAN ENERGY Future



WITH THE GLOBAL energy crisis deepening beyond our imagination, the world is finally focused on securing a transition to clean energy. On the one hand, the energy prices have risen by 50% in 2022 and are poised to stay high this year. The vulnerable consumers are staggering under the untold impact. At the other end of the spectrum is the commitment of various world leaders to reduce greenhouse gas emissions by up to 70% and/or achieve net-zero carbon economy in a couple of decades.

In this backdrop, the theme of the World Consumer Rights Day couldn't have been more opportune – 'Empowering Consumers Through the Clean Energy Transition'.

Transitioning to clean energy calls for a paradigm shift in energy production – it should move away from fossil-based systems (like oil, natural gas and coal) that release a lot of greenhouse gases to renewable energy sources (like solar, wind, hydro and nuclear) that release little to no greenhouse gases.

Consumers International - the global membership organisation for consumer rights groups with over 200 members in more than 100 countries – is striving to deliver such a just energy transition for consumers. It will use this opportunity to hold policymakers to their promises while spurring actions from the consumers that will catalyse clean energy use.

Indeed, consumers have to be the protagonists driving the transition by taking the right actions for climate neutrality. However, to achieve true energy citizenship, they have to be empowered with the right information along with access to sustainable energy. This will unlock their ability to propel faster and more meaningful change.

This issue of The Aware Consumer demonstrates our firm commitment to doing our bit to rouse the consumers and drive them towards a cleaner and more secure future!

Prof. Bejon Kumar Misra
Publisher & Editor
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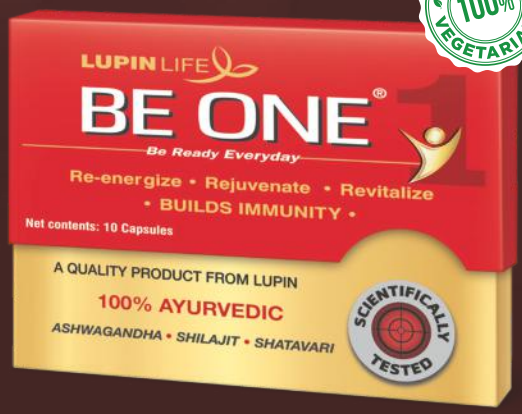

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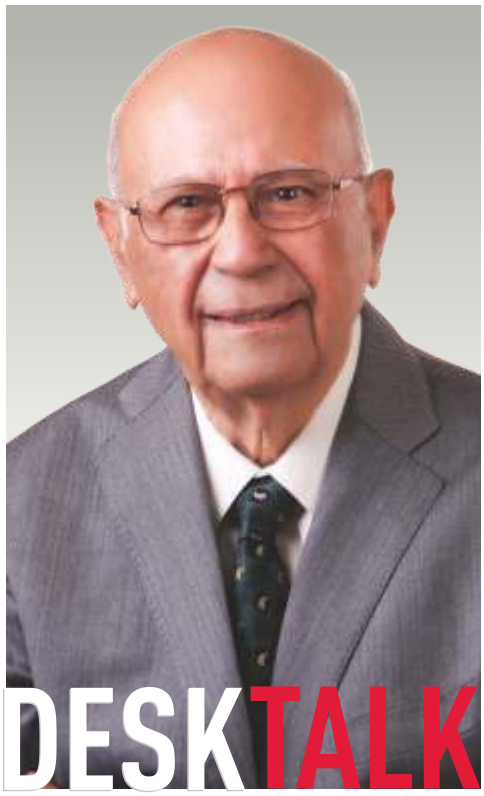


DESKTALK

SPEARHEADING THE G20 PATHWAY TO ACHIEVE CLIMATE-SAFE ENERGY

THE WORLD IS hankering for action on a global scale to fuel (pun unintended) the transition to clean energy. Even the United Nations' Sustainable Development Goal (SDG) 7 emphasises access to affordable and reliable energy for all by 2030.

It is not just about ending our dependence on fossil fuels that are not only highly polluting but also depleting quickly. What is vital here is that this clean energy has to be made accessible, affordable and reliable. Indeed, accelerating investments in such alternative sources of energy has become more crucial than ever before. Breathing new life into our national energy commitments also remains vital for actually making meaningful progress along this path.

At this critical turning point, India has taken over the G20 presidency with a vision for a new, inclusive world order. This Group of 20 (G20) is an inter-governmental forum for international economic cooperation comprising 19 countries and the European Union.

Accordingly, India will steer the G20 agenda for a year with a dedicated focus on finding pragmatic global solutions for the wellbeing of all. The Sherpa Track will hone in on climate change, energy transition and sustainability among other core issues.

We sincerely hope that PM Modi will use this opportunity to lead energy resilience by shaping the dialogue for clean energy transition and developing a collective voice on the subject. The focus has to be on intensifying efforts to generate renewable energy while accelerating efforts for phase down of coal usage. This calls for setting specific clean energy generation goals along with promoting global alliances for fast-tracking development and deployment of clean energy. In turn, this will raise the question of capital to fund the renewable energy investments.

Therefore, what we need is a clear plan for a just transition that addresses the impending fallouts for both the present and future generations.

INSIDE

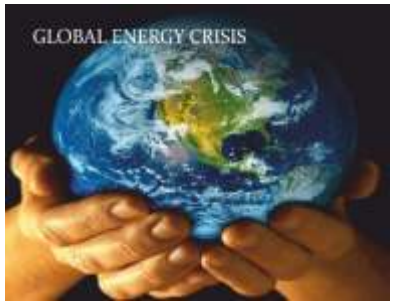
THE AWARE CONSUMER MARCH 2023

REGULARS

The 'Fostering Effective Energy Transition 2022' report by World Economic Forum has called for urgent action by both private and public sectors to ensure a resilient energy transition.

Even as the world is talking about breaking the addiction to coal, ironically, coal consumption is hitting all-time highs thanks to the global energy crisis!

Mr. AMITABH KANT
India's G20 Sherpa and Former CEO of NITI Aayog



The consumers play an integral role in the energy transition. In fact, climate change actions cannot be successful unless consumers become a key part of the equation.

MAKING THE ENERGY TRANSITION JUST AND EQUITABLE

It is imperative that the transition to clean energy should not generate new forms of poverty and inequality, especially in the developing nations.

THE AWARE CONSUMER
UNLOCKING CONSUMER POTENTIAL
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MARCH 2023 • Vol. 8 • Issue 12

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Published at:
B - 306, 1st Floor,
C.R. Park, New Delhi-110019

Printed at:
M/s. Swastika Creation
19, D.S.I.D.C. Shed, Scheme 3,
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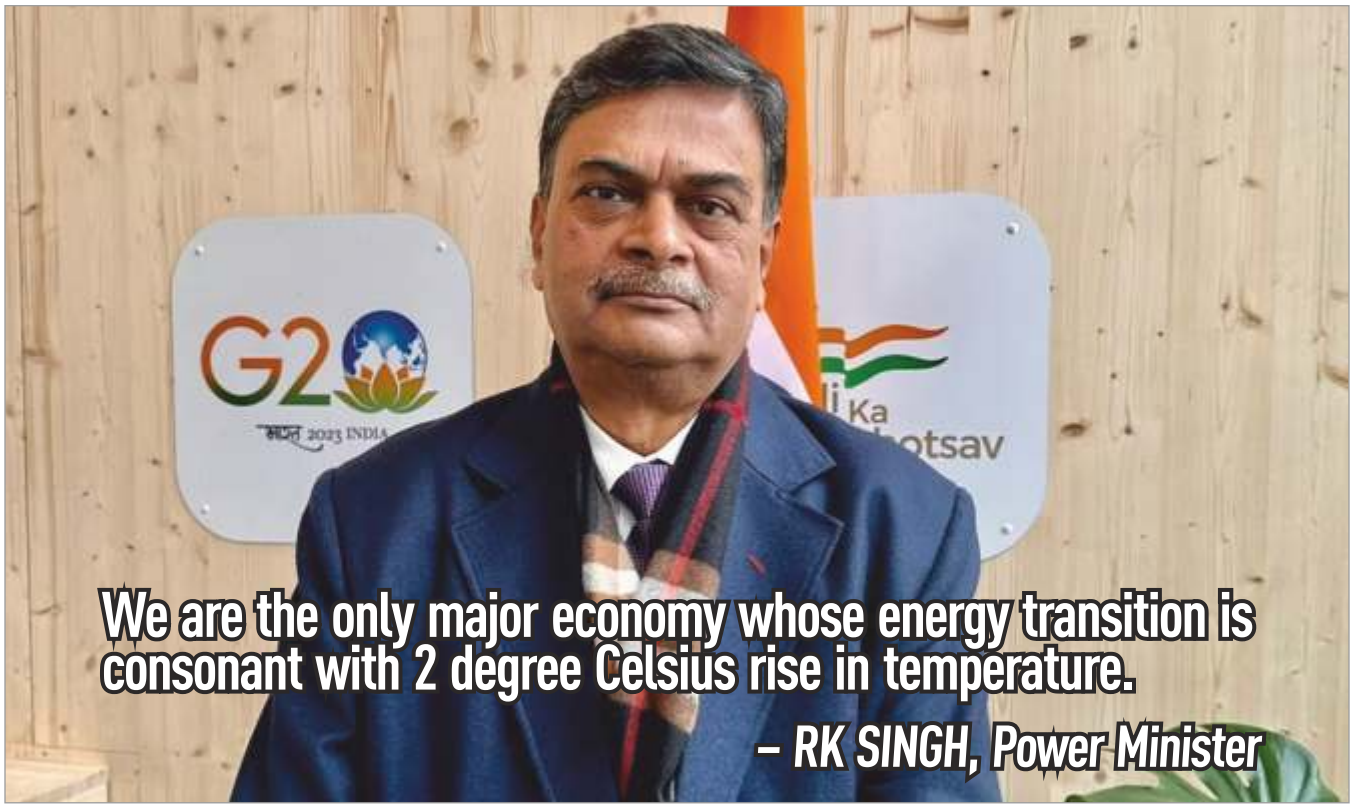
Total number of pages - 64, Including Covers

DR FATIH BIROL
EXECUTIVE DIRECTOR, INTERNATIONAL ENERGY AGENCY

The good news is that the clean energy transition in India is already well underway. It has overachieved its commitment made at COP 21-Paris Summit by already meeting 40% of its power capacity from non-fossil fuels almost nine years ahead of its commitment.

ROUNDUP



We are the only major economy whose energy transition is consonant with 2 degree Celsius rise in temperature.

– RK SINGH, Power Minister

WORLD ECONOMIC FORUM
Annual Meeting
Davos 2023
16 - 20 January

Energy Transition at Davos 2023

DATA BRIEFING

India is particularly well placed to become a global leader in renewable batteries and green hydrogen. These and other low-carbon technologies could create a market worth up to **$80** billion in India by 2030.

THE ANNUAL WORLD Economic Forum (WEF) global summit was held in Davos, Switzerland from 16th to 20th January this year under the slogan 'Cooperation in a Fragmented World'.

Global leaders from finance, business and politics called for stronger international cooperation in renewable energy supply chains, noting that the current global crises, war and economic recession paint a rather gloomy picture of what lies ahead. The popular consensus was that clean technologies, renewable energy sources and industry decarbonisation should be the response to the current global crisis.

Preceding the meeting in Davos, the WEF conducted the Global Risk Report which concluded that the main risks and threats to the future of humanity come from climate change and a looming environmental collapse.

Other reports also indicated that the target of limiting global temperature to 1.5°C is rapidly slipping off the table. The current plans will not be able to meet the targets as they are cutting emissions but not making enough headway. The experts agreed that our current pledges will keep us on track for a 2.5°C rise in temperature by the end of the century, a shift that will multiply the climate calamities we are already experiencing. We urgently need to step up the clean energy transition now and throughout the remainder of this decade to reverse the trend.

At the summit, Fatih Birol, Executive Director of the International Energy Agency (IEA) stressed that a

Until recently, environmental concerns were the main driver of the energy transition, and now the biggest driver is energy security!

– Fatih Birol

SHOT IN THE ARM FOR GREEN HYDROGEN

Green hydrogen will be crucial for India's economic development, energy security and achieving decarbonisation of 'harder to abate' sectors.

- Economic Survey 2022-23

The road to net zero will be the greatest transformation of our times!

- Ursula von der Leyen

long-lasting solution to the global crisis would come through renewables, which will be the 'energy of peace' as opposed to fossil fuels. Noting that the world is entering a new industrial age of clean energy technology, he said that it is heartening that governments are taking action and competing to be leaders in the new energy economy. The Director also clarified that since no country will be in a position to do everything at once, collaboration should be a key element of countries' industrial strategies. Therefore, what is needed is more strategic partnerships between countries in the coming years, aimed at strengthening their clean energy supply chains.

The 'Energy Transition Investment Trends 2023' report by the research firm, BloombergNEF reveals that for the first time, the world invested as much money into replacing fossil fuels as it spent on producing oil, gas and coal!

Global investments in the clean energy transition hit $1.1 trillion in 2022, roughly equal to the amount invested in fossil fuel production. Never before has the amount spent on switching to renewable power, electric cars and new energy sources like hydrogen topped $1 trillion.

But, while there has been a 31% jump from 2021, it's still just a fraction of what's needed to slash greenhouse gas emissions and fight global warming. BNEF estimates annual investments in the transition must triple for the rest of this decade to give the world a chance of reaching net zero emissions by 2050.

John Kerry, the US climate envoy stressed that substantial investments and money are needed to give the world any chance of achieving the goals of the Paris Agreement. He highlighted the U.S. Inflation Reduction Act (IRA) passed in August last year to boost the U.S. economy by investing in domestic clean energy production to the tune of $369 billion.

Ursula von der Leyen, President of the European Commission stated that the European Union intends to mobilise subsidies and prepare the establishment of a 'sovereignty fund'. The new plan aims to make Europe a clean technology and innovation hub and render European industry more competitive against American and Asian companies.

Yet, the summit voiced cheer as for the first time in history, humanity has a reason to feel optimistic about our capacity to change course for the better!

INDIA INTRODUCED THE Green Hydrogen Policy followed by the National Green Hydrogen Mission with a vision to make India an energy-independent nation by 2047. Their pivotal role is also reflected in India's Long Term Low Emissions Development Strategy (LT-LEDS).

The National Green Hydrogen Mission was approved on 4th January, 2023 with an initial outlay of Rs. 19,744 crore. Aiming to decarbonise critical sectors, the mission will facilitate demand creation, production, utilisation and export of green hydrogen and mobilisation of over Rs. 8 lakh crore of investments by 2030.

Such incentivising of the commercial production of green hydrogen will make India a net exporter of the fuel, reduce our dependence on fossil fuel imports as well as enable the country to assume technology and market leadership in Green Hydrogen.

An enabling policy framework will be developed to support establishment of a Green Hydrogen ecosystem. A robust standards and regulations framework will also be instituted.

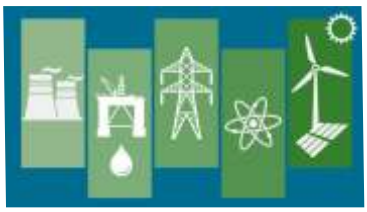
President Murmu also remarked that, “The government has also approved Hydrogen Mission recently. This is going to attract investment worth lakhs of crores of rupees in India in the field of green energy. This will result in reducing our dependence on foreign countries for clean energy and also for energy security.”

The September 2022 edition of The Aware Consumer on 'Demystifying Renewable Energy for Consumers' stressed on the huge potential of green hydrogen being the fuel of the future! It can replace traditional fuels in energy-guzzling industries (like fertilisers and steel manufacturing) as well as heavy mobility sectors like shipping, aviation, railways, buses and more.

India's 2023-24 BUDGET Reiterates the Clean Energy Push

PUTTING THE FOCUS back on India's target of becoming a net carbon zero economy by 2070, Finance Minister Nirmala Sitharaman listed 'Green Growth' as one of the 'Saptarshis' (seven priority sectors of targeted growth) of this year's Budget. She also stated that 'green growth' is among the four opportunities that can be transformative for India in the run up to 2047, the country's 100th year of independence.

A slew of measures were announced to reduce the carbon intensity of the Indian economy, meet clean energy targets and provide large scale green job opportunities. The initiatives relate to green fuel, green farming, green mobility, green buildings and green equipment to usher in green industrial and economic transition. The budget also stresses on policies for efficient use of energy across various sectors.



Energy Transition: An outlay of Rs. 35,000 crores to the Ministry of Petroleum and Natural Gas for priority capital investment toward diverse aspects of energy transition, net zero objectives and energy security.

Green Hydrogen: An outlay of Rs. 19,700 crore for the recently launched National Green Hydrogen Mission to facilitate the transition of the economy to low carbon intensity, reduce dependence on fossil fuel imports and make the country 'assume technology and market leadership in this sunrise sector'.

The target is annual production of 5 MMT (million metric tonnes) of green hydrogen by 2030.

Renewable Energy Evacuation: An investment of Rs. 20,700 crore (including central support of Rs. 8,300 crore) to construct an interstate transmission system for evacuation and grid integration of 13 GW renewable energy from Ladakh.

Battery Storage: Viability gap funding for battery energy storage systems with support for setting up of 4,000 MWh (megawatt hour) battery energy storage capacity to spur sustainable development. A detailed framework for Pumped Storage Projects will be formulated. These technologies will promote round-the-clock solar and wind power projects by providing standby power during night or no-wind scenarios, thus maintaining grid stability.

Vehicle Replacement: Allocation of funds to scrap old vehicles of the central government in furtherance the Vehicle Scrapping Policy mentioned in previous budget. The states will also be supported in replacing old vehicles and ambulances.

Green Credit Programme: A Green Credit Programme - of granting credit for cleaner actions - will be notified under the Environment Protection Act, 1986 to encourage behavioural change. This will incentivise environmentally sustainable and responsive actions by companies, individuals and local bodies as well as help mobilise additional resources for such activities.

The budget has other green move proposals for sustainability like:

PM-Pranam: A new 'PM-Programme for Restoration, Awareness, Nourishment and Amelioration of Mother Earth' will be launched to incentivise states and union territories to promote alternative fertilisers and balanced use of chemical fertilisers.

GOBARdhan scheme: A total of 500 new 'waste to wealth' plants under the GOBARdhan (Galvanizing Organic Bio-Agro Resources Dhan) scheme will be established to manage and convert cattle dung and solid waste on farms into compost, biogas, and bio-CNG, thus promoting a circular economy. These will include 200 compressed biogas (CBG) plants (including 75 plants in urban areas) and 300 community or cluster-based plants at a total investment of Rs. 10,000 crore.

In due course, a 5% CBG mandate will be introduced for all organisations marketing natural and biogas. For collection of bio-mass and distribution of bio-manure, appropriate fiscal support will be provided.

Bhartiya Prakritik Kheti Bio-Input Resource Centres: There is a proposal to facilitate 1 crore farmers to adopt natural farming over the next three years. For this, 10,000 Bio-Input Resource Centres will be set up, creating a national-level distributed micro-fertiliser and pesticide manufacturing network.

MISHTI: Building on India's success in afforestation, 'Mangrove Initiative for Shoreline Habitats & Tangible Incomes' (MISHTI) will be taken up to plant mangroves along the coastline and on salt pan lands, wherever feasible, through convergence between MGNREGS, CAMPA Fund and other sources.

Amrit Dharohar: This new scheme will be implemented over the next three years to encourage optimal use of wetlands and enhance bio-diversity, carbon stock, eco-tourism opportunities and income generation for local communities. It will promote the unique conservation values of wetlands that are vital ecosystems which sustain biological diversity.

Coastal Shipping: Coastal shipping will be promoted as an energy efficient and lower cost mode of transport, both for passengers and freight, through public-private partner mode with viability gap funding.

Lithium-ion Batteries: To further green mobility, the import of capital goods and machinery required for the manufacture of lithium-ion cells for batteries used in electric vehicles will be exempted from customs duties. The Council on Energy, Environment and Water (CEEW) Analysis stated that the key equipment for battery cell manufacturing is imported and their share is between 65-75% of the overall infrastructure costs.

Natural Gas and Bio Fuels: All natural gas entities marketing natural gas (identified as the transition fuel) will have to earmark 5% of sales to city gas distribution projects. This is expected to raise supply for CNG and PNG projects being set up in 400 districts at an investment of Rs 80,000 crore.

The GST-paid biogas used for blending in CNG has been exempted from excise duty to promote biogas projects that have a positive bearing on waste management in cities and potential to create rural earning avenues. Customs duty on denatured ethyl alcohol has been reduced to improve availability as the government moves for blending 20% ethanol — petrol blended with ethyl alcohol — and flex engines with the aim of reducing automotive emission.

Energy sector stakeholders are optimistic that the budget's green proposals will not only result in the creation of a framework for a sustainable energy mix and infrastructure, but also increase investments and jobs in the energy sector.

Indeed, India is taking a multi-pronged strategy to accelerate clean, carbon-free fuels across different sectors of the economy. The budget

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"India does not believe that progress and nature can't go together. The government is focusing on green growth and is giving emphasis on connecting the whole world with Mission LiFE."

– PRESIDENT DROUPADI MURMU in her maiden address to the joint sitting of Parliament marking the beginning of the Budget Session.

The Economic Survey 2022-23 released by the Chief Economic Advisor, V Anantha Nageswaran on the eve of the new Budget throws ample light on the stance taken by India and whether it can achieve the net zero emissions target by 2070 (as promised at COP26).

The survey states that India contributes only 4% to the total emissions of the world, yet stands to be one of the most vulnerable countries in terms of climate change.

Our country is spearheading one of the world's most ambitious clean energy transitions and remains steadfast in its commitment to combat climate change. It is clear that despite the adverse impacts of COVID-19 on the economy, India has enhanced its climate ambition manifold and embarked on a long-term strategy towards a Low Greenhouse Gas Emission Development Strategy by adopting a multi-pronged approach.

It is noteworthy that Prof. Bejon Misra and The Aware Consumer have been promoting clean energy from long before it became a buzzword!

allocation for the Ministry of New and Renewable Energy, Ministry of Environment, Forest and Climate Change, solar energy central sector schemes and for controlling pollution has been hiked considerably. A separate budget has been allocated for the National Mission on Natural Farming.

However, it is surprising that several crucial programmes – such as the Climate Change Action Plan, Climate Resilient Agriculture Initiative, National Adaptation Fund and the National Mission on Himalayan Studies – found no allocation in this year's budget.

On 15th March, 1962, U.S. President John F. Kennedy was the first world leader to articulate the concept of consumer rights to the US Congress. Consumers International marks this historic day every year as World Consumer Rights Day.

– John F. Kennedy
Former U.S. President

Going Beyond World Consumer Rights Day

IN THE WEEK of 15th March this month, consumer advocates and other leaders will converge to explore solutions in the global consumer-centric dialogue on empowering consumers for the clean energy transition organised by Consumers International to mark the World Consumer Rights Day.

However, this is just one step on the long road towards a net zero world. It is heartening to note that we have developed a co-ordinated and cohesive global plan of action. But the real challenge for the world is putting it into practice at all levels. All eyes are focused on turning the tall commitments into tangible actions with implementation, monitoring and enforcement mechanisms.

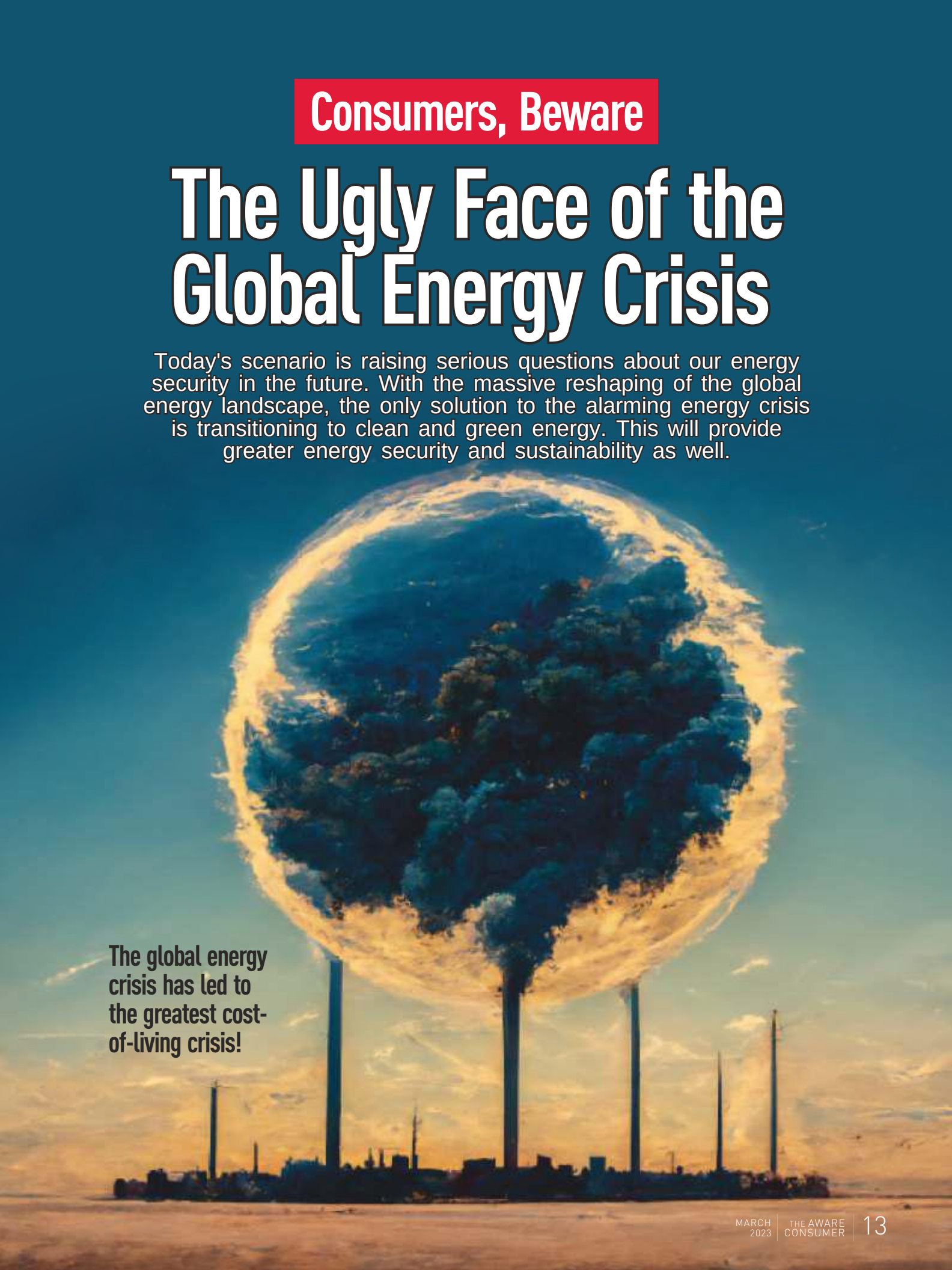
Moreover, while countries make the calls to action a priority, consumer rights and needs should be given precedence – and not become an afterthought - in the policy process. Indeed, the importance given to consumers and consumer advocates must continue beyond the World Consumer Rights Day!

The Aware Consumer cheers the happy coincidence that following the developments at COP27, India's leadership of G20 and the emphasis on clean energy transition on World Consumer Rights Day, our budget is also prominently a 'green' budget. Such synchronised efforts are bound to yield happy results!

Consumers, Beware

The Ugly Face of the Global Energy Crisis

Today's scenario is raising serious questions about our energy security in the future. With the massive reshaping of the global energy landscape, the only solution to the alarming energy crisis is transitioning to clean and green energy. This will provide greater energy security and sustainability as well.



The global energy crisis has led to the greatest cost-of-living crisis!

ENERGY DRIVES ALMOST everything in the modern world – be it at the individual or societal level. It is lighting the world, fuelling vehicles, powering mobile phones, running industries and propelling economic development. Our dependence on energy is such that we simply cannot imagine living in a world without it!

Alas, the major problem here is that most of the energy we use today comes from fossil fuels. Even though renewable energy is steadily gaining ground, fossil fuels still make up more than 80% of the global energy production. And it is the production and use of such fossil-based energy that accounts for over 75% of greenhouse gas emissions around the world. These greenhouse gases - like carbon dioxide, methane and nitrous oxide - absorb heat and radiate it back to the Earth, thus causing a rise in the planet's average temperature.

Since the start of industrialisation 230 years ago, humanity has released more than 2 trillion tons of carbon dioxide into the atmosphere.

Needless to say, the world is reeling from the effects of climate change. Unprecedentedly dangerous weather extremes are becoming frequent and severe – there are devastating heatwaves, droughts and floods everywhere.

Yet, the fallout is not limited to global warming, pollution and food and water insecurity alone. The increasing pressure on the finite fossil fuels has brought the limited natural reserves of oil, natural gas and coal to the brink of extinction. According to estimates, oil will run out within the next 40 to 60 years while natural gas and coal reserves can be exploited for another 60 to 80 years at best. Meanwhile, global energy demand continues to soar on the back of overconsumption, overpopulation and sheer wastage.

The Roots of the Crisis

Little wonder that the world is staring at a full-blown global energy crisis today. This was set off by a global surge in demand in 2021 due to the rapid economic rebound following the COVID-19 pandemic which outpaced the energy supply. Even as most of the globe started facing shortages, we witnessed some of the most unprecedented heatwaves in history that prompted peak demand for energy once again.

> **We are in the middle of the first global energy crisis. In the seventies, it was the oil crisis and now we have an oil crisis, a natural gas crisis, a coal crisis - all prices are skyrocketing and energy security is a priority for many governments, if not all.**
>
> *– FATIH BIROL*
> *Executive Director,*
> *International Energy Agency*

The situation came to a head with Russia's invasion of Ukraine little over a year ago following which the former strangled gas supplies to a large part of the world. Russia being a leading producer and exporter of oil and gas, international sanctions triggered a sharp exacerbation in the crisis, destabilising oil and gas markets across the globe and culminating in record-high energy prices. We are still reeling under the numbing crunch of the energy shock that has caused dramatic shifts in the energy world.

The depth and complexity of the energy crisis remains unprecedented. As it always happens, the pain of the steep spikes and constant volatility in

As consumers, we are usually not bothered about the energy crisis until it hits us where it hurts the most – electricity bills becoming unaffordable, spiralling fuel prices or shortages/long queues at petrol pumps.

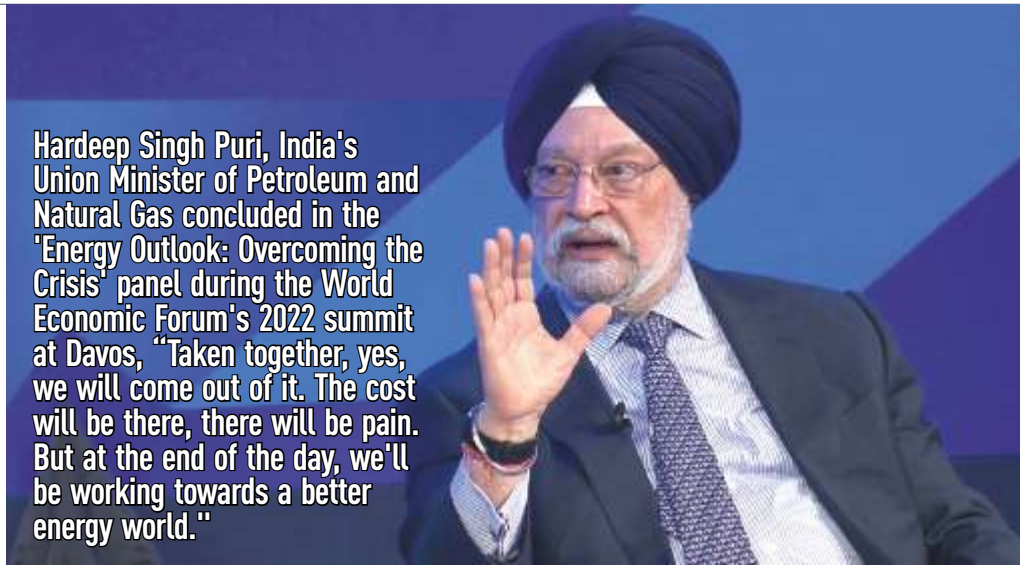
Why are we destroying the very world we live in?

energy prices is echoing in every sector from food to finance. On the one hand, it fuelled a steep inflation which is pushing scores of consumers into poverty; on the other it is slowing economic growth to the extent that many countries are spiralling into a severe downturn. Experts warn that we could very well be staring at an imminent global recession.

Overcoming the Crisis

The writing on the wall is clear – there is no going back to the way things were. Securing the available supply and shifting to coal is a kneejerk reaction. What is required is large-scale adjustments with behavioural shifts that will be far from smooth. The time calls for addressing the longstanding vulnerabilities while minimising the trade-offs.

Indeed, the answer is not additional fossil fuels by a long shot. Buying energy-efficient products, using lighting controls, energy simulation and other such measures can reduce your carbon footprint only to a certain extent. Global initiatives are also focused on regulating and restricting carbon emissions.

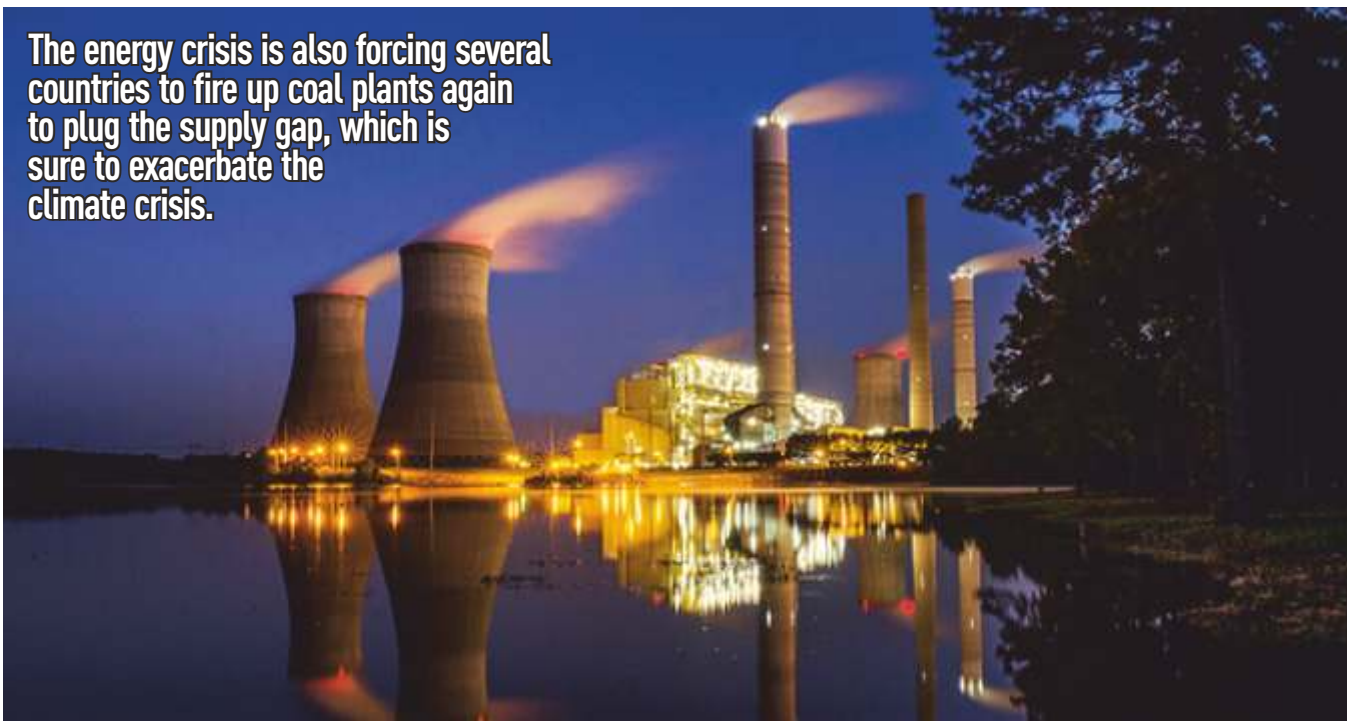


Hardeep Singh Puri, India's Union Minister of Petroleum and Natural Gas concluded in the 'Energy Outlook: Overcoming the Crisis' panel during the World Economic Forum's 2022 summit at Davos, "Taken together, yes, we will come out of it. The cost will be there, there will be pain. But at the end of the day, we'll be working towards a better energy world."

However, the only real solution is to end the dominance of fossil fuels by putting efforts into transitioning to renewable resources while enhancing research for developing sustainable technologies. It is heartening to note that several countries are adopting new policies that boost investments in clean energy and efficiency.

Conclusion

How we use the resources is important too! Our acts may be minor, but they make a difference. So, think about how you live your life and the impact of your daily decisions on the bigger picture of the energy and economic situation!



The energy crisis is also forcing several countries to fire up coal plants again to plug the supply gap, which is sure to exacerbate the climate crisis.

There is no real energy crisis if you are not concerned about life after your time on Earth is gone. However, there is a genuine energy crisis if you care about the future that the next generations will inherit! (Source: https://www.conserve-energy-future.com/)

#65YearsOfSuccess

65th Anniversary

Thank you to everyone who has helped make this possible.
We hope to continue serving you for many more years to come.

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Keys to a Resilient ENERGY TRANSITION

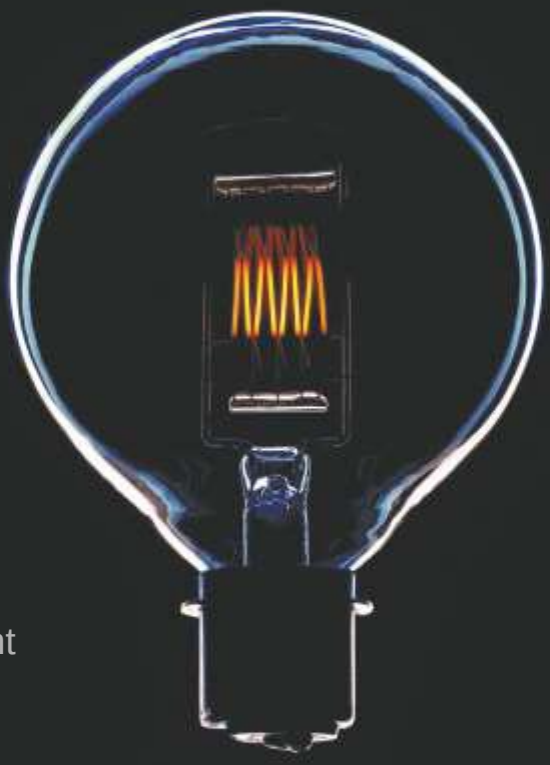
In collaboration with Accenture

WORLD ECONOMIC FORUM

Fostering Effective Energy Transition 2022 Edition

INSIGHT REPORT

MAY 2022



The 'Fostering Effective Energy Transition 2022' report by World Economic Forum has called for urgent action by both private and public sectors to ensure a resilient energy transition. A paradigm shift in collaboration is needed to increase progress.

The window of opportunity to prevent the worst consequences of climate change is closing fast

THE WORLD ECONOMIC Forum (WEF) releases the Global Energy Transition Index (ETI) – in association with Accenture - every year which benchmarks 115 countries across the world on their current energy systems performance and preparedness for the ongoing transition across three dimensions of the energy triangle:

- Economic development and growth
- Environment sustainability
- Energy protection and access

The index provides a numerical value for how well a country is doing in their transition to renewable energy and also helps in developing energy transition roadmaps. The scores reflect the countries' readiness to shift to stable, efficient, accessible and inclusive energy systems.

Sweden ranked first in the Global Energy Transition Index 2021, followed by Norway and Denmark. Only United Kingdom and France from the world's ten largest economies featured in the top ten countries of the index. India ranked 87th out of the 115 countries while China scored the 68th position.

After a decade of quantifying the progress of countries' energy transition, the WEF released a Fostering Effective Energy Transition 2022 report (in May 2022) which builds on the ETI trends observed in recent years. The special report provides a perspective on the current challenges affecting the transition and highlights priorities to supercharge it. The recommendations are centred on how to navigate the transition through the turbulent macroeconomic and geopolitical environment.

Major Findings

Energy Transition Under Pressure - The global energy transition, pivotal to climate change mitigation efforts, is well under way. Over the past decade, the world has made progress during nine of the ten years, as measured by the Energy Transition Index. The progress has been slow but steady from 2012 to 2021 on both the system performance and transition readiness dimensions. (Figure 1) However, it has not been uniform across the three imperatives. (Figure 2)

What is worrying is that the energy transition is not keeping pace with the growing climate urgency. To add to this, the early 2020s have been characterised by a series of systemic shocks (COVID-19 and Russia-Ukraine conflict) that affected the energy system. These compounded disruptions are making the transition even more difficult. In fact, the high energy prices, risks of energy supply shortages and soaring demand for fossil fuels are simultaneously challenging energy affordability, energy security and access, and sustainability.

While the fall in energy demand in 2020 from pandemic restrictions led to an almost 6% drop in global carbon dioxide emissions, there was a sharp rebound in 2021 to their highest levels in history. The demand for electricity grew at a record pace in 2021, equivalent to adding the demand of India to the world's grid!

It has been reported that to contain the average temperature increase to below 1.5°C, the global greenhouse gas emissions must peak before 2025. Methane, the second fastest growing greenhouse gas emissions behind carbon dioxide, also needs to be reduced by about a third by 2030.

In fact, the energy affordability and security challenges reinforce the need to amplify the transition by accelerating investments in the new (decarbonised) energy systems and embedding more efficient energy consumption habits in post-pandemic societies.

The good news is that the past two years accelerated the global momentum in the transition towards more sustainable energy systems, with record capacity expansion of solar photovoltaics and wind power. The combined solar (3.72%) and wind (6.59%) shares of global electricity generation amount to 10.31% for the first time ever. In addition, low-carbon power sources including solar, wind, hydro, nuclear and bioenergy combined generated 38% of the world's electricity in 2021, overtaking coal. (Figure 3)

Achieving a transformation of the required magnitude and complexity necessitates long-term and ambitious policies, enabling infrastructure and investments, as well as supporting consumption behaviour changes. The increase in governments' and companies' efforts to reduce their reliance on fossil fuels is key. But, the individuals' 'civic duty' towards energy use must also intensify. Active consumer engagement and participation are pivotal for effective demand-side management.

Transition Readiness Enablers - The recent developments warrant a fundamental rethink on energy security to support the development of robust energy transition roadmaps. The downward trend in economic

WORLD ECONOMIC FORUM

The World Economic Forum (WEF) is an international non-governmental organisation - based in Switzerland - committed to improving the state of the world by engaging business, political, academic and other leaders of society to shape global, regional and industry agendas.

FIGURE 1: Global average Energy Transition Index system performance and transition readiness scores 2012-2021

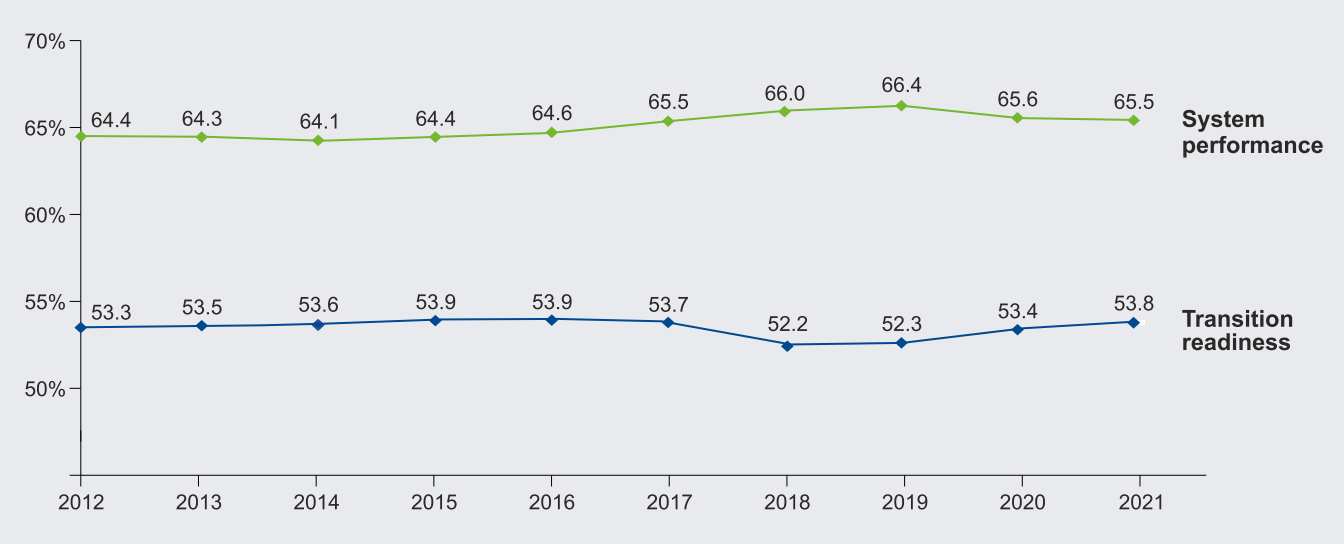
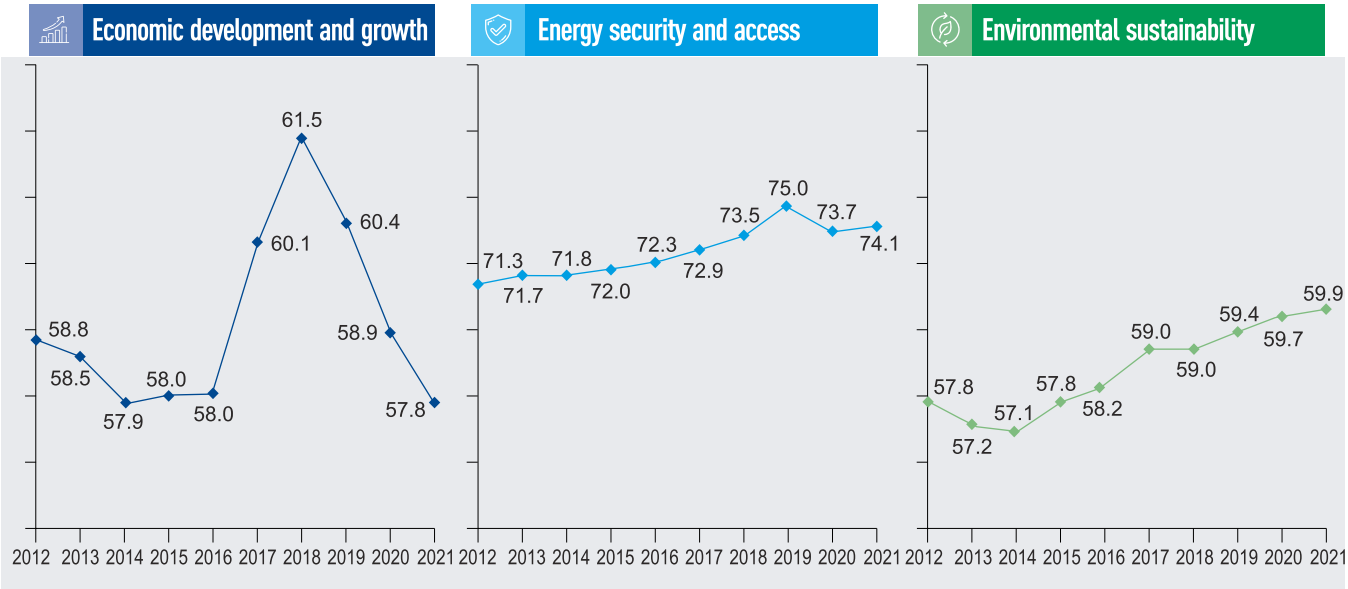


FIGURE 2: Global average energy triangle sub-index scores 2012-2021

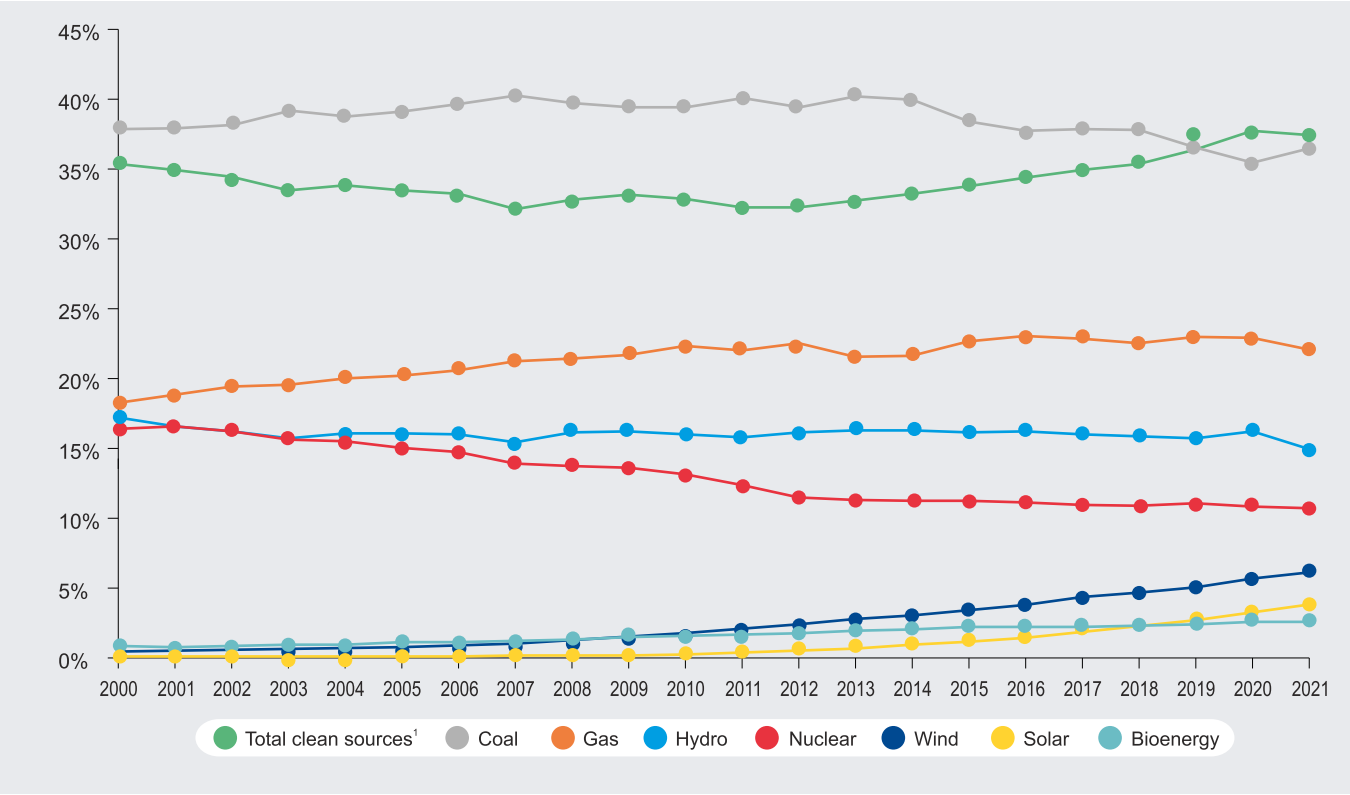


development and growth since 2018 shows that countries are facing challenges to maintain energy affordability while progressing on their energy transition pathways.

It is essential to make the energy transition robust by building adequate enablers and support mechanisms to maintain the momentum of the transition through this turbulent phase even if the economic and energy security context deteriorates. This includes making legally binding commitments, designing long-term visions for domestic energy systems, building an attractive investment landscape for private capital and promoting consumer participation as well as building the local workforce required for the transition.

In 2021, a wave of climate pledges were made, raising the number of countries committed to net zero targets, covering 88% of global emissions. Now the pledges must be turned into concrete policies and actions that make a difference on the ground in the remaining years to 2030. The widening gap between pledges and implementation effort is a growing concern.

FIGURE 3: Share of global electricity generation by source 2000-2021



To help political ambitions translate into on-the-ground action, introducing net zero commitments into a legal institutional framework and complementing them with binding policies could help strengthen the urge for action of future governments regardless of other existing priorities. By May 2022, only 13 countries had made their net zero targets legally binding and 33 countries put their net zero targets in policy documents. The 2050 climate goals require more countries to transition their commitment into legally binding frameworks to enforce long-term on-the-ground climate action.

How different countries across the world fared in their net zero targets in 2021 is depicted in Figure 4.

A country's existing energy system structure significantly influences transition readiness as the path depends on legacy infrastructure and resource endowments. Creating a new energy system that can gradually complement and eventually supplant the legacy infrastructure requires enhancing the flexibility of electricity system, increasing the share of renewable energy in power generation and improving end-use efficiency, among other measures.

For this, there is a need to build an attractive investment landscape for private capital (both foreign and domestic) to finance energy transition projects, especially in emerging and developing countries. Supportive policy and legal frameworks, stable currency and exchange rates, safe and secure environment, good quality infrastructure and availability of latest technologies can create strong momentum for capital to flow into the transformation of the energy system.

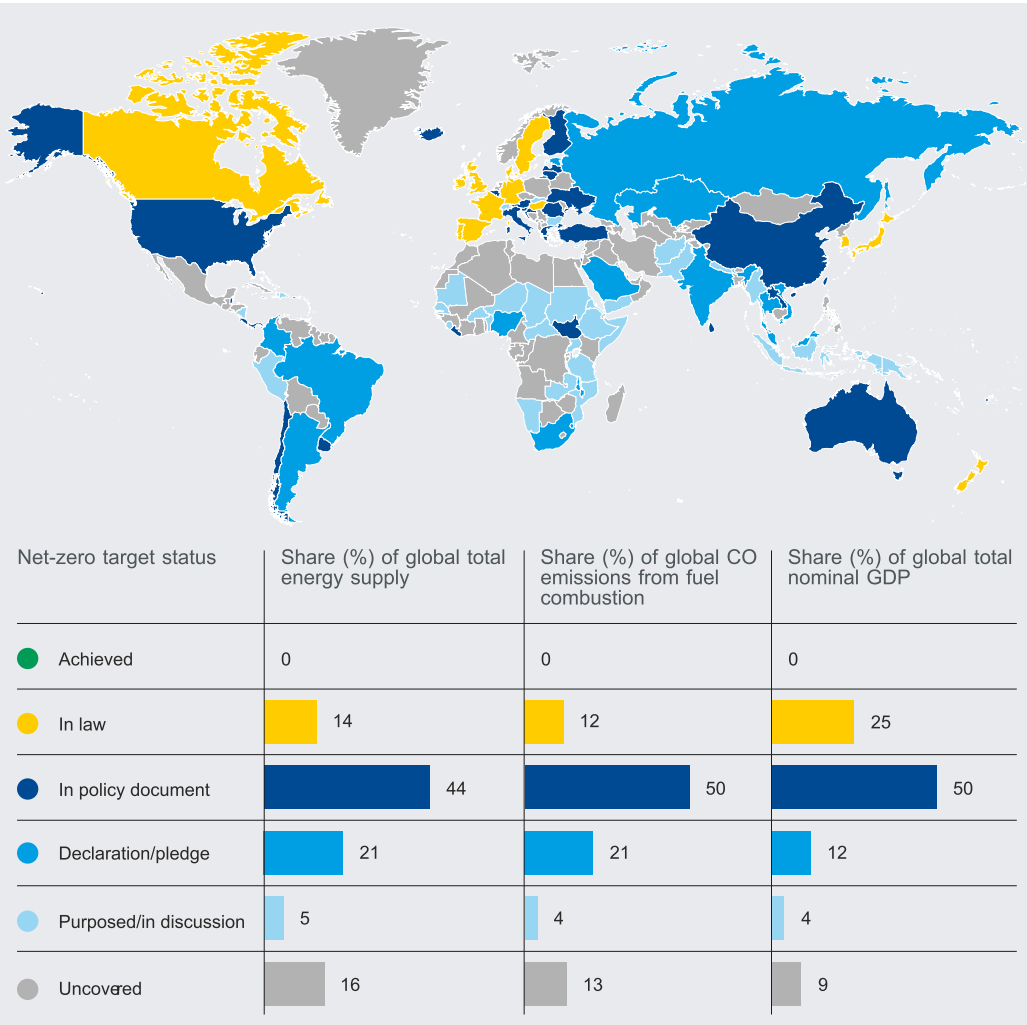
Even though the last decade saw record investment in new renewable power capacity ($2.6 trillion globally), most of these investments were made in countries with stable and favourable investment landscapes, such as China, the United States, Japan and Germany.

The energy transition will likely create a significant number of new jobs and require a trained workforce with very different skill sets than what has been historically developed. Developing the consumers and workers of the future can be a key enabler of a long-term sustainable energy transition.

Unlocking the Net Zero Transformation of Industries - Industries generate more than 30% of anthropogenic emissions – a netzero economy is not possible without transformation in this sector. Yet, industries face considerable challenges to decarbonise - such as lack of competitive low-emission technology, limited development of enabling infrastructure and scarce availability of capital to transform.

Heavy industries, particularly steel, cement, chemicals and aluminium, are often referred to as 'hard-to-abate' sectors, i.e., hard to decarbonise, due to a number of intrinsic characteristics.

FIGURE 4: Status of countries' net zero targets 2021



Most of the industries are still defining their pathways to a low-carbon future. Particularly, five heavy industries – cement and concrete, iron and steel, oil and gas, chemicals, and coal mining – which together represent 80% of all industrial emissions (Figure 5) - need to make a major shift by 2030 to keep the net zero 2050 objective within reach.

An assessment of energy transition progress in the G20 nations (observed through the ETI 2021) indicates a slower pace of transition in industry-heavy economies, suggesting the greater complexity for countries to decarbonise energy systems tied to industrial performance. Specifically, G20 countries with a larger share of industrial activity (including manufacturing, mining, construction and energy-producing activities) score lower than those with a lesser share of industry (Figure 6).

It is 'clean demand' signals that can nudge new investments in projects required for the development of low-emission industries, thus becoming a turning point to accelerate 'clean supply'.

Moreover, all but the most aggressive decarbonisation scenarios forecast that oil and gas could continue to play a significant, though diminished, role in the energy mix through 2050 and beyond.

It has been seen that viable alternatives to today's heavy industry products remain limited. Do we have any replacement for steel? In the absence of scalable substitutes, the only potential way forward would be aggressive decarbonisation.

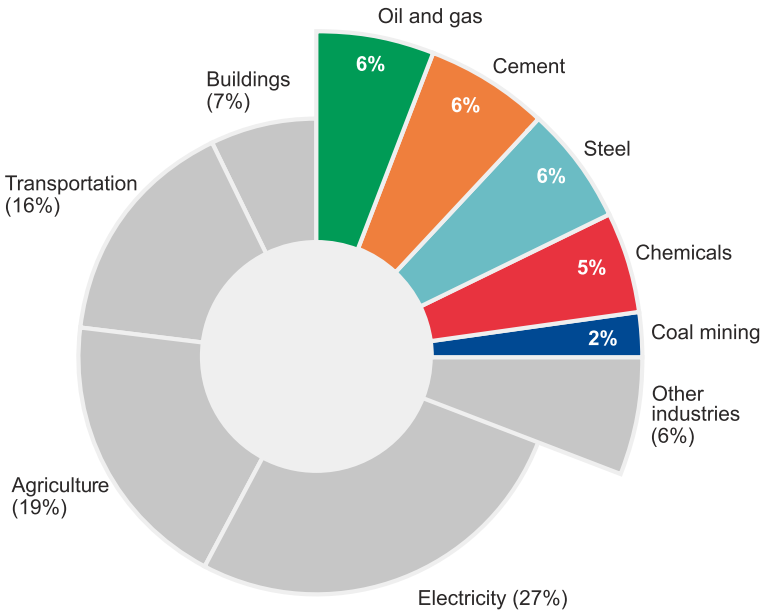
A Call for Multistakeholder Collaboration - Heavy industry companies increasingly face net zero choke points in implementation – the report has identified 10 'choke points' or barriers, that will limit the transition. As solutions are rarely found within a single firm or even industry, they have to be realised outside of business-as-usual improvements. To solve these challenges, heavy industry companies will need to explore new forms of collaboration.

Indeed, the 'next generation' of ambitious multistakeholder collaborations between industry and

A study by Mark Z. Jacobson, Director of the Atmosphere and Energy program at Stanford University delves into the practical aspects of the clean energy transition. The report states that 145 of the world's nations could switch to 100% renewable energy in a few years using renewable energy technologies available today.

The cost of making the changeover to 100% renewable energy is a staggering $62 trillion. However, the study reveals that savings from switching the world to 100% renewable energy would be $11 trillion a year. In other words, the initial investment will be paid back in just 6 years! Food for thought for sure!

FIGURE 5:
Emissions by sector vs global emissions (51 GT carbon dioxide)



5 heavy industries represent 80% of industrial emissions

cross-industry peers, between suppliers and customersand between the wider industrial ecosystem of stakeholders can overcome decarbonisation choke points and accelerate the industrial transformation towards net zero.

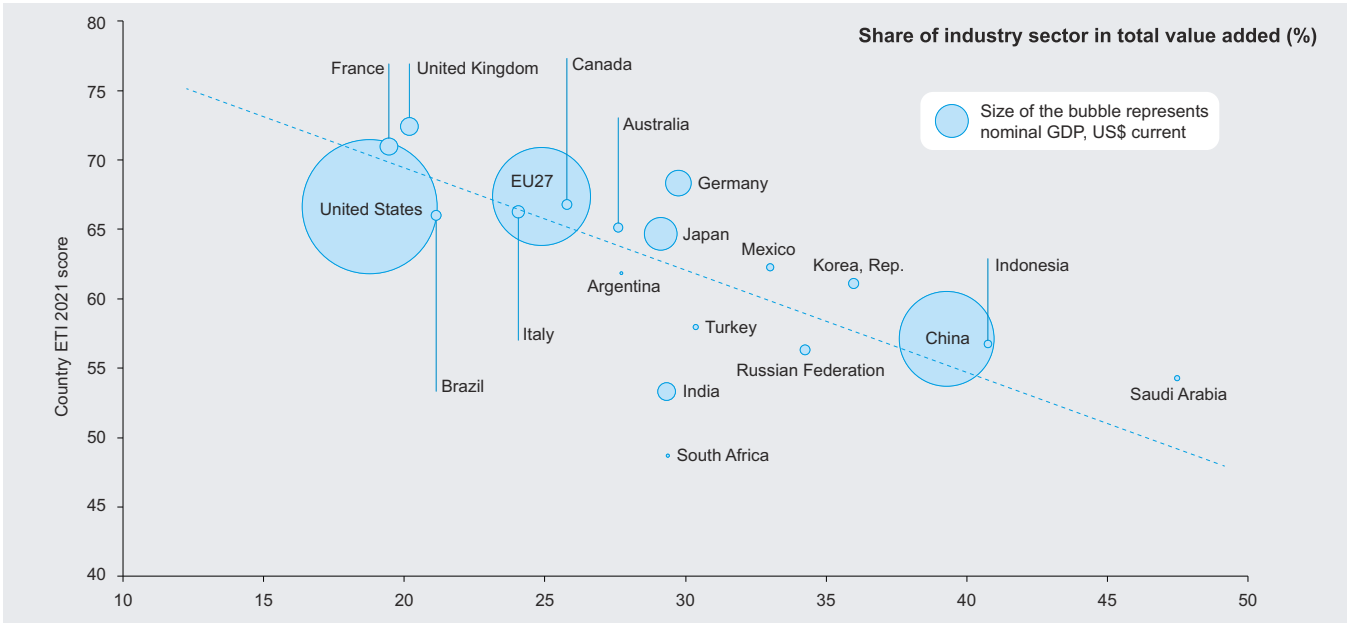
Moreover, demand-side initiatives can be a game changer for sectors where low-emission technologies already exist but investments lag, such as steel and ammonia. Today, such initiatives are scarce; global, synchronised efforts are needed to replicate and scale them and channel much larger investments into low-emission technologies and production assets.

What is cheer-worthy here is that value chain emissions are increasingly being scrutinised by progressive climate-conscious end consumers, particularly the younger generations. It is estimated that 73% of Gen Z consumers (21-25-year-olds) are willing to pay more than every other generation for sustainable products!

Conclusion

The sense of urgency is deepening with the steepness of the net zero pathways combined with the widening gap between climate pledges and implementation. The global energy transition has to strike the right balance between energy affordability, security and sustainability. Collectively driving a resilient energy transition is what can keep the momentum moving forward in challenging times.

Figure 6 - G20 overall 2021 Energy Transition Index scores vs share of industry



The current energy crisis presents a good opportunity to increase the speed of the transition and strengthen its resilience to future challenges!

Net-Zero Emissions
2050

Driving the Net Zero Emissions Scenario On-The-Ground

The new update to the Net Zero Emissions by 2050 (NZE) Scenario released in 2022 offers a comprehensive account of how policymakers and others can respond coherently to the challenges of climate change, energy affordability and energy security.

IN 2021, THE International Energy Agency (IEA) published its *Net Zero by 2050: A Roadmap for the Global Energy Sector* report, which sets out a narrow but achievable pathway for the global energy sector to reach net zero emissions by 2050. However, much has changed in the short time since that report was published.

The Intergovernmental Panel on Climate Change (IPCC) published the first volume of its Sixth Assessment report in August 2021 after the IEA report. The IPCC report confirmed that rapid and deep reductions in carbon dioxide emissions are necessary to limit warming to 1.5 °C. A following volume of the report further outlined that in scenarios that achieve this objective with no or limited temperature overshoot, net emissions of greenhouse gases (GHGs) need to be reduced by 43% by 2030 (as compared to 2019 levels) and carbon dioxide (CO2) emissions need to reach net zero by around 2050.

The Glasgow Climate Pact (adopted at COP26) reinforced the Paris Agreement objective of limiting warming to 1.5°C by achieving net zero CO2 emissions by around mid-century as well as deep reductions in other GHGs.

Taking the new landscape into account, the IEA's World Energy Outlook 2022 report presents an updated Net Zero Emissions by 2050 (NZE) Scenario. The central purpose is still to reach net zero emissions from the energy sector by 2050, but the updated version takes into account the latest information about energy markets and technologies, and reflects concerns about energy security.

The NZE Scenario is supported by new modelling using the climate model MAGICC which is widely used in the IPCC analyses and makes possible a richer assessment of the implications of the NZE Scenario for the global temperature.

The design approach for the updated NZE Scenario sticks closely to the approach followed in the IEA 2021 report:

- It is based on the deployment of a wide portfolio of clean energy technologies, with decisions about deployment driven by costs, technology maturity, market conditions and policy preferences. The pathway reflects the particular circumstances of various countries in terms of resource and infrastructure endowments, development pathways and policy preferences.
- It sees all countries contribute to the pathway to net zero emissions by 2050, with advanced economies taking the lead and reaching net zero emissions well before emerging market and developing economies. Rapid transition is supported by global collaboration to facilitate ambitious policies, drive down the costs of clean energy technologies, create bigger and more international markets for those technologies, and support emerging market and developing economies to achieve emissions reductions and the energy-related United Nations Sustainable Development Goals (SDGs).
- It aims to safeguard energy security through rapid deployment of clean energy technologies, energy efficiency and demand reduction while minimising energy market volatility and stranded assets to the extent possible. It targets a smooth transition through strong and co-ordinated policies and incentives that enable all actors – governments, investors, companies and workers – to anticipate the rapid change required.

The NZE Scenario is a pathway to reach net zero emissions by 2050, not the pathway! It sets out a comprehensive and detailed view of how the energy sector could respond coherently to the challenges of climate change while taking account of concerns about energy security and affordability.

The update emphasises the key results of the NZE Scenario for energy supply, demand and emissions. It also focusses on the actions needed by sectors to achieve such deep reductions in energy-related emissions. It further examines the measures required to curb growth in demand including energy and materials efficiency, electrification and behavioural change.

What Does the New Net Zero Emissions Scenario Entail?

The key milestones on the pathway to NZE by 2050 are illustrated in 5 year intervals as seen in the figure on the next page. Additionally, the NZE Scenario entails the following:

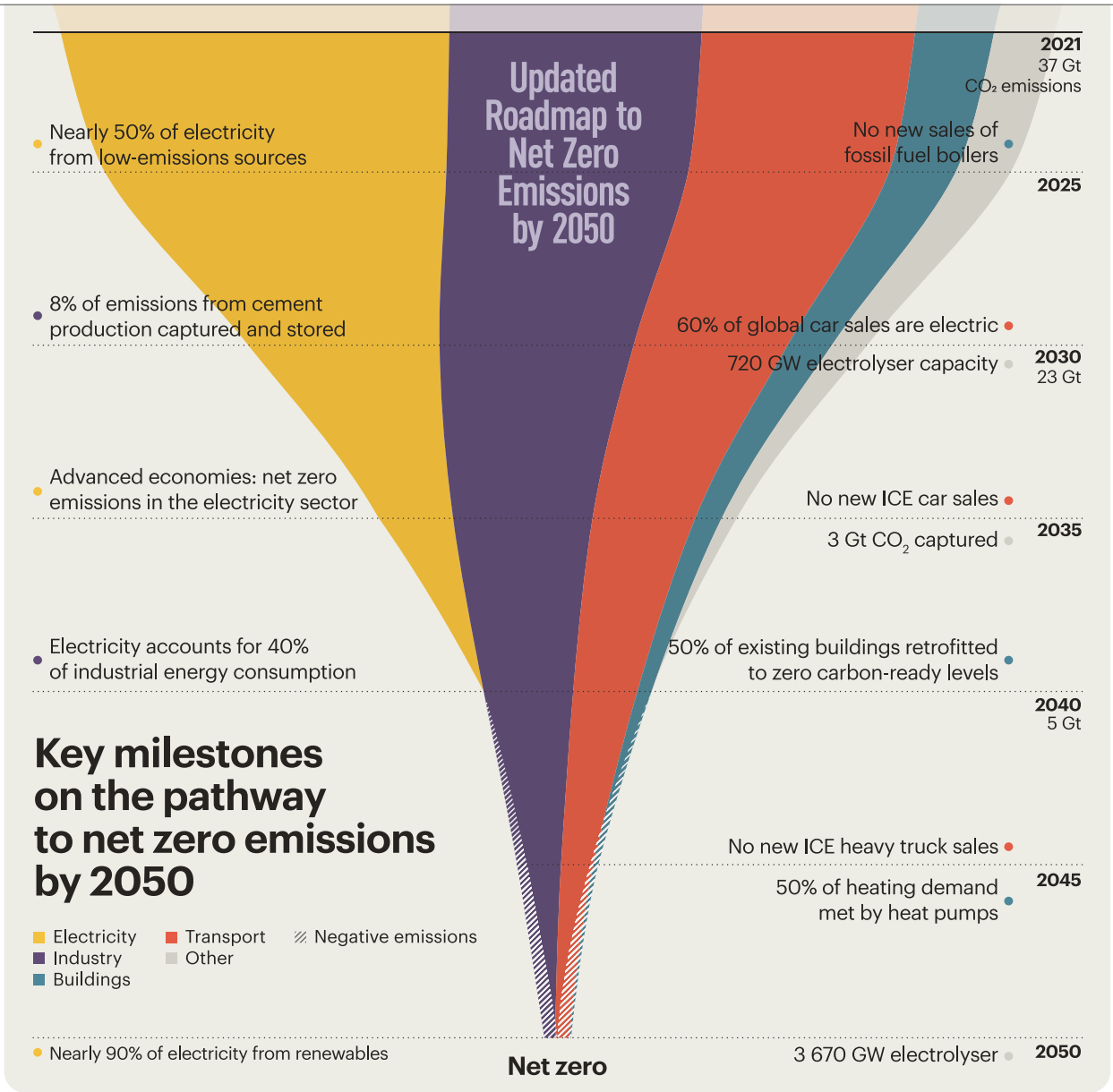
Demand-Led Transition

- Decarbonising the energy system begins with changes in demand, which lead to significant reductions in fossil fuel use by 2030 in the NZE Scenario compared to the Stated Policies Scenario (STEPS). (STEPS is another benchmark for the future outlined by the IEA)
- Growing deployment of solar and wind generation displace fossil fuels in the power sector, particularly coal.
- Oil demand is reduced mainly through widespread adoption of electric vehicles and behaviour changes.
- Efficiency plays a major role in reducing demand in the industry and buildings sectors.

Addressing Production Gaps

- Production capacity for many key materials and technologies needs to be scaled up to align with net zero ambitions.

There are positive signs that this scaling up has already begun. Announced plans for EV batteries and solar panels are nearly sufficient to meet levels envisioned for 2030 in the NZE, though large gaps still remain for key technologies like electrolysers.



The key themes of the updated NZE Scenario are:

Avoiding Growth in Energy Demand - The decarbonisation pathway in the NZE Scenario cannot be achieved without the rapid and large-scale adoption of measures that limit growth in energy demand. Without such measures, deployment of clean energy sources would be outpaced by fast rising demand for energy services.

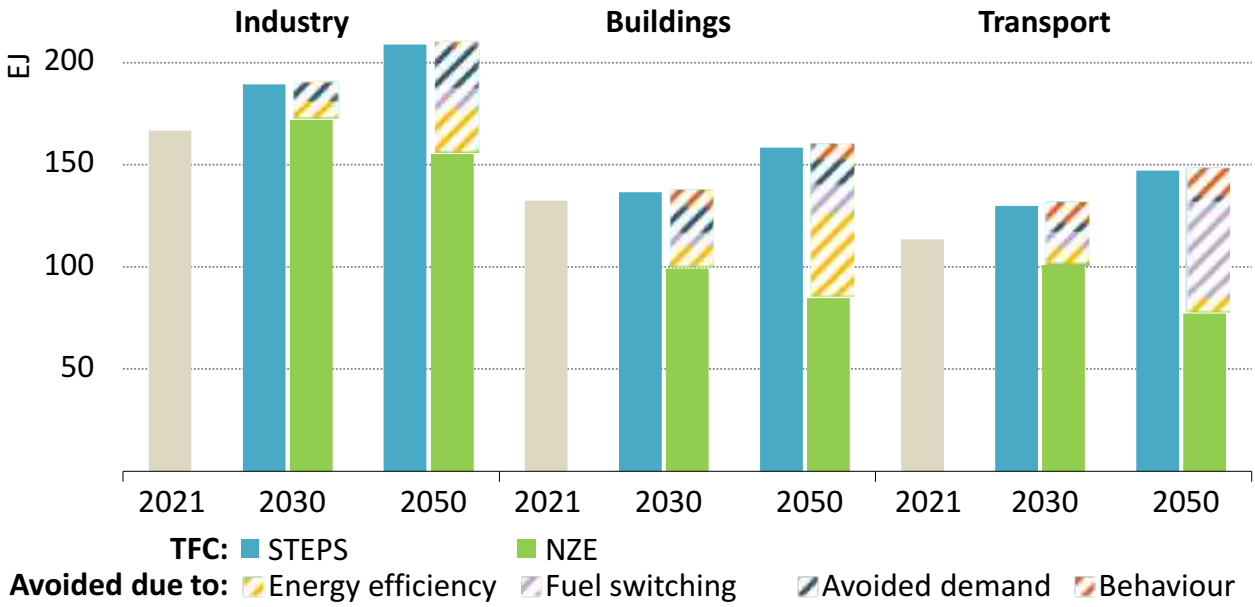
The measures include energy efficiency, fuel switching (notably electrification) and behavioural changes - together these can cut demand by 110 EJ relative to the STEPS in 2030 (Figure 1). This will ensure that the energy intensity of GDP falls by 4% per year on average over the next eight years. Such reductions in energy demand also play an important role in energy security and affordability.

Focus on Behavioural Changes - The NZE Scenario incorporates a number of behavioural changes in the way consumers use energy services. These are active changes by end-users of energy-related services that reduce excessive or wasteful energy consumption – like driving slowly or opting not to fly. Therefore, the purchase of clean energy technologies, such as an electric vehicles, is not considered as a behavioural change.

Though behavioural changes function in the same way as energy efficiency and other technical options to reduce energy demand, there are key differences like:

- Behavioural changes can tackle emissions from the existing stock of emission-intensive assets without the need to wait for stock turnover and the advance of clean energy technologies.
- In some areas such as aviation, technical options are unlikely to exist at the scale required to reduce emissions to net zero by 2050. Behavioural changes which curb activity, therefore, have a critical part to play in reducing demand and minimising the need to rely on negative emissions technologies, which may be costly or fail to materialise at the requisite scale.

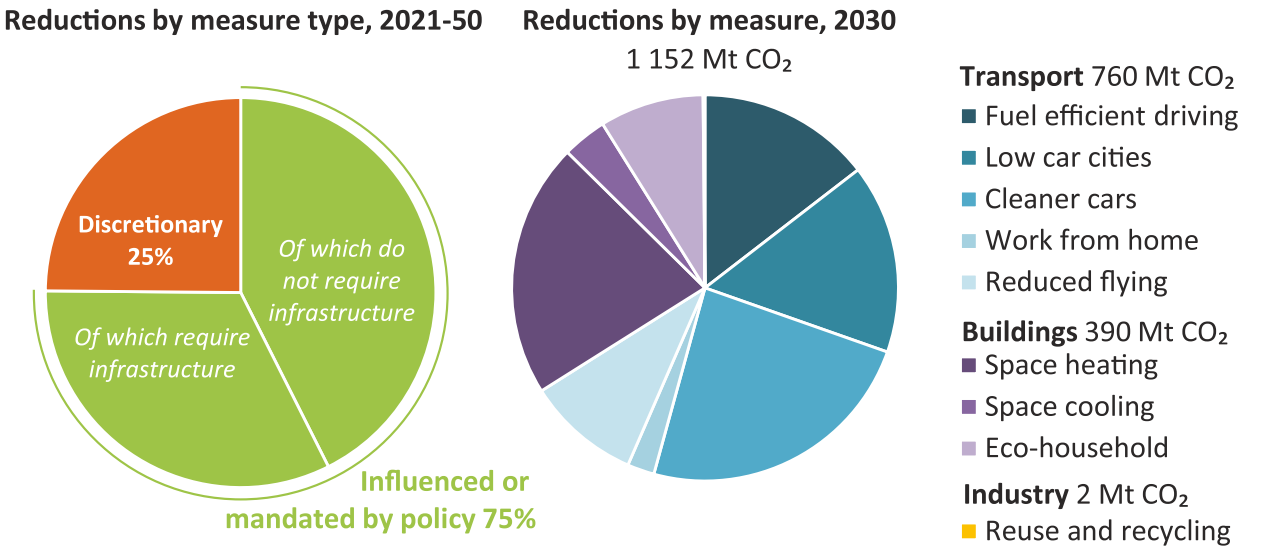
FIGURE 1: Total final consumption (TFC) in the STEPS and demand avoided by measures in the NZE Scenario



Energy efficiency, behavioural changes and other mitigation measures in the NZE Scenario cut total final energy demand by almost 40% compared to the STEPS in 2050

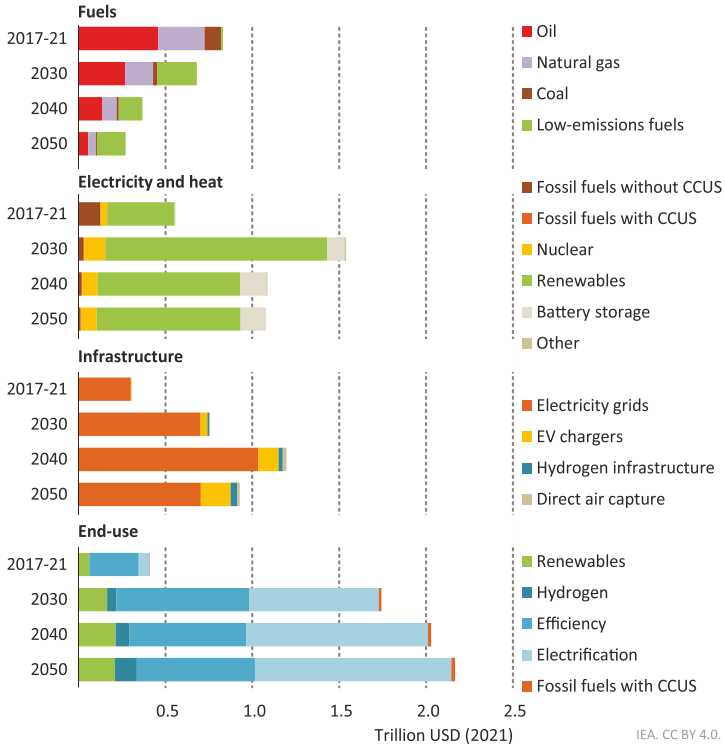
Notes: Fuel switching includes electrification. Avoided demand includes materials efficiency gains, circular economy effects, and structural and economic effects, such as the response of consumers to higher prices.

FIGURE 2: CO_2 emissions reductions due to behavioural changes in the NZE Scenario



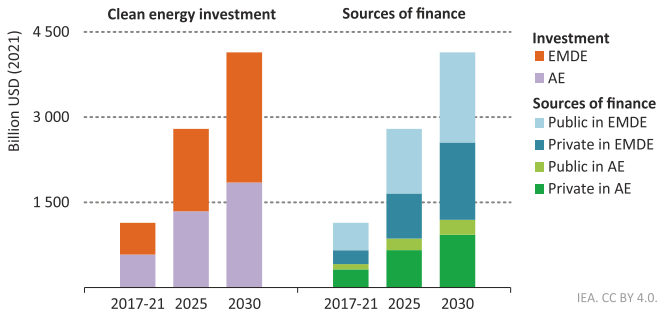
Behavioural changes cut CO_2 emissions, but most depend on targeted policies and some require new infrastructure

FIGURE 3: Global average annual energy investment by sector and technology in the NZE Scenario



Investment increases rapidly in electricity, infrastructure and end-use sectors; fossil fuel investments decrease and low-emissions fuel investments increase

FIGURE 4: Clean energy investment and sources of finance in the NZE Scenario to 2030



Reaching the NZE Scenario investment levels requires a larger contribution from private finance than seen today, particularly in emerging market and developing economies

Note: AE = advanced economies, EMDE = emerging market and developing economies.

By 2030, behavioural changes in the NZE Scenario reduce CO2 emissions by around 1150 metric tonnes (or 9% of total emissions reductions) compared to levels in the STEPS (Figure 2).

Public and Private Investments Needed to 2030

The NZE Scenario requires a large increase in investment in clean energy. Energy investment accounted for just over 2% of global GDP annually between 2017 and 2021, and this rises to nearly 4% by 2030 in the NZE Scenario. The growth in investment is driven primarily by spending on clean energy technologies, which increases more than a factor of three over this period (Figure 3).

- Annual spending on fossil fuels falls from its current level of around USD 830 billion to around USD 455 billion in 2030.
- Investment in low-emissions fuels, including biofuels, low-emissions hydrogen and hydrogen-based fuels, increases from its current level of USD 18 billion to USD 235 billion in 2030.
- Investment in electricity and infrastructure more than doubles by 2030.
- Investment in end-use sectors increases more than fourfold to 2030.

Reaching net zero emissions requires an unprecedented acceleration in efficiency improvements and a significant reduction in energy intensity. In the NZE Scenario, this is achieved through the rapid electrification of transport, heating, cooling and industrial production along with a massive wave of retrofits and spending on new energy-efficient buildings. As a result, the share of investment directed to energy efficiency and electrification moves from 17% of the total today to 32% in 2030 and 40% in 2050.

Investment trends vary significantly between countries and regions. The level of clean energy investment is at present significantly lower in emerging market and developing economies than advanced economies. As a result, clean energy investment levels in emerging market and developing economies see a nearly fourfold increase by 2030 in the NZE Scenario, compared with a less than threefold increase in advanced economies (Figure 4). This dramatic growth is necessary to support economic development and industrialisation as well as provide access to electricity and clean cooking to the 774 million and 2.4 billion people respectively that still lack it.

Investment also peaks later in emerging market and developing economies than in advanced economies as a result of the need to meet rising demand over a longer period.

Conclusion

The NZE Scenario requires an extraordinarily rapid deployment of clean energy technologies. The huge increase in deployment calls for rapid growth in the manufacturing of these technologies, as well as the production of essential material and mineral inputs. There are signs of recent progress, particularly in the case of those technologies that benefit from mass manufacturing and economies of scale. Moreover, many governments have committed during the current energy crisis to faster deployment of clean energy technologies.

Yet, there is much more to do to reach the scale of deployment required by the NZE Scenario. The next few years will be crucial!

COAL CONSUMPTION SET TO REMAIN ROBUST

Even as the world is talking about breaking the addiction to coal, ironically, coal consumption is hitting all-time highs thanks to the global energy crisis! Can we expect a breaking point in the near future?

Coal is the largest single source of carbon dioxide emissions - it emits nearly twice the amount of CO_2 when combusted compared to natural gas at most power plants where it is used. Yet, it represents a major share of many countries' energy mix.

The ongoing volatility and uncertainty in global energy markets has caused sharp increases in the demand for coal across the world

THERE IS A peculiar dichotomy surrounding coal as highlighted by Keisuke Sadamori, Director of Energy Markets and Security at the International Energy Agency (IEA), "The story of coal is a tale of two worlds with climate action policies and economic forces leading to closing coal power plants in some countries, while coal continues to play a part in securing access to affordable energy in others!"

Indeed, coal happens to be the largest source of electricity generation in the world – it provides more than 36% of global electricity. 30% of the primary energy of G20 members and 50% in Asia still comes from coal. In Southeast Asia, coal consumption has risen by 150% over the last 20 years. Coal-fired power plants are the backbone of India's electricity system, accounting for around 75% of the total power generation.

Many emerging markets prefer this fossil fuel as it is both abundant and affordable, even though it has been branded as the 'dirtiest, most-polluting way of producing energy'.

The energy derived from coal proves to be inexpensive, reliable and constant – it is always available on demand to meet energy needs. Yet, this black rock is also the most polluting source of power generation today. Coal alone is responsible for over 0.3°C of the 1°C increase in global average temperature.

It is this terrible environmental impact that has caused developed nations to ditch coal in favour of cleaner-burning gas and renewable energy. Several countries launched robust climate strategies focused on phasing out of coal production and use over the coming decades.

But, even as parts of the world were moving steadily towards decarbonisation, Russia's invasion of Ukraine proved to be the proverbial spanner in the works. The consequent shortage of natural gas and rise in prices has turned the tables in the most literal manner – countries that were weaning themselves off coal are turning to this 'condemned' fossil fuel again!

So, we have countries switching back to the more price-competitive coal for generating power on the one hand and coal still remaining the key source of energy for developing nations on the other. Some European countries have even re-opened their shuttered coal-fired power plants. Needless to say, demand for coal is continuing to soar with a 2% increase in coal use for electricity production. This is in spite of power generation from renewables rising to their highest levels.

The United Kingdom which had vowed not to use coal to generate electricity from 2024, actually greenlighted a new coal mine in January this year!

The Clouds of Uncertainty

The IEA released the Coal 2022 reportat the end of December last year which estimated that coal demand would rise by 1.2% in 2022. The increase may be marginal, but will push coal usage to an all-time high surpassing 8 billion tons for the first time. It is notable that the previous record was set almost a decade back in 2013, since when the demand has never escalated so much till now. As expected, global emissions are rising too.

Recently, China, the world's biggest consumer of coal, stated that it plans to boost production through 2025 to avoid a repeat of the power shortages faced in 2021.

The agency also predicted that the world's three largest coal producers – China, India and Indonesia – will hit production records in 2022.

The IEA further anticipated that the world's coal consumption will remain at similar levels till 2025 at least. But it remains wary of a lurch in growth due to the uncertainty of the current energy crisis.

Even if the mature markets show a decline in coal usage once again, it will likely be offset by continued robust demand in emerging Asian economies to power their economic growth, even as they add more renewables. The IEA also observed that even if Europe is able to reduce its reliance on coal by 2025, demand for the energy source in Asia looks set to grow for years to come.

Light at the End of the Tunnel

And yet, the IEA noted that "higher coal prices, strong deployment of renewables and energy efficiency, and weakening global economic growth are tempering the increase in overall coal demand this year." Mr. Keisuke Sadamori added that, "There are many signs that today's crisis is accelerating the deployment of renewables, energy efficiency and heat pumps — and this will moderate coal demand in the coming years".

His observation gives some much-needed solace, "The world is close to a peak in fossil fuel use, with coal set to be the first to decline, but we are not there yet." The road to generating enough clean energy to meet global demand is long, but we will get there!

In its Renewables 2022 report released in December last year, the IEA predicts that the world will increase its renewable power capacity by 75% over the next five years - an amount equivalent to the entire installed power capacity of China today. In just three years' time, the world will get more power from wind and solar sources than from coal and, by 2027, the biggest source of the world's electricity will be solar power.

Another IEA report cautions that in order to reach net zero emissions by 2050, clean energy investment would need to be above $4 trillion by 2030. At current levels, it is predicted to reach only half of that figure.

Conclusion

The possibility remains that coal consumption will hit record levels in 2023 too. That is, unless, there are strong policy and individual efforts to accelerate the transition to clean energy!

India Leads From the Front

The G20 plays an important role in shaping and strengthening global architecture and governance on all major international economic issues. As G20 President this year, India is spearheading collective action to answer the climate challenge in a way that will pave the way for a clean energy transition!

ON 1ST DECEMBER, 2022, India assumed presidency of the G20 for 2023. Meetings of the various working groups are on in full swing at various locations in the country which will culminate in the G20 Leaders' Summit at the end of the year. Even as the G20 presidency is a watershed moment for us, all eyes are on India with a hope that it will play a crucial role in finding pragmatic global solutions for the wellbeing of all!

What is G20?

The Group of Twenty (G20) is an intergovernmental forum comprising 19 developed and developing nations (Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom and United States) and the European Union.

It was founded in 1999 after the Asian financial crisis as a forum for the Finance Ministers and Central Bank Governors to discuss global economic and financial issues. In the wake of the global financial crisis of 2007, it was upgraded to the level of Heads of State/ Government.

G20 was designated the 'Premier Forum for International Economic Cooperation' in 2009!

Though the forum was initially focused largely on broad macroeconomic issues, it has since expanded the agenda to inter-alia include trade, sustainable development, health, agriculture, energy, environment, climate change and anti-corruption. Now it has emerged as a leading global forum for deliberation and coordination of core economic and policy issues through dialogues, discussion, planning and implementation.

How Does It Work?

The Group does not have a permanent secretariat - the G20 Summit is held annually, under the leadership of a rotating Presidency. The Presidency is supported by a Troika - previous, current and incoming Presidency. Therefore, the current troika comprises Indonesia, India and Brazil, marking the first time it consists of three developing and emerging economies.

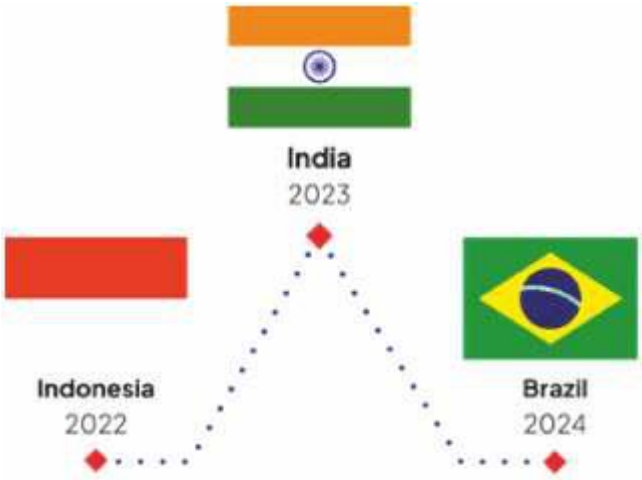
The G20 process operates on two parallel tracks: the Finance Track and the Sherpa Track.

- Sherpas – the personal emissaries of the Leaders - coordinate the Sherpa Track. It has 12 workstreams which include environment, climate and energy transition. The Sherpas oversee negotiations, discuss agenda items for the Summit and coordinate the substantive work of the G20.

India's G20 presidency is "striving for just and equitable growth for all in the world, as we navigate through these turbulent times, in a sustainable, holistic, responsible and inclusive manner"!

The G20 members represent around 85% of the global GDP, over 75% of the global trade and about two-thirds of the world population.

India's G20 Sherpa is Amitabh Kant, former CEO, NITI Aayog



G20 Presidencies

- The Finance Track is led by Finance Ministers and Central Bank Governors of the member countries with 8 workstreams.
- Within the two tracks, there are thematically oriented working groups in which experts and officials from the relevant ministries of the members (as well as from guest countries and various international organisations) meet regularly throughout the year. They lead in-depth analysis and discussions on a range of internationally relevant issues in respective areas of focus.
- In addition, there are 10 Engagement Groups which bring together civil societies, parliamentarians, think tanks, women, youth, labour, businesses and researchers of the G20 countries.

India as President-Nation

Prime Minister Narendra Modi and Indonesia's President Joko Widodo take part in the handover ceremony during the G20 Summit in Nusa Dua, Indonesia, on 16th November, 2022

PM Modi set the tone during the handover in Bali by stating,
I want to assure that India's G20 presidency will be inclusive, ambitious, decisive, and action-oriented!

The theme of India's G20 Presidency enunciates our age-old spiritual philosophy of 'Vasudhaiva Kutumbakam' or 'One Earth, One Family, One Future'. Propagating the principle of universal oneness, this is a clarion call to the world to collectively work towards building a healthier post-pandemic world. It also spotlights PM Modi's revolutionary vision of LiFE (Lifestyle for Environment) associated with the need to make sustainable and responsible choices leading to globally transformative actions resulting in a cleaner, greener and bluer future. The theme and logo together convey a powerful message of a just and sustainable future for all in the world.

India's G20 Priorities - Every Presidency has a prerogative to set its own agenda with a scope for new priorities. The priorities outlined by India cover:

- Green Development, Climate Finance & Lifestyle For Environment (LiFE)
- Accelerated, Inclusive & Resilient Growth
- Accelerating Progress on Sustainable Development Goals (SDGs)
- Technological Transformation & Digital Public Infrastructure
- Multilateral Institutions for the 21st Century
- Women-Led Development

Our Presidency collides with the crucial midpoint of the 2030 Agenda for Sustainable Development. In line with this, India wants to focus on recommitting the G20's efforts to achieving the targets laid out in the SDGs. In fact, India sees its G20 presidency as a catalyst of change and global transformation, in a world stricken by multi-dimensional crises such as food and energy security. We will harness the opportunity to forge constructive and consensus-based solutions to a host of challenges such as reviving global growth, stronger climate action and robust global health architecture.

2023 G20 Summit - As G20 President, India will steer the G20 agenda for a year and organise more than 200 meetings at over 50 locations across the country before hosting the 18th Summit for the first time. To be held on 9th-10th September, 2023 in New Delhi, this will form the pinnacle of the G20 process and intense work carried out within the Ministerial Meetings, Working Groups and Engagement Groups throughout the year. It will conclude with the adoption of a G20 Leaders' Declaration stating their commitment towards the priorities discussed and agreed upon during the respective ministerial and working group meetings.

In addition to G20 Members, the G20 Presidency can invite guest countries and international organisations to its meetings and Summit. India's special invitees are Bangladesh, Egypt, Mauritius, Netherlands, Nigeria, Oman, Singapore, Spain and UAE. In addition to regular international organisations (UN, IMF, World Bank, WHO, WTO, ILO, FSB and OECD) and Chairs of regional

India's Presidency is all about human-centric globalisation and is expected to have a large-scale impact on the inter-governmental policy formulations and discussions that will influence the New World order and set the global post-pandemic economic agenda.

"Today, the greatest challenges we face – climate change, terrorism and pandemics - can be solved not by fighting each other, but only acting together." – PM Modi

organisations (AU, AUDA-NEPAD and ASEAN), India, has also invited ISA (International Solar Alliance), CDRI (Coalition for Disaster Resilient Infrastructure) and ADB (Asian Development Bank).

Clean Energy Transition at G20

Energy has been discussed in the G20 as a critical element for a sustainable global economy since 2009. A dedicated Energy Sustainability Working Group was established in 2013. The energy issues were de-linked from climate in 2018 and steered towards discussions on energy transition under the Energy Transition Working Group. The associated Working Group deliberates on energy security, accessibility and affordability, energy efficiency, renewable energy, innovation, technology and financing.

The 2022 Bali Declaration mentioned that G20 members will use all options for generating clean power including renewable energy while accelerating efforts for coal phase down. All the Energy Ministers had agreed to conduct the energy transition process without leaving anyone behind! Promoting energy transition for accelerating low-carbon growth figures prominently on the agenda of India's G20 presidency with particular focus towards not only climate finance and technology, but also ensuring just energy transitions for developing nations across the world.

India's advocacy of energy transition has acquired more resonance and credibility with a host of path-breaking initiatives undertaken by the government to ramp up the share of renewables in the country's energy mix.

India, along with France, has launched the International Solar Alliance (ISA) and is working towards 'One Sun, One World, One Grid'. The ISA has become a global solar movement, with more than 100 countries joining this alliance that seeks to promote production of solar energy. Looking ahead, we will leverage ISA to increase the production of solar energy and make it more affordable for wider use by industry and energy consumers.

India has also joined the First Movers Coalition, a global initiative aimed at decarbonising the heavy

INTERNATIONAL SOLAR ALLIANCE

"Solar power is being generated somewhere all the time. How we capture it and use it is the question!"

- Dr. Ajay Mathur, Director General, ISA

OECD

The G20 recognises the importance of collective action in tackling environmental challenges and climate change while promoting transitions towards more flexible, transparent and cleaner energy systems.

- Organization for Economic Cooperation and Development (OECD)

The first G20 Energy Transition Working Group (ETWG) meeting of the Sherpa Track under India's presidency was held in Bengaluru from 5th - 7th February. The meeting had over 150 participants including G20 member countries and nine special invitee guest nations who discussed priorities and provided recommendations.

The meeting focussed on six priority areas - energy transition through addressing technology gaps; low-cost financing for energy transition; energy security and diversified supply chains; energy efficiency, industrial low carbon transitions and responsible consumption; Fuels for Future (3F) and universal access to clean energy and just, affordable, and inclusive energy transition pathway.

It was complemented by a high-level international seminar on 'Carbon Capture, Utilization and Storage (CCUS).

> Understanding that the issue of climate change cuts across industry, society and sectors, India offers the world LiFE (Lifestyle for Environment) - a behaviour-based movement that draws from our nation's rich, ancient sustainable traditions to nudge consumers, and in-turn markets, to adopt environmentally-conscious practices. As PM Modi observed, "The sense of ownership over natural resources is giving rise to conflict today, and has become the main cause of the plight of the environment. For the safe future of the planet, the sense of trusteeship is the solution. LiFE campaign can make a big contribution to this. Its purpose is to make sustainable lifestyles a mass movement.
>
> – Prime Minister Shri Narendra Modi

PM MODI INTRODUCES INDIA'S 'PANCHAMRIT' AT COP26 IN GLASGOW

1. Reach non-fossil energy capacity of **500GW by 2030**
2. Fulfil 50% energy requirements via **Renewable Energy by 2030**
3. Reduce **1 billion carbon emissions** by 2030
4. Reduce carbon intensity **below 45% by 2030**
5. India will achieve the target of **Net-Zero by 2070**

industry and longdistance transport sectors responsible for 30% of global emissions.

Under its G20 presidency, India is promoting ongoing energy transition through transfer of both technology and knowledge. To advance energy transition, we are also supporting transformation and diversification of energy systems for accelerating and ensuring clean, sustainable and affordable energy transitions. In this regard, we are advocating continued support for developing countries, especially the most vulnerable ones, in terms of providing access to affordable, reliable, sustainable and modern energy, capacity building, affordable latest technology within the public domain, mutually beneficial technology cooperation and financing mitigation actions in the energy sector.

Conclusion

Enhancing international cooperation to promote innovation in renewable technologies is an important priority for India. The G20 leadership is an opportunity for the country to shape the energy transition dialogue on its own terms. As Finance Minister, Ms. Nirmala Sitharaman noted in her Budget 2023-24 speech, "In these times of global challenges, India's G20 presidency gives us a unique opportunity to strengthen India's role in the world economic order!"

INTERVIEW

India has taken charge of the G20 presidency and leading our mission is

Mr. AMITABH KANT

India's G20 Sherpa and former CEO of NITI Aayog.

We present a compilation of his important statements and interviews related to India's Presidency and the strategies for energy transition.

> **"The world is demanding 'digital' and 'green', and these segments will attract capital, technology, innovation, valuation and skills. Industries that do not go digital will have to wither away."**

Q What is the importance of the G20 bloc in today's global environment that is plagued by inequality and protectionist regimes?

G20 is important because it a compact body of the developed and developing world. It's not like the United Nations, which has 186 members not able to arrive at conclusions or like G7, which comprises only the developed world. Developed and developing countries must work together. In the past, when major crises have occurred in developing countries, like the Mexican peso crisis and the East Asian crisis, they were sorted out by the G20. So, G20 has played a very critical significant role in the past, including on sustainable debt initiative for the developing countries of the world.

Every challenge is an opportunity, and it's the opportunity for all the leaders of the world. So, the Prime Minister has talked about this, that irrespective of the geopolitical tensions, we have to look at a human-centric growth. We have to look at oneness of all humankind. And therefore, to my mind, the challenges before the G20 are one of inclusive, resilient and sustainable growth.

Q India has taken the G20 leadership at a time when there is great economic stress on the global supply chains and strong political polarisation in the world. What are the key outcomes India would like to deliver?

The essence of India's presidency - "One Earth, One Family, One Future"—will be reflected in our priorities. The focus is on addressing the climate crisis, slow sustainable development goals (SDG) progress, COVID global debt, geopolitical tensions and the ensuing food and energy crisis.

Our priorities reflect the aspirations of not just G20 countries, but also of the global south. Accelerating progress on SDGs will be a core priority during our presidency. A renewed push for green development and climate finance will be another, with the concept of Lifestyle for Environment (LiFE) woven in. Food security, the availability of fertilisers and energy security are also key issues India will aim to address during the year.

Another key goal of our presidency is to give momentum to the dialogue on reforming multilateral institutions (such as IMF, World Bank, etc.) to reflect the realities of the 21st century. Reformed multilateral institutions can play a pivotal role in unlocking climate finance for developing countries.

Q What kind of global growth strategy will likely be pushed by India in the G20?

Echoing the Prime Minister's words, India's presidency will be inclusive, ambitious, action-oriented, and decisive. Accelerating global growth will be high on the agenda. It is also important to recognise that any growth strategy must keep inclusivity at its core. This is why accelerating progress on SDGs is high on the agenda this year.

With the world amidst a climate crisis, accelerating decarbonisation and green energy will be crucial to making growth sustainable. Green development will be key. At the same time, it is important to recognise the need for a justgreen transition. India will seek to balance these various priorities and ensure that the benefits of global growth reach those who need it the most.

Q The developed countries have not kept their word on climate financing support. As G20 president, how can India persuade the group to help deliver on this promise by the rich countries?

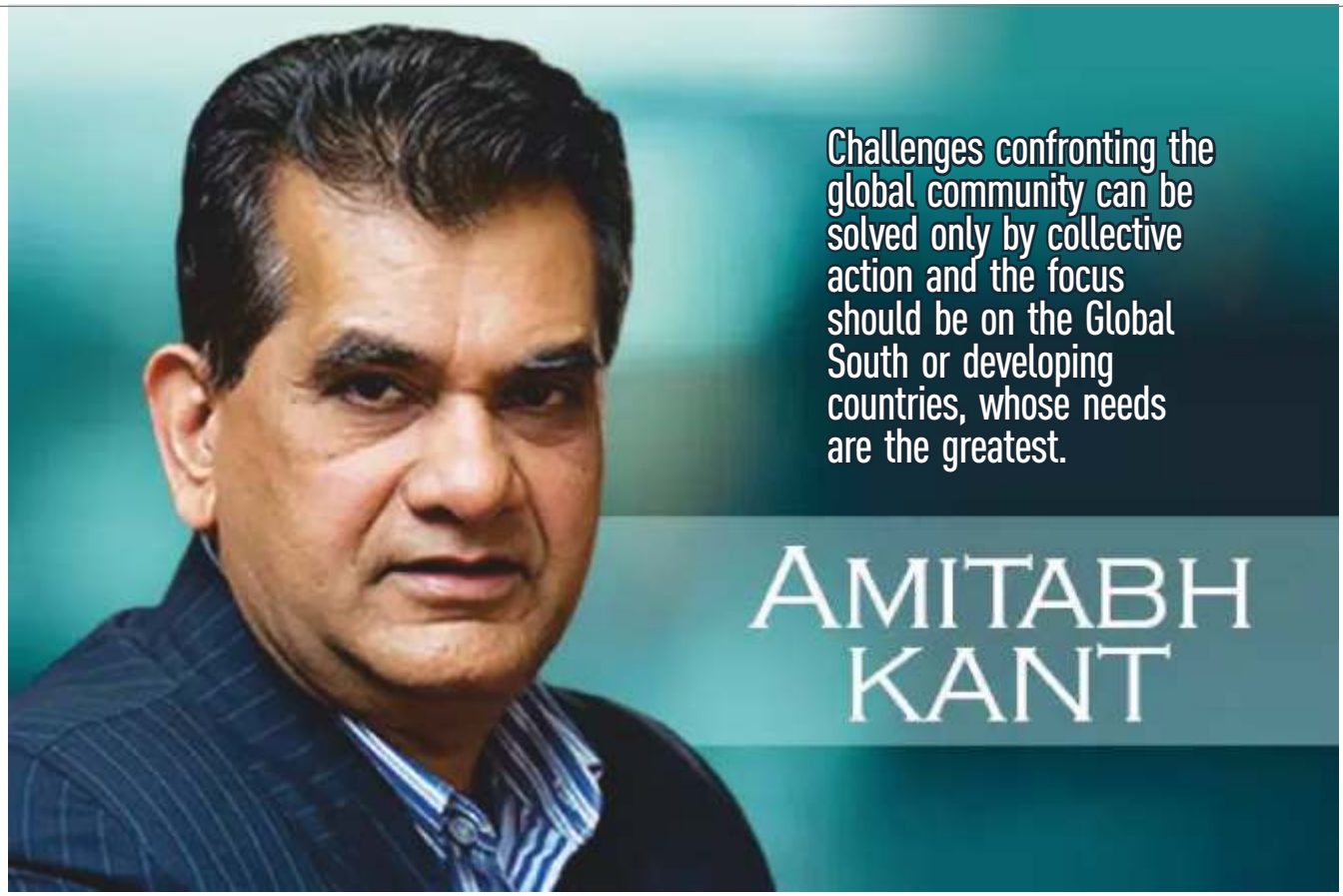
The investments required for the just green transition or netzero goals cannot be met through public sources of funding alone, especially in developing nations. There is a need to leverage private capital to ensure that this investment gap is narrowed. India's priority of reforming multilateral institutions can play a pivotal role in this regard. Rather than direct lending, multilateral development banks can pivot towards creating an enabling environment for private and blended finance flow towards developing countries. Shifting business models towards risk mitigation, credit enhancement services, first-loss guarantees, and building technical and governance capabilities in developing countries can unlock private and blended finance.

Q What does Prime Minister Narendra Modi's vision of Lifestyle for the Environment (LiFE) entail in the G20 context?

It's not only the country that is critical but also the individuals and communities and how they need to bring behavioural change to meet the challenges! The countries have failed and they will continue to fail, but if each community and individual make a difference through behavioural change, move away from the present lifestyle of keeping water taps on and electricity switches on, not being able to walk or do cycling, using individual transport, all these have to change. If individuals change their habits, what is now known as the economic theory, the nudging change, that is PM Modi's vision.

Q How have the initial rounds of G20 meetings progressed and has any consensus emerged on various issues?

India's proposed priorities saw broad support across both



the Sherpa and Finance Track. We are just in the initial phase of our presidency. As the year progresses, we will firm up the proposed deliverables and build consensus on key issues in time for the leaders' summit in September.

India will leverage its role as the G20 President by speaking the voice of those countries who are not being heard in key multilateral fora.Whatever they (G20 countries) do has an implication of everyone in the world and therefore India will not speak the voice of only a few countries but speak the voice of the entire world and speak the voice of those who are unheard of and who are suffering in silence and who may not be represented in G20 but facing a huge crisis of economic growth.

Q What challenges is India facing on the home front?

India is facing several challenges and it will seek to address each one of those. There's a challenge of climate action. There's a challenge of poverty - 200 million people have gone below poverty line, 100 million people have lost their jobs. There's a challenge of geopolitics. There's a challenge of global debt. India will address all these challenges as we go along.

Every challenge is a massive opportunity and a huge opportunity for India. That's what leadership is all about. So, we will look for solutions to the challenges. Our presidency will be very decisive, it will be action oriented and we will be very reform-minded and we will take the G20 forward. The challenges for us are many but we will work towards a progressive and reform-oriented approach.

Q What outcomes can we expect for India and the world at large?

India is now returning to her rightful place in the global order. As the global economy stutters, India has emerged as a bright spot. Our model of development has rightfully come under the spotlight. Our digital public goods, combined with economic reforms, investments in physical and human capital, and efforts to decarbonise have resonated with the world. Moreover, the Prime Minister's message that today's era is not one of war resonated globally and was reflected in the final G20 declaration.

India played a crucial role in the declaration at Bali in November. The negotiations were tough and complex, owing to a deadlock over a paragraph on geopolitics. India was key in bridging the gap between developing and developed nations in making the statement focused on economic growth and issues faced by developing countries. The final statement went out with consensus of all G20 nations, a major breakthrough. Our efforts in Bali were lauded globally and have set the stage for our presidency.

The G20 presidency is an opportunity to solidify India's position as a world leader. In an increasingly polarised world, building consensus seems like a tough order. However, through our intervention in Bali, we have demonstrated leadership, and emerged as consensus builders. The world is now looking to India to chart a new course of development and prosperity. New India stands ready to take up this mantle and lead the world on a path of sustainable and inclusive growth!

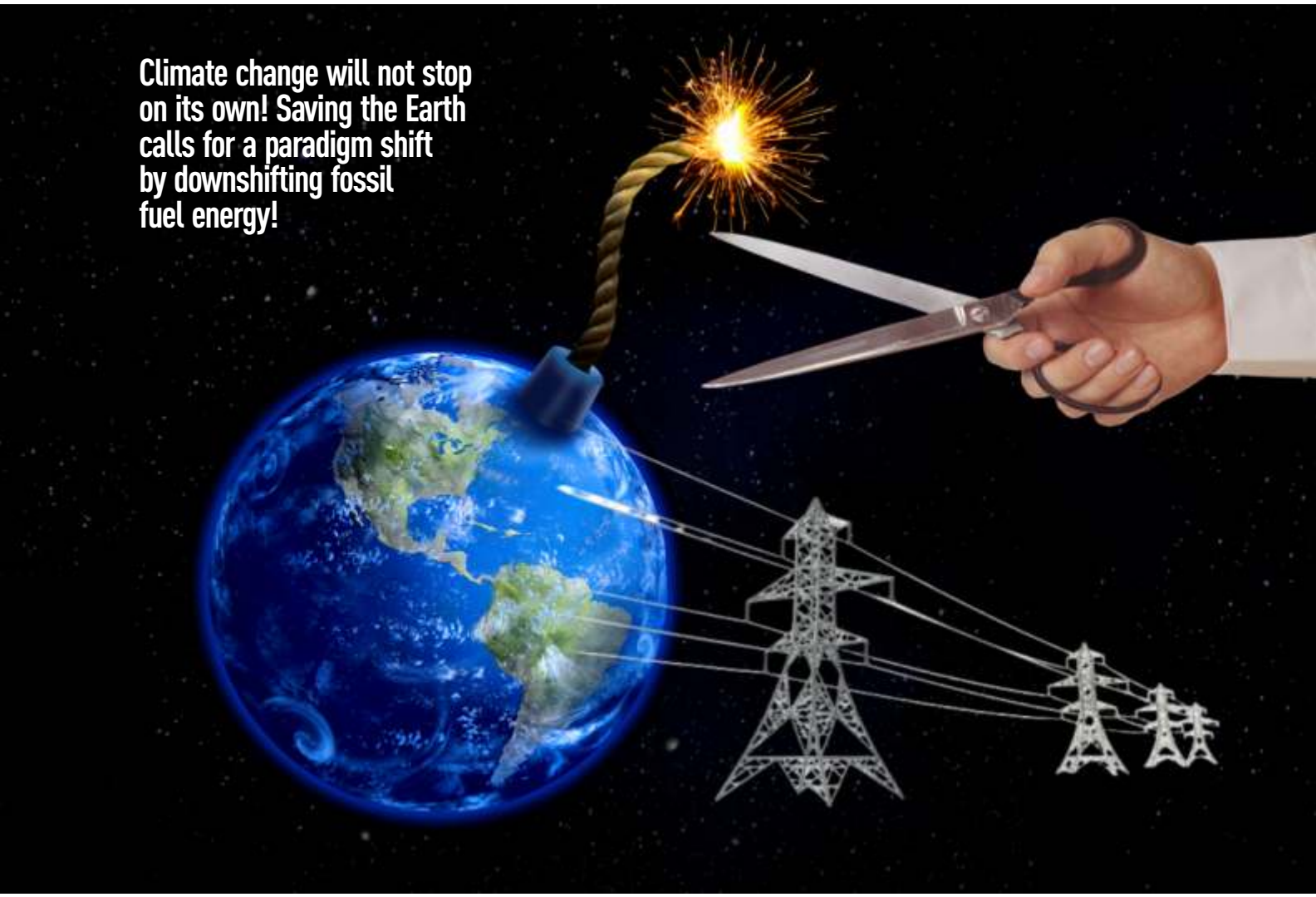
AFTERWORD

Pyush Misra
Trustee,
Consumer Online Foundation

MAKING THE FUTURE OF ENERGY CLEAN

"Energy has emerged as the biggest challenge of this century! The world has no choice but to intensify its shift towards clean energy in a sustainable manner."

– exclaims Pyush Misra



MANKIND HAS WITNESSED energy transitions throughout history in the form of epoch shifts from wood to coal to oil. However, these were far from clean as we progressed from one polluting fossil-fuel based energy to another! What distinguishes the demands of today from the past is the need to move away from producing energy from fossil-based sources that emit greenhouse gases to those with zero harmful emissions.

A swift transition to clean energy is the only solution for tackling the deepening impact of the global energy crisis!

The path for such a global transition was inked in the Paris Agreement at COP21 in December 2015 when more than 180 countries set the target of limiting increase in global average temperatures to below 2°C by the end of this century relative to pre-industrial levels and preferably limiting it to 1.5°C. This is to be achieved by encouraging the use of low carbon energy sources to reduce greenhouse gas emissions.

To add to this, clean energy solutions will benefit the more than 700 million people in the world who still lack access to electricity. This can translate into improved healthcare, better education and even save lives on occasion.

Is Renewable Always Clean?

While clean energy is mostly considered synonymous with renewable energy sources, it bears consideration that not all renewable energy is clean! Indeed, certain renewable energy sources – even though they are infinite – can cause pollution. Take biogas, biodiesel or geothermal energy for instance, which tend to emit greenhouse gases on combustion. However, other sources like wind, solar, water and green hydrogen are renewable, inexhaustible and non-polluting – therefore, they provide what can truly be termed 'clean' energy. In contrast, nuclear power is clean as it does not create any carbon emissions or pollutants during generation; but it is not renewable or even safe!

The clean energy technologies have to replace the traditional coal, oil and gas based energy in all spheres of our life – from lighting, cooking, heating and cooling to transportation and manufacturing. Our vehicles can shift from internal combustion engine to electric-powered ones, heat pumps can be used to heat indoor spaces and photovoltaic solar energy can power our appliances and other devices.

From a practical standpoint, it is crucial that the clean energy should be sustainable, accessible and affordable too.

ADVANTAGES OF CLEAN ENERGY

- Environment friendly
- Plentiful and unlimited
- Safe
- Promotes energy independence
- Creates jobs and boosts the local economy

Key Drivers

Clean energy transition is not just about shutting down coal-fired power stations per se. Decarbonisation cannot be achieved without electrification of energy consumption, i.e., shifting to electricity generated by renewables. When electricity produced from clean and renewable sources powers all the sectors, it will reduce both greenhouse gas emissions and air pollution. This requires not just generating power from renewables, but also introduction of electric transportation infrastructure.

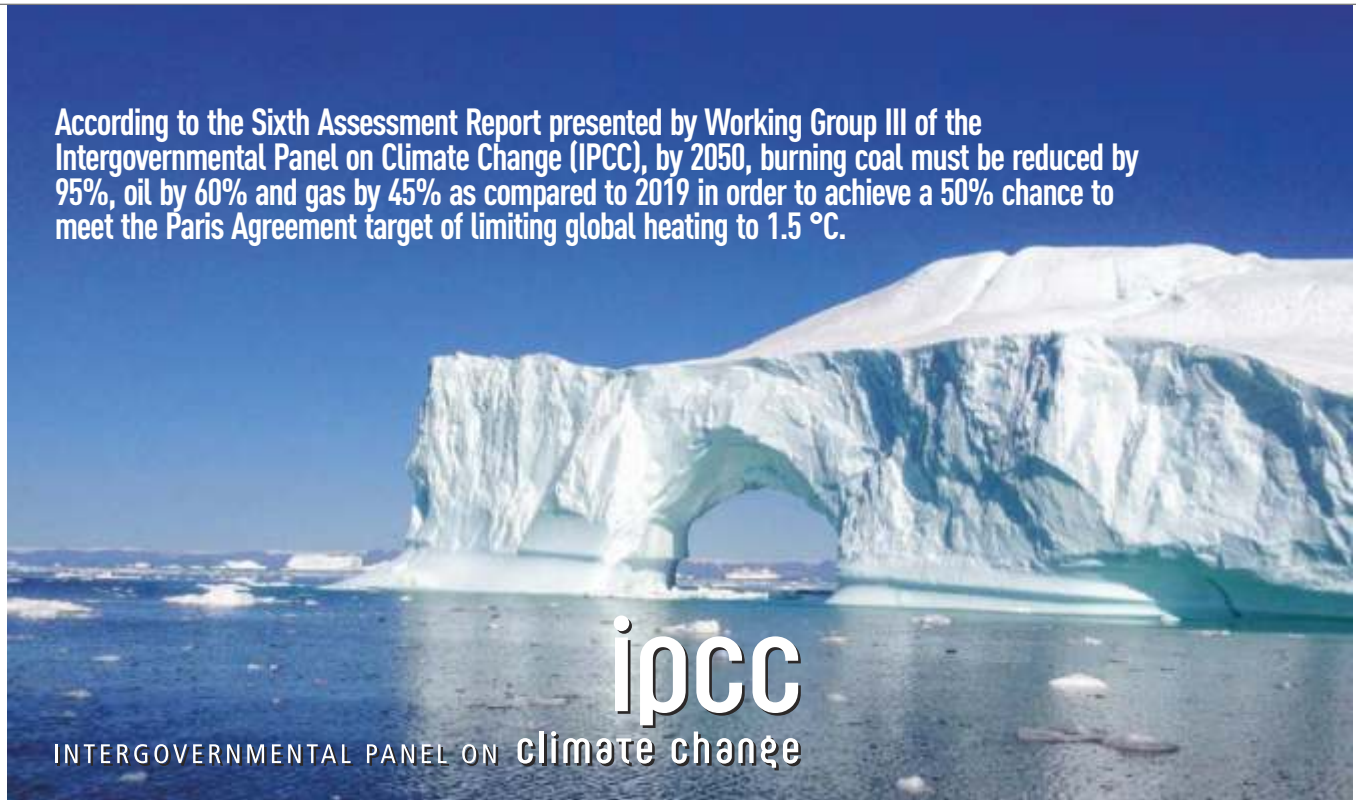
Improvement in energy storage will also play a key role here. New storage technologies are being developed for warehousing power from naturally intermittent sources such as solar and wind. This will finally bridge the looming gap and bring constant reliability to the otherwise variable and weather-dependent renewable energy sources.

Finally, it is use of technology to improve efficiency of clean energy (like digitalisation of the networks and smart grids) that will complete the transition.

Then again, it is crucial that the clean energy transition should be inclusive and socially sustainable without leaving anyone behind. Only then will the benefits not remain limited just to the environment, but extend to the society and the economy as well. The green transition actually presents a lot of scope for generating employment and improving health parameters too.

The International Energy Agency (IEA) noted in their World Energy Investment 2021 Special report, "Accelerating clean energy transitions and access in emerging economies can no longer be just one investment option among many - it has to be a major priority for governments and investors across the globe!"

The IEA's Net Zero by 2050 report states that the annual capacity additions of solar and wind need to be higher than 1,000 GW (four times the record installation levels achieved in recent years). Additionally, annual sales of electric vehicles would need to scale up eighteen-fold by 2030.



Working to Invert the Trend

We are slowly but surely moving away from fossil fuels with renewable energy being deployed on a global scale. Constant innovation is underway that is making clean energy both efficient and competitive. The prices of both solar and wind energy have fallen drastically in the past couple of years that is making them more mainstream now. According to an IRENA report, the costs of onshore wind and solar power have declined by 44% and 87% respectively since 2005. Wind and solar power have emerged as the cheapest form for new installations in many regions. The World Economic Forum even states that some solar generation sources are now producing the cheapest electricity in history. These renewable energy sources are poised to become the protagonists of the energy transition.

Bloomberg New Energy Finance's Electric Vehicle Outlook 2022 report indicates that the cost of batteries has fallen by nearly 90% over the last decade and electric vehicles are expected to be cheaper than fossil fuel vehicles by the mid-2020s across a range of different vehicle types.

New technologies are also being developed as we speak. Tidal power and green hydrogen are marking their presence in the clean energy shifts. Hydrogen presents the ability to even power shipping, aviation, mining and heavy industry. And the outlook is even more promising with the advent of energy storage plants and cost-effective batteries, lithium ion batteries, in particular.

Countries across the globe are reorienting their energy policies in tune with their climate change commitments. However, it cannot be denied that the powerful fossil fuel lobby is still able to curtail many of the regulations. Storage of renewable energy has to be fully integrated into the electricity grids to make it independent of atmospheric conditions. Moreover, as the IEA has estimated, reaching the 2050 climate goals of a carbon neutral economy will require at least 80% of electricity to be shifted to low carbon sources.

IRENA
International Renewable Energy Agency

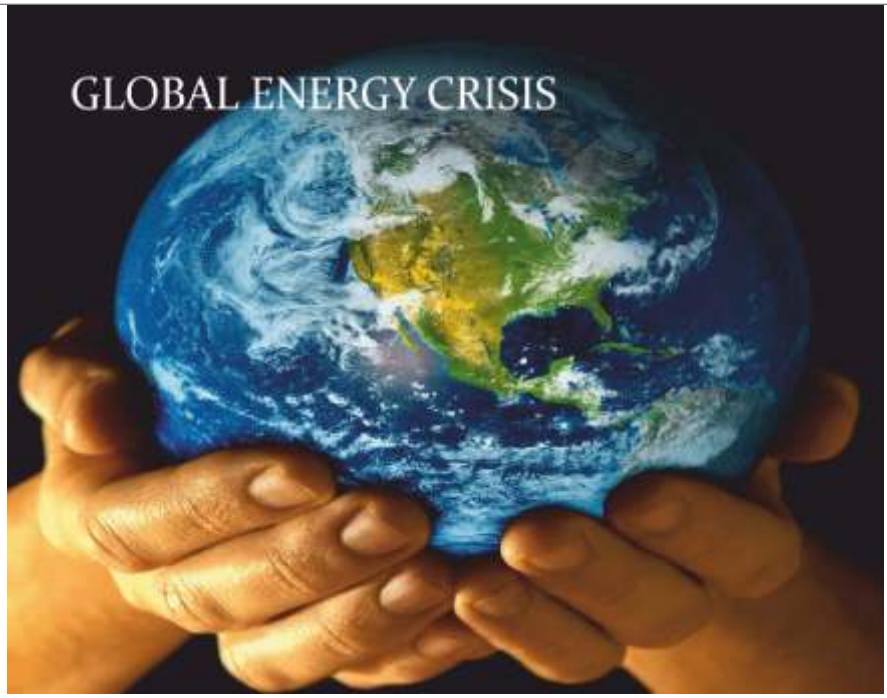
According to the International Renewable Energy Agency (IRENA), the cost of producing electricity from photovoltaics has fallen by 82% in the last decade. With the latest developments in generation technology, it will be possible to increase efficiency of solar panels by 30% and productivity by more than 20%.

Conclusion

We have to redesign the whole energy system to operate on zero carbon energy sources. Achieving an energy future that is completely free of emissions will take time, but we hope that it is not too far away!

Consumers Are the Real Engine of the Energy Transition

The consumers play an integral role in the energy transition. In fact, climate change actions cannot be successful unless consumers become a key part of the equation. Are we ready to take centre stage?



Consumers have to lead the way to a clean energy transition

THERE IS THE deepening global energy crisis on the one hand and the worst cost-of-living crisis in a generation on the other. And both are having an untold impact on the consumers. Consumers, as usual, look at the governments, international actors and companies to protect their interests by mobilising a clean energy transition. To give credit where it is due, there is a lot of ongoing dialogue and action about switching from fossil fuels to renewable energy and electrifying consumption on both the global and local scale.

However, we cannot remain passive bystanders to the impending catastrophe anymore. In fact, there is only so much that the government and other organisations can achieve in terms of limiting global warming and achieving a net zero carbon world. According to the Intergovernmental Panel on Climate Change (IPCC)'s Climate Change 2022: Mitigation of Climate Change report, it is **consumption shifts that will reduce greenhouse gas emissions by 40% to 70% by 2050!**

The supply-side and technological changes will fail unless and until consumers adopt more sustainable consumption patterns!

What Can We Do?

It is the end consumer who is actually using the energy. And it is the constant increases in our daily household consumption over the past decades that has driven much of the increase in both harmful emissions and global warming.

The Institute for Global Environmental Strategies (IGES) 2019 report found that just three 'lifestyle' consumption domains (nutrition, housing and mobility) amount to approximately 75% of the global carbon footprint.

Therefore, to curtail the impacts of climate change, 'lifestyle' greenhouse gas emissions will need to decline by 80% to 93% in developed countries, and between 23% to 84% in developing countries (by 2050). In fact, increases in household consumption are driving much of the increase in the rapidly industrialising countries.

Moreover, individual carbon footprint increases with income. So much so that, lifestyle emissions of the richest in society are currently increasing, with any curtailment of lifestyle emissions being driven by shifts in behaviour amongst the lower and middle classes. The transport sector is a standing example - high-carbon behaviour, such as air travel and car use, have a high income elasticity.

According to the 2020 UN Emissions Gap report, the combined emissions of the richest 1% of the global population account for more than the poorest 50%. This group will need to reduce its footprint by at least a factor of 30 to stay in line with the Paris Agreement targets.

Therefore, the most ambitious actions to transition to clean energy will not succeed unless all the stakeholders – including the consumers - step up to the plate and take responsibility for achieving the transition. Indeed, the world is also well aware that demand-side strategies are a core solution for reaching net zero. The behavioural changes by consumers can cover:

- Opting for energy generated from renewable sources instead of fossil fuels
- Choosing electrification to optimise and reduce consumption
- Adopting behaviours and technologies that improve energy efficiency and reduce pollution

Consumers everywhere have to make fundamental changes from how they travel to how they cook to how they power, heat and cool their homes. They also have to consider the food they eat and the products they buy.

Calls for Action

According to a 2018 IPCC report, transportation emissions from cars, trucks, trains, planes and ships are responsible for around 23% of the total energy-related carbon dioxide emissions. Therefore, adopting low-carbon alternatives in consumer transport choices will play a crucial role - like taking a train instead of a flight, opting for public transport instead of a private vehicle or purchasing an electric vehicle. Similarly, we can trigger transformative changes by improving our existing practices, for example by installing heat pumps.

We have to look beyond our direct energy usage too. According to a 2021 study published on www.nature.com, manufactured goods – like clothes, books, appliances, plastics, etc. – account for nearly a third of greenhouse gas emissions worldwide. Therefore, we need to pay close attention to the way we buy, use and dispose these goods. Consider the climate impact of products and opt for substantiated 'green' and 'low carbon' choices to progress on the path of sustainability.

The food system is also a major contributor to climate change. Studies estimate that it contributes around 30% of greenhouse gas emissions, more than half of which can be attributed to livestock production. Hence, it is all about choosing food that is characterised by lower-emissions or even switching to plant-based alternatives. Here, it is not just limited to changes in consumption patterns, but will also call for substantial behavioural changes against age-old cultural norms at the individual level.If diets continue along current trajectories, the livestock sector will use up around half of our total 1.5°C-consistent carbon budget by 2030. This calls for consumer action as methane-producing livestock cannot be decarbonised like an energy grid.

If diets continue along current trajectories, the livestock sector will use up around half of our total 1.5°C-consistent carbon budget by 2030. This calls for consumer action as methane-producing livestock cannot be decarbonised like an energy grid.

The impact on climate change is not limited to what we drive, what we eat and what we buy. Even the homes we live in emit carbon in two ways – during the construction stage (using manufactured cement, steel and iron) and the usage (with heating and air-conditioning). Therefore, we should buy, lease or rent houses that are built to the highest low-carbon standard. When heating/cooling, opt for technology that minimises emissions and maximises efficiency.

The right kind of consumer choices can speed up the energy transition by:

- Making a difference
- Setting an example for others
- Pressuring businesses and governments to implement changes

Indeed, our choices, behaviours and habits will drive change from the bottom-up and lead to concrete results.

Consumers can take decisive steps to ensure clean energy for all!

Rise of the 'Prosumer'

A new actor has emerged on the energy landscape - the 'prosumer' who both produces and consumes energy! Installing solar panels on the roof, small wind turbines in the backyard, micro-cogeneration systems and even lithium-ion storage batteries is making it possible for 'consumers' to produce and use their own electricity. What's more, they can even sell the excess energy back to the grid!

The European Union is even promoting Renewable Energy Communities (RECs) that produce and share their own cost-effective green energy. This curtails both carbon dioxide emissions and energy waste.

Selfgeneration not only ups the clean energy ante but also improve access to energy. This can play a valuable role in the energy transition.

Is There Any Other Choice?

In a global Member Insights survey in July 2022, Consumers International asked its members to relay the scale of the energy crisis in their countries. Of the 65 responses received from consumer groups across the world, 81.3% reported that people are adjusting their budgets to pay their energy bills, driven up by skyrocketing fossil fuel prices. Scores of low income households in Europe hand to skip heating their homes even in the freezing cold of this winter due to the rising energy prices.

The scale of the problem is such that 75 million people who had recently gained access to electricity may no longer be able to afford it (IEA report).

Energy Citizenship

Consumers are increasingly eager to participate in achieving climate neutrality and building a more sustainable world, younger generations in particular. We are ready to change our purchasing choices by making responsible and informed decisions even to the extent of modifying the usage of products and services.

According to a YouGov international survey in 2021, consumers increasingly recognise the urgency of global action on climate change, expect action from companies and governments and express willingness to shift their consumption habits in a more sustainable direction.

The world is witnessing new modes of consumption - like sharing, lending and leasing in place of ownership – across sectors that have the potential to significantly reduce the impact on the climate. Even the small changes can snowball into a deeper transformation of values and norms.

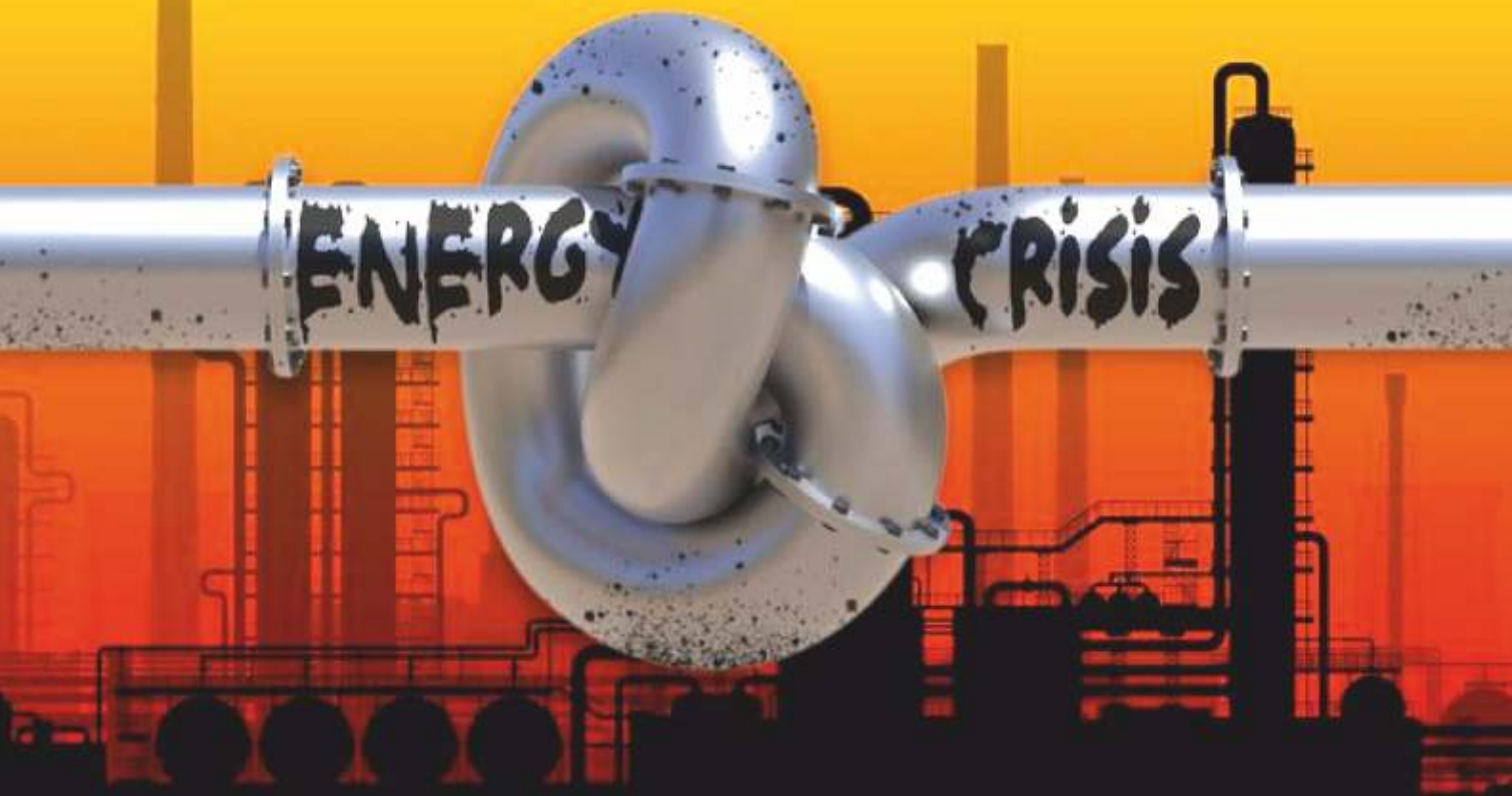
Consumers are willing to change their shopping habits to reduce environmental impact! – Wave 4 of Accenture COVID-19 Consumer Pulse Research, June 2020

Conclusion

People can not only make wise clean energy choices, but also use their purchasing power to motivate companies to work towards sustainability. Let us all work together to create a future that combines growth and sustainability!

Empowering Consumers For Energy Citizenship

Mobilising change in consumer behaviour at the desired scale and speed calls for governments to work diligently to remove the inherent barriers that stand in the way of transformative action. A systematic approach for triggering the desired change is essential.



Unlocking consumer behaviour change is crucial today!

CONSUMERS ARE AT the heart of the clean energy transition through their choices, habits and behaviour that will drive the market from the bottom up. The United Nations Conference on Trade and Development (UNCTAD) has clearly stated that many of the approaches for achieving the Sustainable Development Goals (SDGs) and climate targets rely heavily on consumers making different purchasing choices or modifying their usage of goods and services.

Consumer support and acceptance of systems changes is essential for the transition to be sustainable!

On their part, consumers are ready and willing to be an active player by making the desired changes to protect the Earth from the long-term impacts of the harmful emissions.

While the intention is there, consumers at large are limited by a number of consistent barriers – like lack of knowledge, lack of enabling environment and lack of support:

- Consumers are often not even aware of the environmental impacts of their behaviour.
- Those who happen to be aware, do not know the most effective ways to reduce them.
- Many of the required actions are too costly or inconvenient under current marketplace circumstances.
- Consumers lack the institutional power to consistently and successfully make demands for changes upstream in supply chains.

Is it even fair to expect such drastic behavioural changes from the consumers when the current marketplace structure favours unsustainable options?

It cannot be denied that securing consumer action is not possible without policymakers creating a regulatory environment that protects and supports consumers through the transition. They should commit to putting people at the centre of energy transitions for rapid consumer behaviour change!

Consumers can take on more responsibility for changes only when they are given more rights. The sustainable choice should be made the easy choice!

But what comes across is that governments across the globe are downplaying the role of sustainable consumer behaviour in their climate change mitigation strategies.

According to a Global COP26 Membership Survey, 2021 conducted by Consumers International, 9 in 10 consumer advocates say that their government is not doing enough to help consumers lower their carbon footprint. The United Nations Environment Programme (UNEP) stated that in 2021 only 79 countries had adopted policy instruments aimed at supporting the shift to sustainable consumption and production.

Unlocking the Transition Pathway

Consumers face consistent technological, infrastructural, financial, regulatory and knowledge-related barriers, which stand in the way of transformative action.

Consumers International recognises that consumers are core marketplace actors and able to take action that catalyses clean energy transitions if supported in the right way. Indeed, undirected voluntary efforts by consumers will not be sufficient to reach the drastic reductions needed. It has identified the key changes needed at multiple intervention points to craft an enabling environment for rapid consumer behaviour change.

Consumers face consistent technological, infrastructural, financial, regulatory and knowledge-related barriers, which stand in the way of transformative action.

Market-Based Incentives – Consumers need a regulatory framework that supports and incentivises behavioural changes. These can enable two-thirds of the emissions saved by behavioural changes in the International Energy Agency's (IEA) Net Zero by 2050 Roadmap. This can include subsidies for low carbon choices, disincentivising high carbon choices through taxation, and the expansion of emissions trading schemes.

Indeed, cost is a main barrier that impedes consumers from adopting low-carbon options – be it in lighting, heating/cooling, cooking or travel. So much so that, the poorer consumers just cannot afford to make the change without significant financial assistance.

Therefore, the onus is on the governments to provide greater subsidies to consumers to help them use renewable-only electricity, purchase electric vehicles and switch to other low-carbon technologies. This can be in the form of well-advertised tax benefits, direct grants and low-cost loans. Here, the policymakers should ensure that the enhanced support schemes are actually available to the poorest and most vulnerable consumers.

The regulations should be directed at those behaviours or 'hotspots' that contribute the most emissions. Often this will be the behaviours of consumers from the highest income levels.

While many consumers do not have the resources to pay more for sustainable energy/products, others may lack the power to make certain changes (for example if they live in a rented house). These consumers have to be supported in a practical manner.

Moreover, the policies should be tested and reviewed regularly to ensure that all households have the right balance of incentives and that inequities are mitigated. There is also scope for mandatory measures that will directly affect the consumers - like fuel taxes, distance-based vehicle insurance and congestion charges.

Give consumers the information and power to choose the right options!

Infrastructure Provision – Providing the right infrastructure is a key enabling factor for many consumer behavioural shifts. There is a need to design flexible markets which give consumers access to affordable renewable electricity.

Large scale investment in transport and electricity infrastructure is also crucial. For instance, rapidly deploying charging facilities for electric vehicles that are easily accessible and affordable will encourage adoption by consumers. There is also a need to evolve planning laws to reduce the need for personal vehicles, whilst supporting cycling and walking in the form of safe bicycle lanes and pedestrianisation.

New technologies such as smart meters can improve energy efficiency by empowering consumers to identify patterns of energy usage. These smart meters can also be used to deliver micro-incentives for behaviour change.

Information and Awareness – Consumers cannot be expected to make significant changes if they don't why some changes need to take place! Reliable consumer information and education is central to empowering consumers to improve their energy efficiency. This is estimated to enable 30% of the emissions saved by behavioural changes in the IEA's 2050 Roadmap.

In the Consumers International survey, 50% of the consumer advocates stated that consumers are unaware of the climate impacts of domestic heating and cooling while 69% affirmed that consumers are 'not very aware' or 'completely unaware' of the climate impact of the manufactured goods they buy and use. Even where consumers are aware, much more needs to be done to promote consumer awareness. In fact, 85% of the consumer advocates want their government to commit to consumer education programmes to help consumers switch to a lower carbon footprint.

Consumers require reliable and accessible guidance on the changes they need to make!

The measures should take a holistic approach that combines consumer educational campaigns, mass-reach communication, improved product labelling, etc. These will work as behavioural nudges that will subtly influence the consumers to curtail their energy usage and also transition to clean energy. Needless to say, this calls for substantial investment in education.

Some of the measures can include:

- Educating consumers about the climate impacts of their travel choices with an emphasis on the true emissions levels of each form of transport as well as the fuel used (petrol, diesel, electricity, etc.). Behavioural studies suggest that this information can persuade consumers to change their activities – like using public transport, reducing flying or purchasing more efficient vehicles which will also save money in the long run. To top this, the co-benefits like health and financial savings can build a positive momentum.

A study of 6,000 consumers in Europe and the US found that 'flygskam' or flight shame had led them to cut back 21% on air travel!

- Consumers should be presented with the carbon footprint information of their meal choices. This can motivate action to reduce household food waste, recycling of food waste and reducing packaging. Labelling schemes are also central to helping consumers make food choices that will have a lower environmental impact. However, many of the green claims touted by food brands happen to be unsubstantiated, misleading or dishonest. It is important that consumers should be able to differentiate between labels that are verified by independent third-party organisations and unverified self-made claims by producers.

Half of the consumer advocates admit that consumer understanding of product environmental labels in their country is 'low' or 'very low'.

- Provide practical information and reliable advice on how to improve energy efficiency. This can be in the form of energy saving tips, mailing a monthly energy statement, etc.
- Consumers should be informed about trusted efficiency-enhancing technologies so that they gain confidence in the safety and reliability of novel products and their installation. This kind of consumer buy-in should be accompanied by access and support for affordable options.

Environmental NGOs can also contribute to raising awareness among individuals and households.

Adding Choice to the Equation – While consumers are a powerful economic group that can lead the change to a clean energy world, they do not always have the ability to influence the system at the scale required to cause change. This is why government policies cannot be limited to mandating or influencing behavioural changes. It should also support a wider ecosystem of transformation.

Truth be told, there is rising expectation among the consumers that the energy, the transport, the food and the other products they use should be low carbon by default. But how can consumers wield their purchasing power for sustainability if there are no sustainable choices in the first place?

A whopping 50% the consumer advocates in the Consumers International survey stated that lacking the power to choose is a barrier to consumers using renewable-only electricity! 69% of consumer advocates again pointed out that 'availability' is a key barrier to consumers buying manufactured goods with a lower carbon footprint in their country.

Policies in the developing countries have to help consumers avoid 'carbon lock-in' and drive them to adopt more sustainable consumption patterns.

Therefore, the onus should be on providing consumers access to low carbon options with ease, confidence that they will work effectively, be safe and genuinely provide benefit the environment.

A Seat at the Table for Consumer Organisations

It is no longer viable for climate strategy to be governed without the input of those who will be carrying it out in reality - by eating, travelling, living and shopping differently. Consumer interests and voices must be built into governance structures, both to ensure that the carbon transition is fair and to ensure that it happens at all.

Therefore, governments have to commit to the expansion and deepening of consumer representation and participation in decision-making through the transition. Direct participation and consultation with consumers in the policymaking process will build both acceptance and confidence.

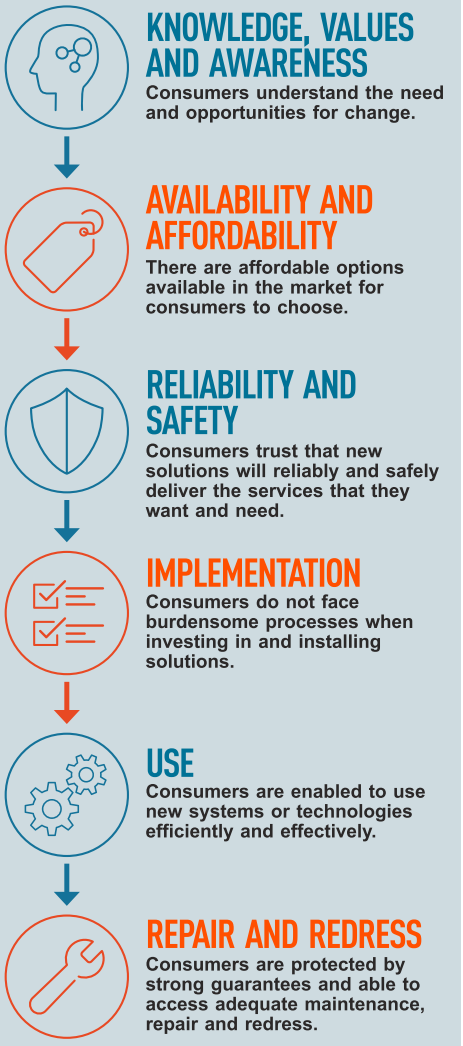
9 out of 10 of the consumer organisations surveyed by Consumers International are actively working to help consumers live lower carbon lifestyles. These organisations know from experience how consumer-centred climate solutions can be put into practice. They know how to bridge the gap between individual consumers and system-level change by convincing them that their choices do matter!

These consumer advocates can not only guide consumers in the transition, but also ensure that the necessary consumer protections are instituted for a sustainable future. Therefore, consumer advocacy representation in policymaking and standards-setting is crucial. And yet, less than half of the consumer organisations are included in environmental policymaking in their countries. This is a lost opportunity for joined-up and innovative policymaking.

Policymakers should work with consumer organisations that are familiar with the needs and priorities of consumers in their countries, when designing behavioural interventions. They should also be consulted in the development of new regulations.

Removing Barriers to Consumer Action

(an infographic by Consumers International)

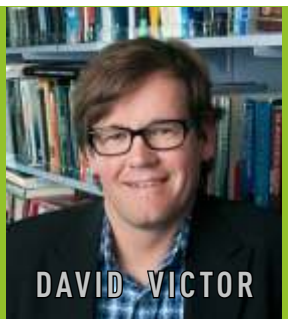


COP26

Until now, consumers have lacked a voice in international climate negotiations. According to the Consumers International survey, only 1 in 4 consumer organisations were engaging directly with COP26. Reversing this trend is key to building the political sustainability of the required consumption changes.

Conclusion

Only when the consumers are empowered to wield a new power as marketplace actors, will it drive the action that accelerates clean energy transition. There is a need to strike the right balance as the climate mitigation policies should not end up burdening the costs of the transition on those who can afford it the least. If the policy approach ends up penalising the most economically vulnerable consumers, it will struggle to maintain popular support. Intelligent, consumer-centred regulation is what can ensure that consumers are active and confident players!



"For too long, analysts have been imagining clever energy transitions that can solve many problems of environmental sustainability, such as climate change and water scarcity, without paying enough attention to political sustainability. Consumers sit at the centre of that political equation."

- DAVID VICTOR,

Professor of Innovation and Public Policy, University of California, San Diego in the World Economic Forum's Fostering Effective Energy Transition 2022 Edition

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Payal Agarwal
Editorial Consultant

Making the ENERGY TRANSITION Just and Equitable

"It is imperative that the transition to clean energy should not generate new forms of poverty and inequality, especially in the developing nations. Just Energy Transition is focussed on ensuring that the progress benefits everyone. This calls for a whole-of-society approach towards an equitable and inclusive low-carbon future!"

– states Payal Agarwal

The agenda of policymakers is incorporating protection for the people that will be impacted negatively by the energy transition

WE ARE LOOKING to transition towards a cleaner and greener energy future. While the focus is on requisitioning technology and finance for the transition, another looming question on the horizon is – will the shift be fair to all?

Indeed, any transformation has to be just and inclusive for it to benefit everyone. This applies to climate action as well. Therefore, we need to qualify the clean energy transition with a 'just' element to ensure that it does not have a negative impact on the society, jobs or livelihoods!

The final decision text of the recently concluded COP27 mentions a 'just transition and just energy transition partnership (JETP)'

The focus of energy transition today is moving away from coal – which is the world's most dominant and carbon-intensive source of energy – along with a massive scale-up in renewable energy. While this is crucial for conserving the environment for the future generations, what about the social fallout of this move? Won't the closing of coal mines and decommissioning of coal power plants to achieve decarbonisation lead to the loss of millions of jobs? What about the impact on the local people and communities that are tied to the coal industries with limited opportunities for economic diversification? The stage is ripe for tensions that can even escalate into conflicts.

Other issues rear their ugly head as well. For instance, there is growing dissent that the subsidies for electric vehicles are mainly used by the rich. Then there is the need for redistribution of benefits and repartition – both within each country and between different countries – of the new wealth that is generated.

In the Indian context, millions of citizens are directly and indirectly dependent on the coal economy. It follows that the energy transition should take the ensuing social inequalities and other undesirable impacts on vulnerable communities and economies into account.

An energy transition that focuses only on solving the financial losses for the capital asset owners of coal power plants or mining, but not the issues for the workers and the communities, will not be successful. The potential for nature-based employment to offer green jobs for these workers needs to be maximised.

- PANUDDA BOONPALA
Deputy Regional Director, Regional Office for Asia and the Pacific, ILO

A 'just energy transition' puts people and communities at the centre of the transition while ensuring that no one is left behind in the shift towards a net zero or even a low emissions economy. Only then will it be fair in the true sense of the word!

In 2015, the International Labour Organisation's (ILO) adopted the 'Guidelines for a Just Transition' towards environmentally sustainable economies and societies, following negotiations between governments, employers (and their organisations) as well as workers (and their trade unions). The Guidelines offer a unique policy framework and a practical tool to guide the transformation to low-carbon and climate-resilient economies considering the social and employment-related dimensions.

The ILO established a global understanding for the term 'just transition' as "greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind." It further adds that this is a process "towards an environmentally sustainable economy, which needs to be well managed and contribute to the goals of decent work for all, social inclusion and the eradication of poverty".

Achieving an energy transition that is fair and inclusive calls for the world to step up and help developing countries with resources that will enable them to adapt. Indeed, the international community is cognizant that all countries must benefit from the opportunities offered by sustainable and just transitions. This should include access to modern technologies, capacity building and finance, as well as policy solutions to manage transitions in a just and inclusive way.

It was at the United Nations Climate Action Summit 2019 that the United Nations Secretary-General António Guterres launched the Climate Action for Jobs Initiative that provides a roadmap to boost climate action, ensuring that people's jobs and well-being are at the centre of the transition to a carbon-neutral and climate-resilient economy. The ILO was designated for spearheading the implementation.

The international body also announced the 'Just Transition Declaration' re-emphasising the importance of a just transition to sustainable energy. This was signed by more than 30 countries at the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow in 2021 with the promise of funding for climate action and decarbonisation in developing countries. Following this, many countries directly and indirectly referenced just transition in their revised climate pledges (Nationally Determined Contributions or NDCs), demonstrating a strong political will to incorporate a social dimension into their climate action.

India's updated NDC commitments for reaching net-zero emissions by 2070:

- **Reduce emission intensity of the GDP by 45% by 2030, from 2005 level by 2030**
- **Achieve about 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030**

COP27 witnessed the formation of the Alliance for Just Energy Transformation - a new collaborative effort led by the United Nations Development Programme and World Wildlife Fund that aims to ensure that the developing world benefits from a transition to a cleaner global economy.

Just Energy Transition Partnership (JETP)

The concept of JETP was first introduced by G7 (Group of Seven) at COP26. This is an inter-governmental political forum consisting of Canada, France, Germany, Italy, Japan, United Kingdom and United States along with the European Union. It presents an innovative funding model to help a selection of heavily coal-dependent emerging economies shift to clean energy in a way that also addresses the social issues associated with their energy transitions..

> It is anticipated that 2.7 million jobs will be lost due to phase-out and phase-down of fossil fuel-based power plants by 2030 under current commitments, but 13 million new jobs will be created through clean energy transition, and it needs to be about 30 million for a netzero target by 2050.
>
> ***– Sonja Leighton-Kone,*** *Acting Deputy Executive Director at UNEP*

A Just Energy Transition Partnership (JETP) is an agreement between developed and developing countries in which the former provides funding for the latter to transition to green energy in a fair manner.

JETP aims to support these countries' self-defined pathways as they move away from coal production and consumption in a way that addresses the social consequences involved. This will include ensuring training and alternative job creation for affected workers and new economic opportunities for affected communities. The funding is in the form of grants, low interest loans and investment provided by both the public and private sector.

- South Africa was the first beneficiary with a promise of USD 8.5 billion in financing at COP26. The country published its JETP Implementation Plan (JETP IP) at COP27 last year which laid out its priority investment requirements in the electricity, new energy vehicles and green hydrogen sectors.
- Indonesia's JETP deal was announced at the G20 leaders' summit in Bali in November 2022 - USD 20 billion in finance over 3 to 5 years, half from the donors and half due from the private sector. The JETP laid out an emissions trajectory for the country and how to achieve it: peaking power sector emissions by 2030 (against the previous 2037) and capping carbon dioxide emissions levels about a quarter lower than previously expected by the same time.
- Soon after this, another deal was inked with Vietnam to provide funding of USD15.5 billion.

Handling the clean energy transition in a fair and equitable manner!

The G7 are now courting India to be the next partner of the JETP. The primary demand in return for green financing is reducing the number of coal-burning power plants under development and the gradual closure of coal mines. However, the Indian Power Ministry opposed the offer stating that coal cannot be singled out as a polluting fuel, and energy transition talks need to take place on equal terms.

The UN Secretary-General convened the 'High-Level Dialogue on Energy' in 2021, the first such meeting in 40 years. This offered a global stage for countries to attract new investments and forge new impact-focused partnerships to drive forward the energy revolution. As a foundation for informed deliberations, five Technical Working Groups were established on the five key themes of:

(1) Energy Access
(2) Energy Transitions
(3) Enabling SDGs through Inclusive, Just Energy Transitions
(4) Innovation, Technology and Data
(5) Finance and Investment

These Technical Working Groups brought together leading experts on these subjects from across the world to identify key recommendations for a global roadmap towards the achievement of SDG7 and the climate objectives of the Paris Agreement.

> Ensuring that everyone benefits from the energy transition requires interventions such as strong labour market policies, social protection and new skills development. Maintaining a dialogue between workers, government and employers throughout this process is also instrumental.
>
> *– **Kaveh Zahedi,** Deputy Executive Secretary for Sustainable Development, UNESCAP*

What is holding India back is the superimposition of stringent terms that do not seem to factor in our country-specific needs. To add to this, we have already unleashed significant equity investment in the generation of renewable energy which is expected to grow in the future.

Yet, a quick phase down of coal remains a daunting challenge as India's carbon emissions are expected to peak only two decades from now. Right now, we need the addition of both renewable energy as well as coal to meet the rapidly-growing electricity demand.

Therefore, what is required is a customised transition plan and finance rather than just focussing on a coal phase out. For instance, an institutionalised push to green hydrogen will be helpful, not to mention investments in technologies that help make the power grid flexible, like battery storage.

The Writing on the Wall

The countries dependent on fossil fuel revenues face a number of unique challenges. It cannot be denied that most of the coal producing regions are often isolated. While new opportunities are unfolding in the clean energy sector, there are clear shifts in the jobs and technologies which will not always match the existing skills or even the geographic location of the workers impacted by the transition. The right choices and measures are required for managing the trade-offs.

It follows that the disappearance of some jobs is inevitable. Governments and international agencies have to intervene with programs to provide professional training to develop new skills, capacities and expertise to support a smooth transition to the emerging job opportunities. Only then can they achieve the transformation, development and also the social objectives.

The International Energy Agency (IEA) recommends four clusters for 'People-Centred Energy Transitions':

- Decent jobs and worker protection
- Social and economic development
- Equity, social inclusion and fairness
- People as active participants

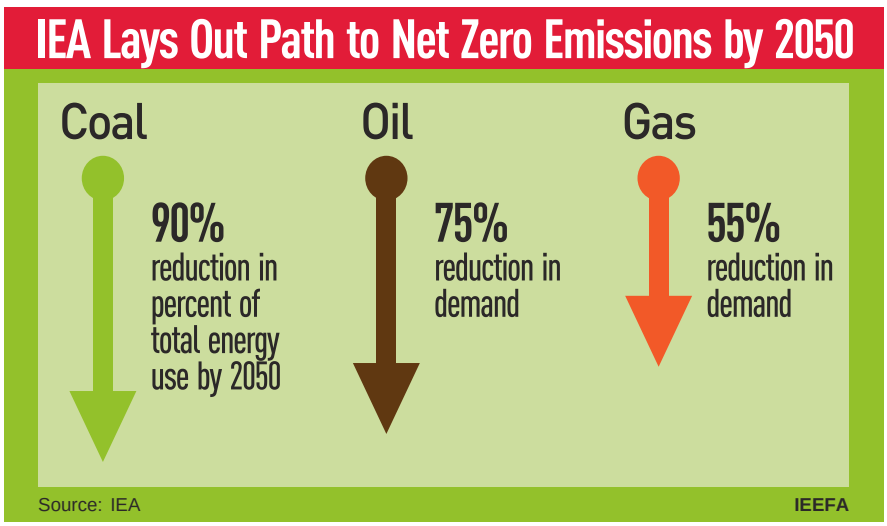
Therefore, a just transition calls for working with the stakeholders to create the plans, policies and reforms needed to mitigate environmental impacts, support impacted people and build a new clean energy future. When it is well-managed, it can be a strong driver for new green jobs, better jobs, social justice, sustainable economic value and poverty eradication.

Moreover, the IEA's Roadmap to Net Zero by 2050 lays out that energy sector employment will increase from just over 65 million today to 90 million in 2030, taking into account both direct jobs in energy sectors and indirect jobs in the manufacturing of essential components for energy technologies and infrastructure. There will be almost 40 million new jobs in clean energy by 2030, outweighing job losses in fossil fuel-related industries, and the share of energy sector employment related to clean energy will increase from around half today to 80% by 2030!

Conclusion

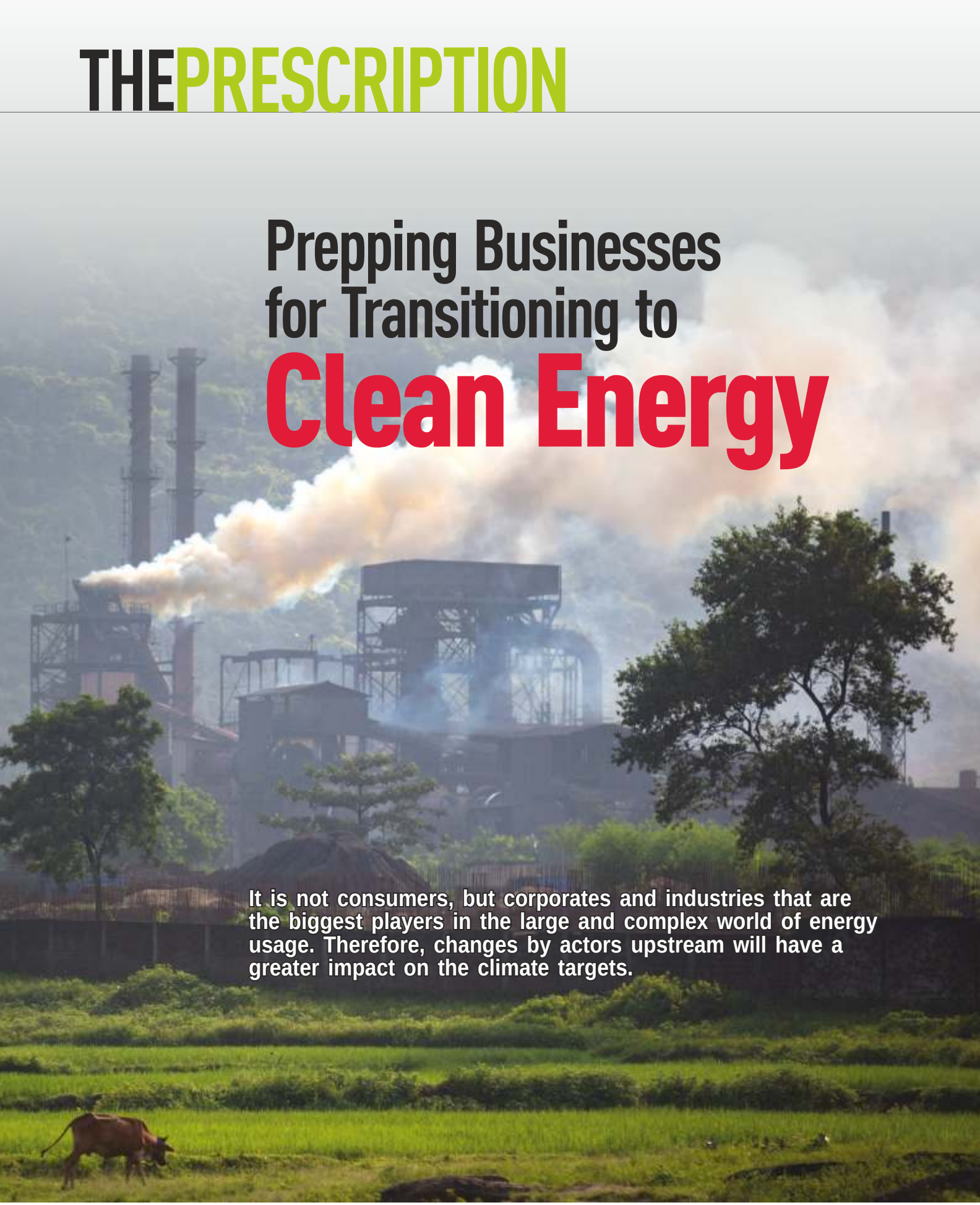
People-centric measures are necessary to reduce the negative impact of energy transition on the community. This calls for complex transformations that take societal and institutional outcomes into account in a way that will maximise employment and economic growth.

Consumers International is calling on governments to commit to a 'consumer fairness test' for every climate mitigation policy, ensuring a transition that works for all. Policies should be tested to ensure that the cost burdens of the transition are distributed equitably. The most vulnerable consumers need to be supported in making changes and protected from unfair financial burdens.



Prepping Businesses for Transitioning to Clean Energy

It is not consumers, but corporates and industries that are the biggest players in the large and complex world of energy usage. Therefore, changes by actors upstream will have a greater impact on the climate targets.



The industry can be the harbinger of success in the fight against climate change!

WORLD LEADERS ARE aiming at securing a just transition in the energy sector. Global attention is converging on creating energy systems that are cheaper, cleaner and more secure. However, achieving economic development is equally imperative, and increase in carbon output comes with the territory. So much so that, the rapidly industrialising countries are projected to contribute almost all of the growth in carbon emissions!

Therefore, change in the climate context has to be sparked not just by governments, public sector and consumers, but also big industries, small and medium-sized enterprises and individual businesses. Indeed, for climate sustainability targets to be met, upstream changes in industry must be made.

It follows that the private sector has a significant role to play in enabling a just transition. Manufacturers and businessmen have to make complex decisions to make a net zero future a reality. Organisational strategy to move towards a low-carbon economy has to be centred on self-regulation to make production processes cleaner in the form of codes of conduct, sustainable work methods, supplier agreements and voluntary targets to decarbonise.

"Companies can no longer expect to put high carbon products on the market and expect society to pay for the external costs of the carbon associated with their production, use and disposal." - Which?, a consumer research group in the UK

Corporates must plan, operationalise and integrate just transition principles into their sustainability strategies and practices. These should be mainstreamed within the operations and throughout the value chain.

Bridget Beals, Partner, Co-Head of Climate Risk and Decarbonization Strategy at KPMG outlines what business climate transition plans should contain:

- clear commitments, including greenhouse gas reduction targets
- evaluating impacts of the transition on the company's strategy and business model
- actionable steps to meet the commitments
- performance clearly measured, monitored and disclosed to highlight current and future achievements
- transition governance mechanisms, including connections between progress and remuneration

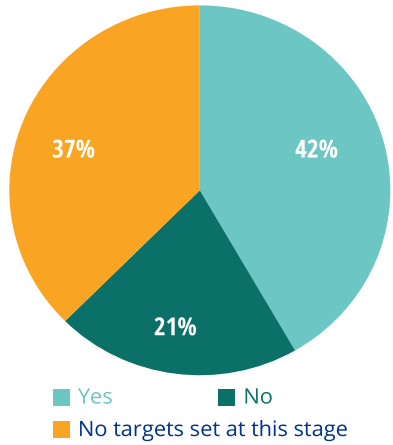
This should cover everything from developing new ways of using renewable energy in their operations to reskilling/upskilling employees based on the changing employment needs of the transition. They have to think in terms of reducing material use and promoting circularity within the operations as well as using alternate materials/technologies/goods/services with fewer negative social and environmental footprints.

Guidance documents on climate transition planning have been released by international organisations like the Carbon Disclosure Project (CDP) and Climate Bonds Initiative (CDI). However, recent research by the CNN group shows that fewer than one in four of the world's largest companies are on track to meet basic climate change targets.

At the end of 2022, KPMG surveyed its clients to understand how equipped they are to prepare and implement a climate transition plan. The results reveal that a little more than one-third companies are confident their net zero targets are feasible using existing technology, and only 25% of those had cost their targets. (see Figure 1)

It is the moral and ethical duty of organisations to ensure they are effectively driving the just transition agenda within their operations, value chain and the community at large. They should commit to a precise plan directed towards energy transition.

FIGURE 1:
If you have a net zero target and any interim targets, are you confident they're technically feasible?



To add to this, producers and companies have to invest in creating innovative products and solutions that have a low environmental impact, better quality and less waste. These shifts will not only be in tune with the energy transition goals but also reduce costs (in the medium and long term), increase profit margins and improve overall financial performance.

Government Action - The Other End of the Stick

It is clear that businesses and industries need to be supported through policies and business practices to make the changes that will reduce their energy demand and increase recycling. In fact, as manufacturers have the agency to respond to directives, governments should prioritise regulation of the industry - primarily targeting high-emitting players that are most responsible for emissions - ahead of other measures. The desired behavioural shifts will remain impossible without significant changes in the marketplace as a whole.

International standards which embed robust netzero goals across all sectors are crucial for businesses to accelerate their climate action.

It is regulations and mandates which are estimated to enable roughly 70% of the emissions saved by behavioural changes in the International Energy Agency's Net Zero by 2050 Roadmap. Consumers International has outlined a number interventions that can prove to be potentially impactful. Like:

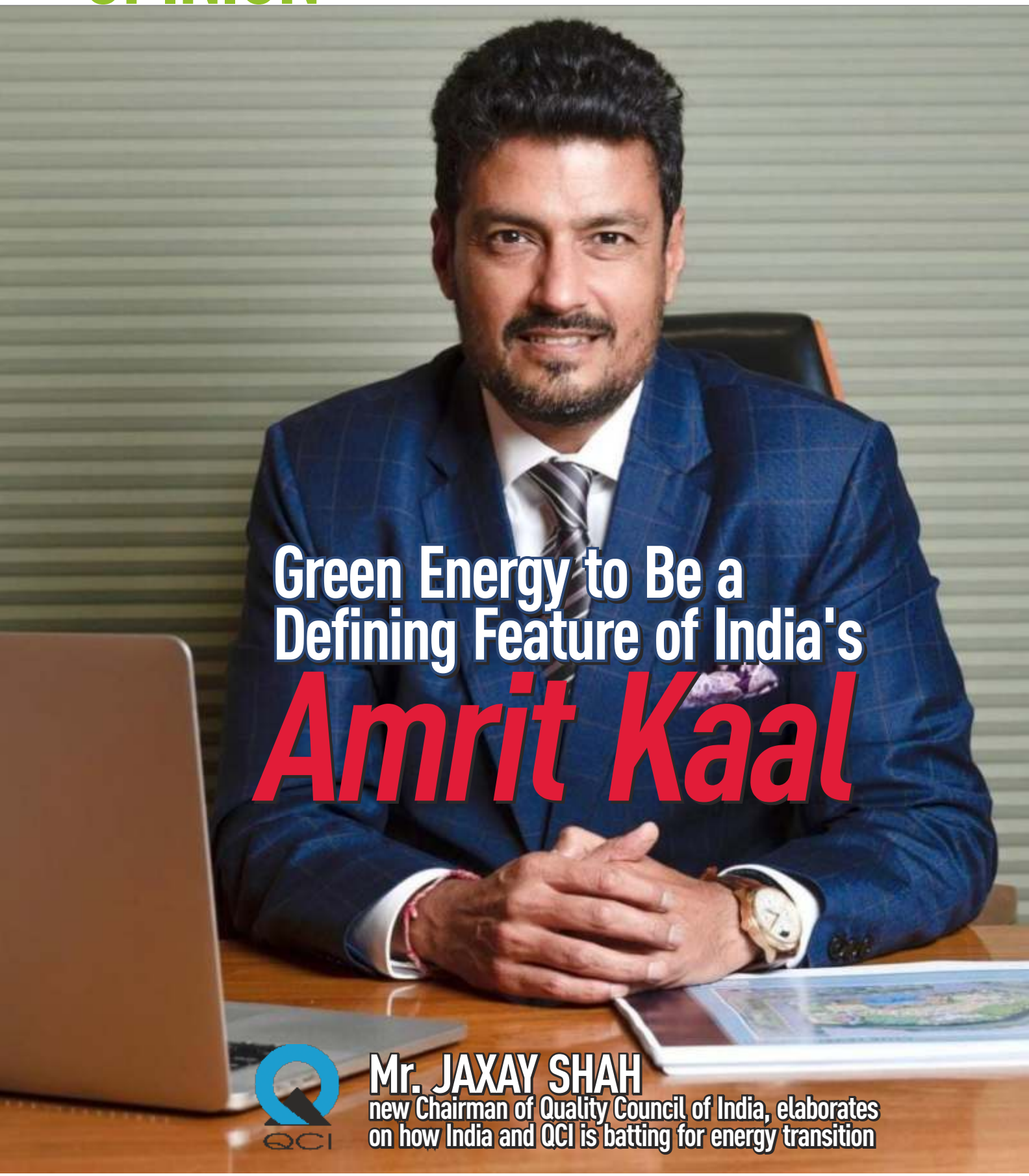
- Mandatory standards and financial incentives to ensure annual energy intensity improvements of 3% or above.
- Regulations supporting best practice and facilitating universal adoption of circular innovations.
- Mandatory standards for eco-design and energy efficiency of vehicles with compulsory phasing-out of petrol and diesel vehicles.
- Measures such as stricter emissions standards and rules for phasing out the use of petrol and diesel fuels.
- Instituting codes and standards like minimum energy performance standards for appliances. These can be complemented by fiscal and financial incentives such as tax reliefs, public financing and the use of market-based instruments.
- Eco-design regulations for consumer goods can make products greener and more durable from the design phase. This will not only drive product improvements, but also remove the least sustainable products from the market.
- Compulsory product labelling of embodied or lifecycle emissions and a requirement for companies to disclose their carbon emissions.
- Clear and robust guidelines on providing green claims followed by swift enforcement and proportionate penalties.
- Bans on advertising of fossil fuel products.
- Robust 'Right to Repair' legislation to ensure a more attractive, affordable and accessible route to product repairs for consumers.
- Rules against planned or programmed obsolescence can open the space for consumer class actions.
- Setting up more sustainable and low carbon modes of agricultural production with public subsidies for agricultural producers to incentivise agro-ecological practices.
- Climate-smart landuse policy can free up land for nature-based solutions which will increase carbon sequestration, such as tree planting.
- Policies to build transparency in supply chains, with clear information on the provenance of all food products, including record of social and environmental harms.
- Legislation to enforce and incentivise the reduction of food loss and waste at all stages of the value chain – like requiring retailers to donate safe, unsold food products to vulnerable communities, instead of destroying it.
- Frameworks to connect consumers directly with food producers.
- Building regulations and green building codes that minimise emissions in new construction will ensure that new houses are built in as emissions-efficient a way as possible. This also requires technical innovation in manufacturing, such as the use of low carbon cement (cement manufacturers produce 5% to 7% of all carbon emissions).
- Energy efficiency standards for new houses and supporting retrofits for old ones. This will ensure that homes are built and fitted with energy efficiency in mind.
- De-risking private investment in clean energy solutions.
- Aligning all policies and subsidies to the 1.5°C trajectory.

Three quarters of the consumer advocates responding to the Global COP26 Membership Survey, 2021 conducted by Consumers International think stricter regulation of producers is needed to lower the carbon impact of manufactured goods. Therefore, they will continue to demand bold action from industry players while insisting that the governments put the necessary infrastructure in place for these solutions to work.

Such government policies can help exemplary businesses to improve even more while also encouraging other companies to follow their example!

Conclusion

Government regulation creates a level playing field. Such action is what will incentivise the uptake of clean energy transition solutions by the industry.



Green Energy to Be a Defining Feature of India's Amrit Kaal

Mr. JAXAY SHAH

new Chairman of Quality Council of India, elaborates on how India and QCI is batting for energy transition

IN THE GLOBAL Quality Infrastructure Index rankings (GQII), 2021, India continues to hold a spot in the top ten. More importantly, India's national accreditation system was ranked fifth in the world!

Over the past 26 years, Quality Council of India (QCI), along with the support of stakeholders from both the government and industry, has made consistent efforts for an overhaul in quality practices across various sectors within the country. As India assumes a leadership position on the world stage, QCI will continue to play a pivotal role in creating a holistic quality ecosystem and spearheading its role as an enabler for quality infrastructure (QI) with the overarching aim of promoting a better quality of life for our 140 crore citizens.

QCI works for the improvement in the quality of goods and services through its five constituent Boards and Divisions. For instance, the National Accreditation Board for Hospitals (NABH) ensures that Indian citizens have access to quality healthcare in all parts of the country. Similarly, the National Accreditation Board for Education and Training (NABET) establishes quality assurance mechanisms in education and skills training.

While improving ease of living, it is imperative to build a robust energy infrastructure that is both efficient and sustainable. QCI has already been working in the energy sector, primarily through its projects in the coal industry. It provides third-party sampling testing and analysis of coal for various non-power consumers under long-term linkage auctions. QCI's role in the coal sector is crucial in ensuring that the quality of coal is maintained at all stages of its supply chain, which has a direct impact on the environment and the health of people who are directly or indirectly associated with the sector.

As India moves into its *Amrit Kaal,* traditional sources of energy such as coal will make way for new sources, underlined by the focus on net neutrality by 2070; a goal given by Hon'ble Prime Minister Shri Narendra Modi. The recently announced budget for 2023 by the Finance Minister Nirmala Sitharaman puts a strong emphasis on green growth, recognizing its importance in building a sustainable future.

The budget prioritizes energy transition, with Rs 35,000 crores allocated as priority capital to support this transition. Additionally, a Green Credit Program will be established under the Environment Protection Act to promote sustainable practices. The budget also provides viability gap funding for battery storage, with the government supporting the establishment of battery energy storage of 4,000 MwH.

Another significant initiative is the National Green Hydrogen Mission, which has an outlay of Rs 19,700 crore, aiming to facilitate the country's transition to a low carbon intensity economy, reduce dependence on fossil fuel imports and position India as a leader in technology and market development for green hydrogen. These initiatives demonstrate the government's commitment to coupling rapid economic progress with environmental conservation.

The Prime Minister, in his address to the nation after the budget, highlighted the need to create a sustainable future focusing on green growth, a green economy, green energy, green infrastructure and green jobs. It leaves no doubt that India's *Amrit Kaal* will witness a paradigm shift from traditional sources of energy to green energy, thus ensuring that the *Viksit Bharat* of 2047 is not just *Atma Nirbhar* but also environmentally conscious. It goes without saying that the Quality Movement led by QCI can play an important role in this transition.

QCI is currently involved in multiple initiatives that contribute to the green energy revolution in the country. The Zero Defect Zero Effect (ZED) program, apart from its various functions, also seeks to eliminate environmental harm by planning pre-production, maintenance, post-production and environmental impact activities.

ZED's goal is to increase energy awareness among MSMEs, as many manufacturing sectors are energy-intensive, and small businesses often struggle to afford energy costs, leading to their closure. It helps MSMEs improve energy efficiency, expand energy access, and invest in renewable energy.

ZED guides these organizations in adopting cost-effective energy-saving measures to overcome this issue. The ZED model is aligned with the Sustainable Development Goals and aims to achieve the goal of providing affordable, reliableand modern energy services to all by 2030.

The road to energy transition is long, but each milestone will bring great rewards. It is heartening to see our Prime Minister make this journey a part of his vision for India's *Amrit Kaal.* This shows his commitment to building a Bharat where our future generations can be safe and healthy. But the buck doesn't stop just at the government. It is also upon us as consumers to play our little part in enabling this shift towards green growth through behavioural and lifestyle changes. Even little steps in the direction of energy transition will help eliminate carbon footprints in a big way.

Need of the Hour – Marking of Eco-Friendly Products

India is trying to find the right balance between decarbonisation and energy security. Ensuring accessibility and affordability for the consumers of both clean energy and eco-friendly products is crucial here.

A reliable labelling system for environment-friendly products is imperative

WE HAVE BEEN warming our planet right since the beginning of industrialisation. However, over the decades we remained either blissfully unaware or simply unwilling to accept our impact on the Earth! Not until the grave consequences started staring us right in the face!

We can no longer overlook the ominous fact that India happens to be the third largest oil consumer in the entire world, to the extent of importing 80% of our oil needs. As if this isn't enough, the International Energy Agency (IEA) predicts that India's energy demand could rise over 3% annually until 2030 due to urbanisation and industrialisation.

In this context, it is heartening to note that India is finally undergoing a transformation towards a more environment-oriented future. We have made great strides in the transition to clean energy - India now ranks fourth in the world in renewable energy capacity. Our country has already achieved the target of making 40% of its electricity generation capacity from non-fossil fuel sources by 2030. This has since been revised to generating 50% of the electricity from renewable energy.

Indeed, renewable energy is proliferating with growing adoption today. There are the falling costs and increasing availability on the one hand and a host of new clean energy incentives on the other.

Here, it should be noted that until a few years ago, clean energy transition was centred on solar and wind power. Innovation is driving shifts in decarbonising energy by using green hydrogen. We are witnessing breakthroughs in spheres like long duration energy storage (LDES) and carbon capture, utilisation and storage (CCUS).

Enabling Consumers to 'Go Green' in Energy and Products

The government's commitment to green growth is evident in the recent budget. Much more clean energy is available now than ever before – but what about the accessibility and affordability to the consumers?

Poor access and unaffordable pricing are the limiting factors today. For achieving a true transition, the clean energy should be as convenient and cost-effective as traditional forms of energy.

To add to this, there is a pressing need to empower consumers to differentiate eco-friendly and sustainable products (that are manufactured using clean energy). There are reliable and trustworthy choices in the market today, but the consumers are not even aware about them. On the other hand, scores of products position themselves as 'sustainable', 'environment friendly', 'eco-friendly', 'recyclable', etc. without anything to show for these claims. This 'greenwashing' has intensified the confusion and scepticism among the consumers.

Therefore, a reliable eco-labelling system will spread awareness as well as promote sustainable consumption, thus reducing the negative impact of production on the environment, health, climate and natural resources.

An eco-label denotes that the product has neither caused any harm to the environment during the course of its production, nor will it cause any harm during its usage and disposal.

Ecomark - The Ministry of Environment, Forest and Climate Change, Government of India launched the Ecomark scheme way back in 1991. The aim was to enable consumers to easily identify environment friendly products, thus empowering them to reduce their environmental impact.

The Ecomark logo is a Matka (earthen pot which uses a renewable resource, does not produce hazardous waste and consumes little energy in its making).

This certification mark - issued by the Bureau of Indian Standards - is awarded to consumer goods that conform to a set of pre-defined environmental criteria and quality requirements. The scheme is voluntary and non-binding.

Products covered under the scheme include soaps and detergents, paints, paper, plastics, cosmetics, textiles, batteries, wood substitutes, propellants and aerosols, food items (edible oils – including vanaspati, tea and coffee), electrical and electronics goods, packing/packaging materials, lubricating/specialty oils, drugs, foods preservatives and additives, pesticides and leather. The criteria follow a cradle-to-grave approach, i.e., from raw material extraction to manufacturing to disposal.

The objective of Ecomark is to promote environmentally responsible purchase decisions in consumers - a product with the Ecomark label signifies that it does the least damage to the environment - which will in turn drive manufacturers to reduce the adverse impact of their products on the environment.

Alas, the scheme failed to take off as expected. Hardly a handful of companies opted for the eco-friendly certification, and even those that got the license do not bother to display the logo on their products as it does not seem to add any 'value' or extra profit.

The reason for lack of consumer demand for such certified products is that barely any consumers are aware of the label. Hence producers are not willing to get the certification. This is compounded by lack of support as the government and concerned agencies did not implement it in an effective manner or even create awareness to increase consumer demand.

Indeed, the eco-labelling scheme was ahead of its time – back then, consumers were not sensitive to the need for environment-consciousness behaviour. However,various consumer organisations across the country have been stressing that in the current scenario, the government will do well to strengthen the Ecomark scheme.

CUTS, the global consumer advocacy group suggests the following measures to increase the effectiveness of Ecomark today:

- Restructuring the eco-labelling board to include all stakeholders like consumers, scientific community, environmental and business groups.
- Proper categorisation and prioritisation of products under the scheme.
- Simplified procedure for the award of Ecomark.
- Ecomark should be limited to environmental aspects of a product and de-linked from quality considerations.
- Providing fiscal incentives, including tax and excise duty concessions, to firms using Ecomark on their products.
- Active awareness campaigns to educate both consumers and producers about the ecomark label and its benefits.
- The scheme should be strong enough to enable mutual recognition with other countries in international trade.

A reliable eco-label is a must for consumers to be sure that the products they choose can be trusted and have a proven environmental benefit.

Many other countries have their eco labels – like the Blue Angel in Germany, Eco Mark of Japan, etc. Canada, Australia, New Zealand, Sweden, Hong Kong, Philippines, Taiwan, etc. also operate eco labelling programmes.

Conclusion

India is taking a holistic approach to transitioning to a low carbon economy and is poised for a greener future. We are determined to play a leading role in preserving the planet for future generations. Promoting an environmentally-conscious lifestyle is crucial here and it is eco-labelling which can shift consumer behaviour for the better. It is heartening to note that the new budget will encourage consumers to consume more eco-bio products!

Where can consumers have their say about policies and legislation, about their needs and requirements, about products and services, about genuine and fraud companies? We provide you the platform to share with our readers your experiences.
Write to us: bejonmisra@consumerconexion.org

EMPOWERING CONSUMERS THROUGH THE CLEAN ENERGY TRANSITION

Somya Khanna, *Kamala Nehru College, University of Delhi*

IN RECENT YEARS, climate change and the decline of democracy are two global crises that have come to a head. Transitioning to green energy is critical for combating climate change and developing sustainable economies. The clean energy transition refers to the transition from a fossil-fuel-based energy mix to one that emits very little carbon emissions and is based on renewable energy sources.

According to the IPCC (Intergovernmental Panel on Climate Change), demand-side changes could reduce greenhouse gas emissions by up to 70% by 2050. The process includes shifting away from fossil fuels and toward renewable energy such as solar, wind, hydroelectric, geothermal, hydrogen or biomass energy. This is critical to limiting global warming to the 1.5°C target set in the 2015 Paris Agreement. The electrification of consumption, which replaces fossil fuel-generated electricity with energy generated from renewable sources, makes other sectors such as transportation cleaner.

Green transition policies help consumers reduce their carbon footprint, improve energy efficiency, particularly in buildings, and accelerate energy market transformation by enabling the adoption of new technologies, sustainable energy carriers, and new business models. A clean energy transition led by major economies is required to achieve netzero carbon emissions by 2050, and any delays in progress over the next few years may render this goal unattainable.

Citizens take charge of the energy transition by undertaking initiatives. The role of the citizens in the energy transition is as social and political actors who democratically participate in energy decision-making processes as well as optimal energy consumers engaging with technology is well described as an emerging concept of Energy citizenship. Consumers can drive transformative change by choosing low-carbon alternatives, such as taking the train instead of flying or taking public transportation instead of driving a private vehicle, and by improving existing practices, such as installing heat pumps or purchasing an electric vehicle.

The European Climate Pact encourages all citizens to take an active role in climate action. The vision identifies several key ways to centralise consumers' roles, including improved bill information, the ability to directly contract with aggregators without the permission of their supplier, and the recognition of local energy communities. Many of the state's electricity systems and health benefits result in overall economic benefits. Savings in energy and fuel costs for consumers, businesses and the government; new jobs, profits and tax revenue from companies that support or use energy efficiency and renewable energy, such as construction, manufacturing and services; and higher productivity from employees and students taking fewer sick days are among the benefits.

Green consumerism entails the production, promotion and advancement of the use of goods and services that benefit the environment. Green consumerism has created a balance between buyer behaviours and organisational profit objectives because it is primarily based on consumers' sustainable and pro-environmental behaviour. Consumers face persistent technological, infrastructure, financial, regulatory and knowledge-related impediments to transformative action. Every consumer must change their mindset toward green conservation and become aware of the dangers of environmental degradation by adopting a daily green habit. Using hybrid cars reduces carbon emissions, which are major contributors to climate change and global warming. Products that consume too much energy should be boycotted and replaced with less energy-consuming equipment.

UPDATE ...

Moving a Step Ahead

Update on the January edition on

Universal Health Coverage:

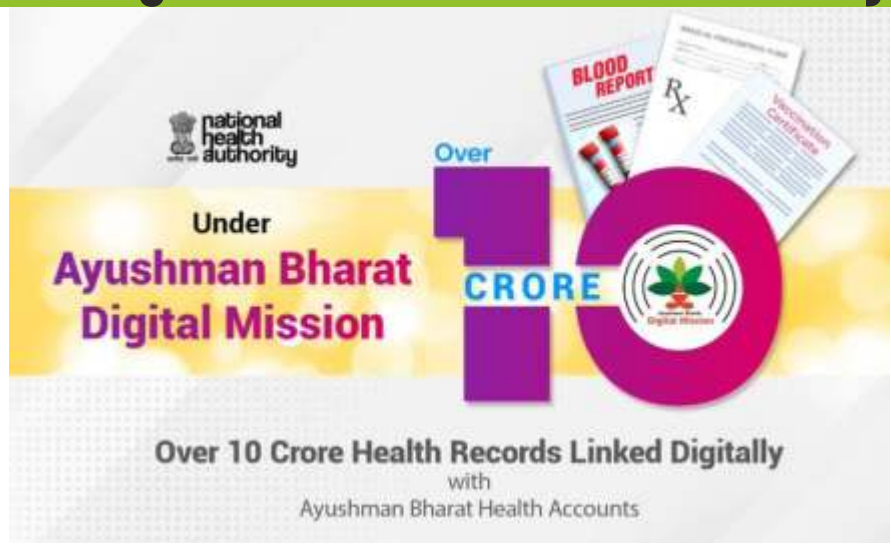
How Far Has Ayushman Bharat reached the beneficiaries?

Ayushman Bharat Making Waves in Healthcare Delivery

PRESIDENT DROUPADI MURMU extolled the virtues of the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) in her pre-budget speech to the Parliament, “More than 50 crore Indians have been provided free treatment facility under the 'Ayushman Bharat Yojana'……saving crores of poor from becoming poorer and preventing them from spending Rs 80,000 crore.”

The budget for this path-breaking national public health insurance fund has been increased by 12.2% to Rs 7,200 crore this year against Rs 6,412 crore in FY22-23. Rs. 646 crore has been allocated for the Ayushman Bharat Health Infrastructure Mission (PM-ABHIM).

Clocking another milestone achievement, over 100 million health records have been linked digitally to the Ayushman Bharat Health Account (ABHA) under the Ayushman Bharat Digital Mission (ABDM) by January 2023. Over 300 million citizens have generated their unique ABHA number. This is helping the consumers create a comprehensive medical history across various healthcare providers.



As envisaged under the Ayushman Bharat programme, 1.5 lakh Health & Wellness Centres (HWCs) were made operational before 31st December 2022, improving healthcare delivery for rural communities.

Dr. R.S. Sharma, conveyed while stepping down as the CEO of the National Health Authority, "I am happy to share that we are set on a transformational journey in India's healthcare service delivery!"

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YOUR OPINION MATTERS

letters to the editor

We are truly humbled by the praise and acknowledgment that is flowing in from varied sources. Please feel free to send in your comments, views or feedback on The Aware Consumer magazine at bejonmisra@theawareconsumer.in – we will publish your opinions and implement your feedback while ensuring that your voice is heard on the right platforms.

(January edition on Universal Health Coverage: How Far Has Ayushman Bharat reached the beneficiaries?)

I have been reading The 'Aware Consumer' periodical and am very impressed with the broad-based coverage about health issues facing India. I liked the article 'A healthy future for All' by Mr. Prafull Sheth. He is right in saying despite India's enormous progress in technology, health care, considering the huge population it appears less and less! Proper scale-up methodologies are needed to reach out to the masses. India has recently handled the Covid situation well, and it can use this experience in other areas. This can be a good case study.

I also liked the article on mental health treatment. India's main strength is its vast population (looking from the positive side), we can't afford to have a sizable population weak and unhealthy-that will make India weak. Mental health specially in children, should be addressed as soon as possible, so that when they grow up, they can lead a useful life and contribute to the society. Unlike West, mental health, specially in children, has not been addressed well for a variety of reasons.

When I read your periodical from a distance (USA), it gives me a good cross section of India's progress in healthcare systems.

– ***Mukund Yelvigi,*** *New Jersey, USA,* Adj. Assoc. Professor Of Pharmaceutics
Past President, Am. Assn. of Indian Pharmaceutical Scientists (AAiPS) • myelvigi@hotmail.com

Being a subscriber to your monthly magazine is wonderful. The team's efforts to bring up the subject of 'Ayushman Bharat and universal health care' which was centred on health insurance in our society, are greatly appreciated. The magazine is a wealth of knowledge. Additionally, I want to suggest this magazine to all readers.

– ***Pragati Pandey,*** *Kamala Nehru College, University of Delhi*
pandeypragati151@gmail.com

Nice coverage on mental health and transgender health in the Aware Consumer. I see a lot of youth in my practice who identify as transgenders. They have a much higher rate of mental health conditions compared to the youth. This makes your coverage even more meaningful to me.

– ***Dr. Amita Upadhyay,*** *Psychiatrist, California, USA*

Excellent and informative issue like always. In-depth coverage and analysis on Ayushman Bharat was truly worth a read. I regularly use your portal for insights going through the back issues.

Just a thought - can we not do a feature on the homebuyers. They have been badly affected on account of deficiency on the part of builders. Even post IBC /RERA their woes have not lessened. Their suffering - financial, mental and physical - is worth researching upon by your team. Pendency of such cases/time lag analysis in consumer forum is also worth highlighting. Pendency here when Consumer Protection Act also provides for definitive timelines also needs to be reported so that the policy makers can appreciate the menace in this sector as well and efficacy of redressal mechanisms.

Must complement the great effort by your team under your leadership.

– ***Atul Jerath,*** *Chandigarh • atuljerath@gmail.com*

WATCH OUT

for the next issue in April dedicated to "Vision - 2030 Quality & Affordable Healthcare for All – Telangana"

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Posted at Lodi Road HPO, New Delhi on 9-10th of every month
Published on 6th of every month

RNI No. DELENG/2015/67140
REG. NO. DL (S)–17/3523/2017-19