

# LET'S SAVE THE PLANET



**TULSI TANTI**



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Turning the challenge of climate change into an opportunity for long-term sustainable prosperity will require a transformation in the way we produce and consume energy – a Clean Revolution that enables us to meet the needs of the world’s population while conserving the very planet that allows us to survive.

“Let’s Save the Planet” lays out clearly the challenge we face and the steps we must take to meet it. Unlike the many reports that highlight the threat of climate change, but sadly conclude that the necessary steps to cut emissions and mitigate climate change cannot – or will not – be taken, “Let’s Save the Planet” shows the steps we need to take in the short-term are in fact relatively modest, and well within our grasp, but also that many of the actions needed bring a wealth of other benefits – improved local environments, health, security, jobs and increased productivity, to name but a few.

Achieving this Clean Revolution will in turn require inspired leadership not only from politicians, but equally importantly from entrepreneurs and captains of business and industry. The fact that this pamphlet is written by a businessman – rather than a politician or NGO official – is something we should draw encouragement from. Politicians need to provide strong leadership in this area, and work energetically to agree a replacement for Kyoto. But it is the private sector which needs to grab the opportunity to innovate and develop practical solutions that address this challenge and pave a stronger road to growth.

Tulsi Tanti and Suzlon have shown that this leadership can come from all corners of the planet and, through concrete action, that fighting climate change can be a true business opportunity, an example that should inspire and catalyse others to act. The Climate Group is proud to have Tulsi Tanti as a member of our International Leadership Council and to work with him and Suzlon to further our shared goals.

**Mark Kenber**  
CEO, The Climate Group

Does our planet need saving?



Perhaps not. Planet Earth will be around long after we are gone. It is us – all seven billion of us – that need saving. Our progeny needs saving, we need to leave behind a ‘livable’ planet for them.

*"My daughter and the rest of Generation Hot have been given a life sentence for a crime they didn't commit," says author Mark Hertsgaard. "The reality is that we're locked in to at least 50 more years of rising temperatures and the harsher climate impacts they bring. Thus the young people of Generation Hot are condemned to spend the rest of their lives coping with a climate that will be hotter and more volatile than ever before in our civilization's history."*

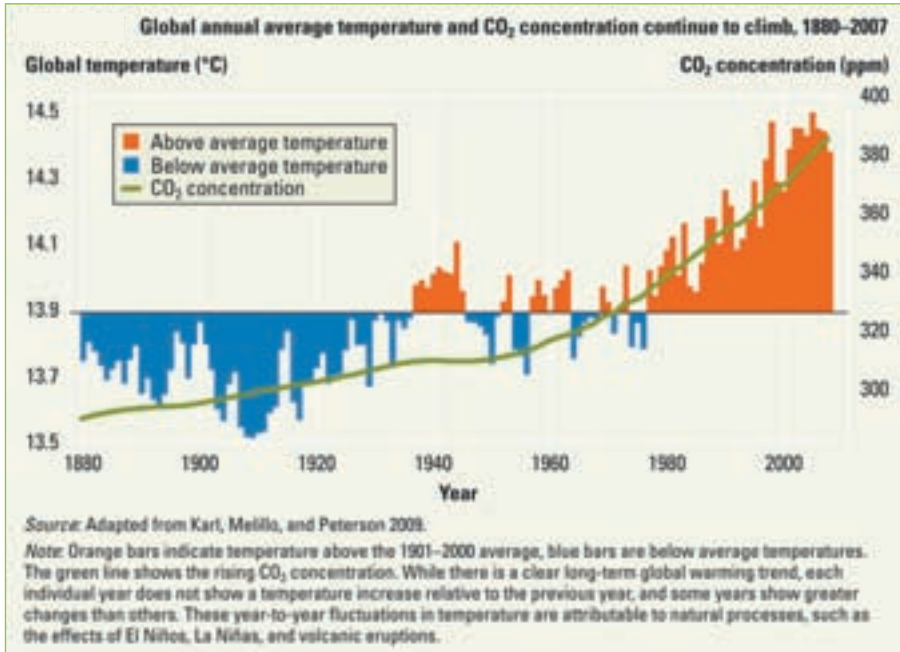
***Mark puts the official start of Generation Hot at June 23, 1988, when climate scientist James Hansen first testified to Congress about climate change***

‘Generation Hot’ may have only been born relatively recently, but we have been creating this change for much longer. Global atmospheric concentrations of CO<sub>2</sub>, the most important greenhouse gas, ranged between 200 and 300 parts per million (ppm) for 800,000 years, but have shot up to about 391 ppm over the past 150 years, mainly because of the burning of fossil fuels.

*"I believe that the long-term future of the human race must be in space."*

***Stephen Hawking argues that it is nearly impossible for Earth to avoid disaster within the next few hundred years, and therefore the human race should expand to other planets***

The average temperature on Earth has already warmed by close to 1°C since the beginning of the industrial period, and if we continue on the same path we will breach the threshold beyond which a 2°C increase will become unavoidable by 2020. The consequences of this are already being felt across the world; extreme weather fluctuations, widespread melting of snow and ice, and rising sea levels.



### The grim reality: climate change affects “me”

If we are unable to cap the temperature rise to 2°C, we will – and so will future generations – eventually be left with a skeletal planet, stripped of its capability to sustain the human race and millions of other species. The disruption in the food-water-energy nexus would leave humanity struggling with the basics of survival. At the current rate of emissions, we will soon breach the threshold beyond which a 2°C increase becomes unavoidable and even more extreme scenarios become likely. We need change, and we need it now.

## Regional Impacts of Climate Change

### Africa

- By 2020, between 75 and 250 million of people are projected to be exposed to increased water stress due to climate change.
- By 2020, in some countries, yields from rain-fed agriculture could be reduced by up to 50%. Agricultural production, including access to food, in many African countries is projected to be severely compromised. This would further adversely affect food security and exacerbate malnutrition.
- Towards the end of the 21st century, projected sea level rise will affect low-lying coastal areas with large populations. The cost of adaptation could amount to at least 5 to 10% of Gross Domestic Product (GDP).

### Asia

- By 2080, an increase of 5 to 8% of arid and semi-arid land in Africa is projected under a range of climate scenarios (TS).
- By the 2050s, freshwater availability in Central, South, East and South-East Asia, particularly in large river basins, is projected to decrease.
- Coastal areas, especially heavily populated megadelta regions in South, East and South-East Asia, will be at greatest risk due to increased flooding from the sea and, in some megadeltas, flooding from the rivers.
- Climate change is projected to compound the pressures on natural resources and the environment associated with rapid urbanisation, industrialisation and economic development.
- Endemic morbidity and mortality due to diarrhoeal disease primarily associated with floods and droughts are expected to rise in East, South and South-East Asia due to projected changes in the hydrological cycle.

### Australia and New Zealand

- By 2020, significant loss of biodiversity is projected to occur in some ecologically rich sites, including the New Zealand Great Barrier Reef and Queensland Wet Tropics.
- By 2030, water security problems are projected to intensify in southern and eastern Australia and, in New Zealand, in Northland and some eastern regions.
- By 2030, production from agriculture and forestry is projected to decline over much of southern and eastern Australia, and over parts of eastern New Zealand, due to increased drought and fire. However, in New Zealand, initial benefits are projected in some other regions.
- By 2050, ongoing coastal development and population growth in some areas of Australia and New Zealand are projected to exacerbate risks from sea level rise and increases in the severity and frequency of storms and coastal flooding.

### Europe

- Climate change is expected to magnify regional differences in Europe's natural resources and assets.
- Negative impacts will include increased risk of inland flash floods and more frequent coastal flooding and increased erosion (due to storminess and sea level rise).
- Mountainous areas will face glacier retreat, reduced snow cover and winter tourism, and extensive species losses (in some areas up to 60% under high emissions scenarios by 2080).
- In southern Europe, climate change is projected to worsen conditions (high temperatures and drought) in a region already vulnerable to climate variability, and to reduce water availability, hydropower potential, summer tourism and, in general, crop productivity.
- Climate change is also projected to increase the health risks due to heat waves and the frequency of wildfires.

### Latin America

- By mid-century, increases in temperature and associated decreases in soil water are projected to lead to gradual replacement of tropical forest by savanna in eastern Amazonia. Semi-arid vegetation will tend to be replaced by arid-land vegetation.
- There is a risk of significant biodiversity loss through species extinction in many areas of tropical Latin America.
- Productivity of some important crops is projected to decrease and livestock productivity to decline, with adverse consequences for food security. In temperate zones, soybean yields are projected to increase.
- Overall, the number of people at risk of hunger is projected to increase (TS; medium confidence).
- Changes in precipitation patterns and the disappearance of glaciers are projected to significantly affect water availability for human consumption, agriculture and energy generation.

*"As we stand we're only a few meters away from saying goodbye to the 2°C target."*

**Faith Birol, Chief Economist, International Energy Agency (IEA)**

## North America

- Warming in western mountains is projected to cause decreased snowpack, more winter flooding and reduced summer flows, exacerbating competition for over-allocated water resources.
- In the early decades of the century, moderate climate change is projected to increase aggregate yields of rain-fed agriculture by 5 to 20%, but with important variability among regions. Major challenges are projected for crops that are near the warm end of their suitable range or which depend on highly utilised water resources.
- Cities that currently experience heat waves are expected to be further challenged by an increased number, intensity and duration of heat waves during the course of the century, with potential for adverse health impacts.
- Coastal communities and habitats will be increasingly stressed by climate change impacts interacting with development and pollution.

## Polar Regions

- The main projected biophysical effects are reductions in thickness and extent of glaciers, ice sheets and sea ice, and changes in natural ecosystems with detrimental effects on many organisms including migratory birds, mammals and higher predators.
- For human communities in the Arctic, impacts, particularly those resulting from changing snow and ice conditions, are projected to be mixed.
- Detrimental impacts would include those on infrastructure and traditional indigenous ways of life.
- In both polar regions, specific ecosystems and habitats are projected to be vulnerable, as climatic barriers to species invasions are lowered.

## Small Islands

- Sea level rise is expected to exacerbate inundation, storm surge, erosion and other coastal hazards, thus threatening vital infrastructure, settlements and facilities that support the livelihood of island communities.
- Deterioration in coastal conditions, for example through erosion of beaches and coral bleaching, is expected to affect local resources.
- By mid-century, climate change is expected to reduce water resources in many small islands, e.g. in the Caribbean and Pacific, to the point where they become insufficient to meet demand during low-rainfall periods.
- With higher temperatures, increased invasion by non-native species is expected to occur, particularly on mid- and high-latitude islands.

*"We will pay the price later in military terms. And that will involve human lives. There will be a human toll."*

**General Anthony Zinni, USMC (ret.), on climate change**

**Potential tipping elements in the climate system: Triggers, time-scale, and impacts**

Tipping element	Triggering level of warming	Transition timescale	Key impacts
Disappearance of Arctic summer sea ice	+1.5–2°C	~10 years (rapid)	Amplified warming, ecosystem change
Melting of Greenland ice sheet	+1–2°C	<100 years (slow)	Sea-level rise of 5–7 meters
Melting of West Antarctic ice sheet	+3–6°C	<100 years (slow)	Sea-level rise of 5 meters
Collapse of Atlantic thermohaline circulation	+3–5°C	~100 years (gradual)	Regional cooling in Europe
Persistence of El Niño–Southern Oscillation (ENSO)	+3–4°C	~100 years (gradual)	Drought in Southeast Asia and elsewhere
Indian summer monsoon	N/A	~1 year (rapid)	Drought
Sahara/Sahel and West African Monsoon	+3–5°C	~10 years (rapid)	Increased carrying capacity
Drying and dieback of Amazon rainforest	+3–4°C	~10 years (gradual)	Biodiversity loss, decreased rainfall
Northward shift of boreal forest	+3–5°C	~50 years (gradual)	Biome switch
Warming of Antarctic bottom water	Stochastic	~100 years (gradual)	Changed ocean circulation, reduced carbon storage
Melting of tundra	Ongoing	~100 years (gradual)	Amplified warming, biome switch
Melting of permafrost	Ongoing	<100 years (gradual)	Amplified warming from release of methane and carbon dioxide
Release of marine methane hydrates	Stochastic	1,000 to 100,000 years	Amplified warming from release of methane

Source: Adapted from Lenton and others 2008.

Note: An expert elicitation of opinions about the probability of passing a tipping point in a subset of three systems—the melting of the West Antarctic ice sheet, melting of Greenland ice sheet, Amazon drying, and ocean circulation disruption and effects (ENSO)—estimated at least a 70 percent probability of one of these events for a warming of 3–4°C. The probability would rise to greater than 90 percent for a global-mean temperature change above 4°C relative to our 2000 levels. In these levels, these numbers are considerably higher than the probability allocated to catastrophic events in current climate-change assessments; for example, Stern (2007) assumed a 3–30 percent loss of the ice sheets with a 10 percent probability for a warming of 3°C.

*"Extreme weather events continue to grow more frequent and intense in rich and poor countries alike, not only devastating lives, but also infrastructure, institutions, and budgets—an unholy brew which can create dangerous security vacuums."*

**UN Secretary-General Ban Ki-moon**

Does our planet need saving?





What options do we have?

UNEP's Emissions Gap Report 2010 found that if global emissions do not exceed 44 gigatonnes of carbon dioxide equivalent (ranging from 39 to 44 GtCO<sub>2</sub>e) in 2020, and global emissions are rapidly reduced afterwards, then it is "likely" that global warming will be limited to 2°C.

*"If we can't act boldly for ourselves, at least, can we act boldly for our children and grandchildren and generations yet unborn."*

*Asif Ali Zardari, President of Pakistan*

The report further points out that if emissions pledges announced by countries are fulfilled, global emissions are still expected to increase to between 49 GtCO<sub>2</sub>e to 53 GtCO<sub>2</sub>e in 2020. If it continues to be business-as-usual, then emissions in 2020 are estimated to be an even higher 56 GtCO<sub>2</sub>e.

The challenge therefore is clearly to reduce emissions, under the most lenient conditions, by 12 GtCO<sub>2</sub>e. It is obvious that without action – immediate action – this is an impossible task. However, the UNEP report concedes that *countries can reduce the gap from 9 to 5 GtCO<sub>2</sub>e by adopting their higher ambition pledges (a gain of around 2-3 GtCO<sub>2</sub>e) and by the international community agreeing to the more stringent accounting rules for implementing the pledges (a gain of 1-2 GtCO<sub>2</sub>e).*

So the gap is brought down to a much more achievable 5 GtCO<sub>2</sub>e – a cut that with a little effort can most definitely be achieved. **The question is – are we, and our political leaders, willing to commit?**

## **I. Improving the energy mix**

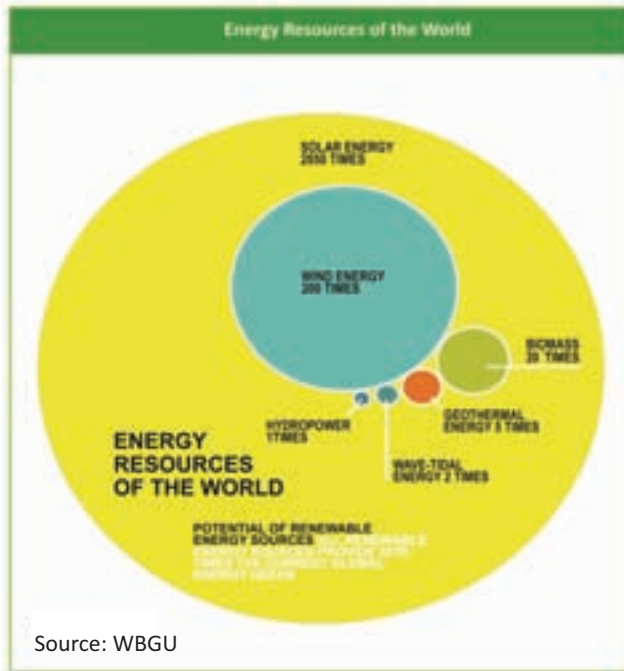
Without energy, we cannot feed our populations; provide water, sanitation or good quality health care. Without energy we cannot produce the goods we need for everyday life or get our products to market. Without energy there can be no economic growth and no hope for the millions of people living in poverty. Energy is the vital ingredient of modern life.

Yet we cannot supply the energy we need at the moment and demand is growing fast; in the developed countries to sustain their growth, and in the developing countries to power their growth and progress. The challenge is to satisfy these energy requirements in a fashion that is both responsible and sustainable. To meet this challenge we will need both to produce cleaner energy and use the energy we have more wisely.

## What options do we have?

Yet at the heart of every challenge is an opportunity. The opportunity here is to make the most of the natural and abundant resources that the world is blessed with; closing the energy gap with power generated from renewable resources, which are clean, green and plentiful.

Modern renewables have astonishingly high potential reserves, compared to energy consumption today; while oil and conventional gas may peak between 150 to 160 years, wind and solar alone have enough resources to generate electricity needs for many centuries. Modern renewable energy has over one million GW of estimated potential power capacity.



*"There's nothing alternative about an energy source which is getting more investment than fossil and nuclear combined."*

**Michael Liebreich, CEO, Bloomberg New Energy Finance**

The average global power consumption currently stands at 15 terawatt (TW) – and the global wind power potential alone is 72 TW. To add to it, wind power shows potential to significantly reduce dependence on imported fuels and improve air quality. A single 1.67-MW turbine would produce over 5,000 MWh of electricity per year and reduce CO<sub>2</sub> emissions by over 3,000 tons – equivalent to planting 85,514 trees. That means that the CO<sub>2</sub> reduction by each average sized turbine is equivalent to taking approximately 500 cars off the road.

A report by The Climate Group estimates that, by 2050, emission savings from wind technologies would increase to 2.14 GtCO<sub>2</sub> (4.5 per cent of overall energy-related emissions reduction or about 12 per cent of emissions savings in power sector).

*“Wind energy is the most established, the most significant – you have to start somewhere.”*

*David Kirkpatrick, technology reporter, The Daily Beast*

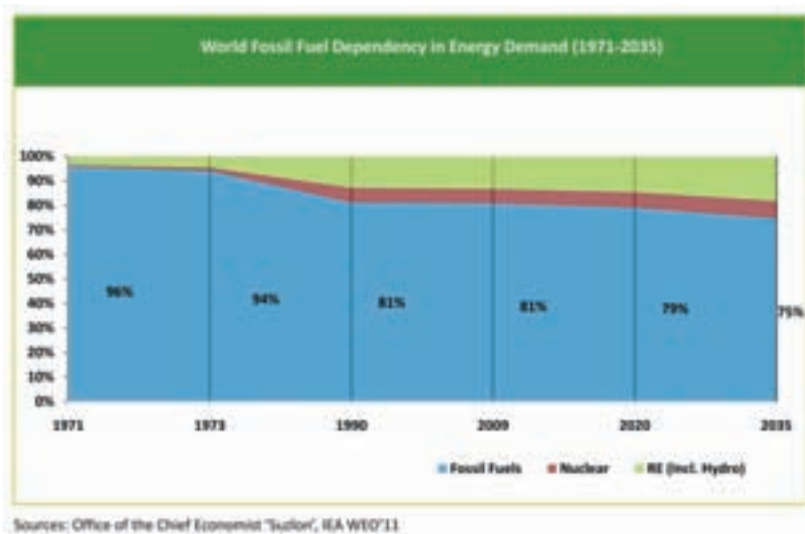
Our energy future is uncertain. As energy demand increases, traditional fuels of oil, coal and gas are running out. The world is – both literally and metaphorically – near the end of the line for fossil fuels, and any interruption in that supply could leave us without power. Contemporary energy security demands a mixed basket of energy sources. A move from current carbon-based energy usage to a more balanced energy portfolio delivers this, as well as opening up almost unlimited business opportunities and a pathway to creating thousands of green jobs.

Fossil fuel to last		
Fossil fuel	Reserves	Years last
Oil ( Bn)	1,294	43
Gas (TCM)	185	60
Coal (MT)	847,500	130
Uranium (MT)	5.5	80

## What options do we have?

A report by The Climate Group states that the solar thermal sector currently employs more than 600,000 people worldwide. The report pegs solar's potential at approximately one million jobs by 2050. Wind's employment generation potential is pegged an additional 2.2 million by 2020. The EWEA estimates that in Europe alone every additional MW of wind installed created 14.33 jobs.

Further, concentrated solar power can reduce 0.24 GtCO<sub>2</sub>e by 2020 (seven per cent of emissions reduction in the power sector). Along with solar photovoltaic this potential increases to about 2.51 GtCO<sub>2</sub>e by 2050.



Renewable sources are not only part of the solution to our depleting fossil fuels; they are also the way towards a healthier planet. It arms a country with the power to adapt and alleviate climate change.

The IPCC special report on renewable energy sources (IPCC 2011) presents four scenarios, with the contribution of renewable energy sources to global electricity production ranging from 21 to 38 per cent in 2020. The highest estimates would lead to

an extra electricity production of 4,000 TWh. This could result in an emission reduction potential of 1.5 – 2.5 GtCO<sub>2</sub>e. This change would single-handedly contribute to almost half of the emission reductions required to keep the temperature rise within 2°C by 2020. The IPCC report also mentions that, with the right backing, renewable energy could supply close to 80 per cent of world’s energy by 2050.

However, if these changes do not happen, under “business-as-usual” circumstances the emissions from fossil fuels and industry alone could be in the range of 33 to 46 GtCO<sub>2</sub>, at the upper end, higher than the total allowed in 2020 if we are to keep global temperature increases below 2°C.



## Tracking Carbon Emissions

### Total Carbon Emissions by Nation



## Per Capita Carbon Emissions by Nation



Source: Image created for Miller-McCune by Stanford Kay; based on 2007 Data from U.S. Energy Information Administration

## II. Improving energy efficiency

Studies by the International Energy Agency show that, by 2050, energy efficiency has the potential to be the biggest single source of emissions savings in the energy sector. This would have both environmental and economic benefits: energy-efficiency measures cut waste and often save money.

Energy efficiency improvements are applicable to almost all sectors – from industry to transport. It also goes beyond development divides. For example in India, privatization of one Delhi utility has led to a reduction of distribution losses from 53 per cent to 15 per cent, leading to savings of more than USD 1.1 billion in 2011-12. This was made possible by investments in grid infrastructure, electronic monitoring systems, a computerized management system, and engaging citizens to reduce power theft.

On a micro level, there are many technologies for smarter use of energy; for example, already today we have LED lights, refrigerators with low energy consumption, energy efficient buildings and fuel saving vehicles.

*"In business, we need to focus on non-polluting, resource-efficient business - the 'green' race is on."*

***Bjoern Stigson, President of the World Business Council for Sustainable Development***

It is a myth that energy efficiency is expensive. The opposite is true. An example is Suzlon's own headquarters – 'Suzlon One Earth' – located in India, which is one of the greenest corporate buildings anywhere in the world.

Our campus runs entirely on renewable energy. We reuse and recycle: the campus has, over a two year period, harvested 27 million litres of rain water, converted approximately 25,000 kilograms of waste on-site to organic manure, and generated 260 thousand units of energy from onsite renewable resources.

But perhaps the best part is that it cost 10 per cent less to build One Earth than a conventional building of its size.

This is the silver lining of the situation we are in. Climate change adaptation and mitigation efforts throw open the doors to great business opportunities which did not exist earlier.

For example, the electric-car segment in Europe, US and China is likely to witness an extraordinary growth in the near future.

Innovations like desalination have immense business value – combine this with an offshore wind farm and you have a brand new business model – sustainable and profitable.

I fervently believe that today’s business leaders must shape a greener world to halt climate change. Whenever possible we should strive to employ life-changing solutions that make a difference to our planet – and also deliver an ROI.

UNEP’s Bridging the Emissions Gap has shown the potential of emission reduction by 2020 through simple measures of efficiency in different sectors.

<b>Sector</b>	<b>Emission reduction potential</b>
Electricity production sector	2.2 - 3.9 GtCO <sub>2</sub> e
Industry sector	1.5 - 4.6 GtCO <sub>2</sub> e
Transportation sector (excluding aviation and shipping)	1.4 - 2.0 GtCO <sub>2</sub> e
Buildings sector	1.4 - 2.9 GtCO <sub>2</sub> e
Forestry	1.3 - 4.2 GtCO <sub>2</sub> e
Waste sector	0.8 GtCO <sub>2</sub> e

The above table makes it clear that, together with a balanced energy mix, efforts in energy efficiency can close the emission gap, and maintain a temperature rise within 2°C.

What is being done?



## I. Governments

Climate change will affect all. However, actions taken to combat climate change may vary depending on geographical, cultural, political, and economic factors. Thus governments, while addressing climate change, have to engage on a municipal, sub-national, national and international level.

Countries, according to their capacity and willingness, have adopted various policies and pledges to combat climate change. Most governments the world over are supporting renewable energy despite continued sovereign concerns and austerity measures in the EU and USA. The number of countries with renewable targets or support policies has more than doubled from 2005 (when it was 55) and now stands at 119.

Renewable portfolio standards have been upped in most of the established renewable markets. In countries like US, China and India, states are actively pushing for a 15-20 per cent share of modern renewables in their energy mix.

In 1992 countries joined the United Nations Framework Convention on Climate Change (UNFCCC), an international treaty to facilitate cooperation to combat climate change. The Convention's stated aim is the *"stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous...interference with the climate system...within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner"*.

Under the Convention, industrialized countries agreed to stabilize their greenhouse gas emissions by 2000; however, a lack of genuine progress led to further negotiations that culminated in the adoption of the Kyoto Protocol in 1997. The Kyoto Protocol legally binds developed countries to quantified emission reduction targets, with the first period for these commitments starting in 2008 and ending in 2012.

The future of the Protocol beyond 2012 was one of the key issues at the COP17 negotiations at Durban last year, alongside discussions on a more comprehensive agreement that would cover all countries, particularly those with large and/or fast-

growing emissions. Durban sadly did not achieve a global legal binding commitment, although countries have committed – through the Durban Platform – to securing a “global deal” by 2015, with the Kyoto Protocol parties due to take on new targets and timetables. Given the urgency of mitigating climate change, this effort risks being too little too late unless there is real robust action in the meantime.

Indeed, many countries, states and companies are already beginning to act. The UN Framework Convention on Climate Change (UNFCCC), Kyoto Protocol and a range of other informal partnerships and dialogues provide a framework that supports co-operation, and a foundation from which to build further collective action.

### Country Targets

Country	RES
USA	State RPS 10 - 33%
Japan	10 % by 2020
India	15 % by 2020
Canada	Provincial Targets
Korea	11 % by 2030
UK	15.4 % by 2020
Spain	40 % by 2020
South Africa	13 % by 2020
UAE	7 % by 2020
Ukraine	20-30 % by 2020
Thailand	20 % by 2022
Israel	7 % by 2020
Egypt	20 % by 2020
Belgium	13 % by 2020

Country	RES
China	15 % by 2020
Russia	4.5 % by 2020
Bangladesh	10 % by 2020
France	23 % by 2020
Brazil	16 % by 2020
Italy	26.4 % by 2020
Australia	20 % by 2020
Philippines	40 % by 2020
Turkey	30 % by 2023
Poland	15 % by 2020
Czech Republic	16-17% by 2030
Netherlands	14 % by 2020
Argentina	40 % by 2015

Source: Data collected from REN21, Renewables 2011 Global Status Report and country sources

However, there is still much to be achieved. Many individual country targets – as shown in the facing list – are contingent on other countries joining the race. This is not an unreasonable demand. To avoid the worst impacts of climate change we require strong and urgent collective action.

*“The changes needed in our energy infrastructure to meet future demand and respond to climate change will not happen by chance.”*

**John Hofmeister, founder and CEO of Citizens for AFFordable Energy**

## II. Private sector

As the two critical limbs of the economy the public and the private sectors need to work together against climate change. Governments should set up incentives and the private sector exploit them – creating a win-win situation. For example, the Philippines Government provided a risk guarantee to a privately owned 25 MW wind power project. In Argentina, the Government competitively awarded concessions to private companies to provide energy services through solar home systems in isolated areas under the PERMER project.

In the most effective economies governments and the private sector collaborate to achieve common goals. So, while governments develop the infrastructure and provides a transparent public policy regime, the private sector needs to innovate to make business models more inclusive. I think my company, Suzlon Group is a small example of responsible capitalism; an ideal which is built on inclusivity.

In India, our major cities are crowded and the infrastructure is pushed to the limit. But thousands flock to the cities everyday in search of work. This, in turn, increases the pressure on our cities, threatens our rural way of life and breaks up family units. But wind farms typically pop up in the remotest parts of the country. So at Suzlon we started training people in rural communities in wind energy. This means that today they have

secure jobs and don't add to the migration. This also benefits our customers, as they get great, very localized service.

### III. Civil Society

Civil Society organizations have been actively campaigning to combat climate change. There are several who have dedicated themselves to building a sustainable, low-carbon future. Working with them, I gain faith in being able to leave behind a greener world for future generations.

The Climate Group has been working hard to achieve a “Clean Revolution”. A revolution which includes cutting emissions by two thirds by 2050 in a way that protects our livelihoods, creates jobs and supports economic growth around the globe. Since 2004, the Group has been working with governments, business leaders and the world's most influential individuals to push for the policies, technologies and investment needed to make the Clean Revolution commercially viable.

Another commendable organization is the World Economic Forum. They engage business, governments and experts in partnerships to create the low-carbon economy.

*“As more and more people understand what's at stake, they become a part of the solution, and share both in the challenges and opportunities presented by the climate crises.”*

***Al Gore, former US Vice President and author of An Inconvenient Truth***



What can we do?



To secure the future energy needs of our nations, some actions are imperative:

- **Carbon pricing:** We need to try and create a truly balanced energy portfolio. This means considering the true cost of energy from each source and maximizing the sources of energy that cost us the least in the long-term, once all factors have been taken into account. All energy sources – especially renewables – need a level playing field. We need to set an appropriate pricing of carbon, globally, with a multilateral binding structure to cap and reduce emissions, so that emitters – including fossil fuel plants – absorb this external cost.
- **Public and private partnerships:** The fight against climate change is not the politicians' responsibility alone. Governments need to then put into place policies which encourage private sector investments – and the private sector needs to exploit them to the maximum.
- **Legally binding emissions agreement:** It is absolutely necessary that the world agrees to a legally binding agreement, backed by strong government compliance, by 2015 at the latest. If the pledges that were set forth by the Kyoto Protocol are not to be met, the emission gap would be more than 12GtCO<sub>2</sub>e – evidence to the importance of a binding agreement.
- **Targets:** Many countries have taken a very strong stance against climate change and have set difficult targets for emission reduction and renewable energy development. All nations need to join this endeavour and aim for up to 25 per cent renewable energy targets.

Through these steps we can ensure sustainable, inclusive growth for our global economy and secure a green future for generations to come.

*“If we continue on our present course of burning fossil fuels, the UN Intergovernmental Panel on Climate Change projects that we could reach 2°C by 2050 and 3°C by 2070. We are running out of time.”*

**Ed Mazria, founder, Architecture 2030**

## Conclusion



**SUZLON**

We stand at a critical point today, where the window for addressing climate change is closing. But the good news is that we are equipped with adequate tools to bring into action a Clean Revolution that could potentially save our planet. We need to act today, to ensure a tomorrow.

*“Climate change is the most important challenge that humankind will face this century. Unless we act seriously and with urgency we will be failing in our duty to future generations.”*

***Gregory Barker MP, Minister of State for Energy and Climate Change, United Kingdom***

Annual emissions need to be reduced to a “stabilization” level where they balance the Earth’s natural capacity to absorb carbon. To achieve “stabilization” we need a combination of strong policy and green technology.

Strong policies involve adaptation and mitigation strategies that ensure our Clean Revolution does not come at the cost of economic growth. Mitigation involves taking action to reduce emissions so as to avoid an unmanageable situation in the future. Adaptation entails dealing with climatic changes that are already in motion. Adaptation policies help populations facing repercussions of climate change today, such as those living in coastal areas and small island states.

Green technology ensures emissions do not increase with economic growth; eliminating the need for countries to choose between growth and emission reduction. By adopting a strong portfolio of technologies, countries can attempt to reduce emissions by 60-75 per cent, and stabilize below 550 ppm CO<sub>2</sub>e by the year 2050.

All transitions come at a cost. However, the estimated cost – just one per cent of annual global GDP – for transformation to a low carbon economy is small compared to the potential damage climate change would cause in the future. The “cost” can be viewed as an “investment” for the future of our planet. These investments will help avert disaster and also bring with it opportunities for growth and development.

At Suzlon, we are committed to powering a greener tomorrow, today. The 13,000 strong Suzlon family works each day towards:

- Providing energy for all
- Providing affordable energy to its consumers
- Working to build a low-carbon, sustainable economy for every country
- Providing thousands of green-jobs through wind energy

The time to act is now. The Climate Group envisages getting the world together for unified action. I personally urge you to join their unique efforts at [TheCleanRevolution.org](https://www.thecleanrevolution.org) today: for, as they put it, “A Clean Revolution – a massive scaling-up of clean energy, clean technologies and energy efficiency – will create jobs, boost economic growth, protect the environment and secure clean energy access for all”.

I couldn't have put it better. The problem of increased demand for energy, due to rapid development, presents an opportunity for us to adopt a more sustainable approach. We can achieve this together, through an integrated approach, involving national and international stakeholders.

In conclusion, we can save the planet. But we need to act fast, or see Earth, as we know it, changed forever.



Tulsi Tanti is the founder and Chairman of Suzlon Group – the world’s fifth largest wind turbine manufacturer. With a family of over 13,000 employees, Suzlon provides the full spectrum of wind power solutions across 32 countries on six continents.

Tulsi also sits on The Climate Group’s International Leadership Council.

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**THE CLIMATE GROUP**

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The Climate Group is an independent, not-for-profit organization working internationally with government and business leaders to advance smart policies and technologies to cut global emissions and accelerate a clean industrial revolution.

Its global coalition of consumers, states, regions and cities around the world recognizes the economic and environmental importance of taking decisive action now.

The Climate Group was founded in 2008 and has operations in Australia, China, Japan, India and North America.

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