

CO₂ - Kick the Habit

Birinderjit Singh*

Today, on 5th June, World Environment Day is a wake up call for communities and governments around the world to reflect on the essential role that the environment plays in our daily lives and also in shaping up our plans for the future. This event is one of the principal vehicles through which the United Nations stimulates worldwide awareness of the environment and enhances political attention and action. The theme for this year World Environment Day is aimed at these concerns and the World Environment Day slogan selected for 2008 is CO₂ Kick the Habit.

Carbon dioxide (CO₂) at standard temperature and pressure is a colourless odourless gas. It is one of the important gas in earth atmosphere that absorbs thermal radiation. Atmosphere of earth contains small quantity of carbon dioxide and some other gases called green house gases, which absorb some of the outgoing infrared radiation and reflect it back to earth thus increasing the warming of surface. In absence of this effect our planet would be very cold with average temperature of minus 18⁰ C. Our atmosphere blanket raises the average temperature to about plus 14⁰ C. The concentration of green house gases in the atmosphere has risen sharply due to anthropogenic activities, thus, raising the average temperature. This pace of change is faster and threaten to be larger than at any time in human history. The average temperature of the earth rose by about 0.74⁰ C during last century. Widespread changes in extreme temperature have been observed. These changes will have many adverse impact on our mankind. This is high time that we all should think how to reduce green house gases emission including carbon dioxide so that our mother earth remain habitable for future generation. The United Nations Environment Programme has suggested the following steps to help us to kick the CO₂ habit.

Make a Commitment

Telling people to reduce carbon emissions may seem simplistic, but even simple actions like announcing your commitment to going carbon neutral can be effective, while the simple act of asking for ideas can lead to creative and innovative solutions. Several countries have indicated that they will go for carbon neutral. UNEP is facilitating carbon neutrality in all sectors and all regions through its climatic neutral network.

Assess where you stand

It is likely that carbon will eventually be considered as an atmospheric pollutant and regulated accordingly, with consequent costs and opportunities for all sectors of society. Knowing where and how you generate greenhouse gases is the first step to reducing them. For individuals and small businesses, online calculations and internal assessments can help start the process. Larger organisations may need specialised advice and tools, such as the new ISO 14064 standards for greenhouse gas accounting and verification, or the Greenhouse Gas Protocol, provided by the World Resources Institute and World Business Council for Sustainable Development, which is an accounting tool for government and business managers to understand, quantify, manage and report greenhouse gas emissions.

Decide and plan where your want to go

Based on your assessment of climate-related risks and opportunities, a strategy and action plan can be developed. Targets help focus efforts and also provide a benchmark for measuring success. Most homes or businesses can reduce energy use by 10 per cent, which almost always results in a 10 per cent reduction in greenhouse gas emissions with a one year payback or less. A plan to reduce carbon emissions will first focus on the type of energy and the way it is used; for example electricity for buildings and fuel for transport. Reducing this energy can create instant savings. An effective tool is an energy audit. Many electric utilities and government energy offices now offer an audit as part of their endeavour to reduce carbon emissions.

De-carbon your life

There is a broader way to think about carbon and climate. Everything an individual, organization, business house or government does or uses embodies some form of carbon, either in products themselves or in the energy and materials it takes to make them.

Other ways of reducing carbon footprint include wasting less time and energy on travel. Cities can improve public transport options and individuals can opt for car pool. Sometimes simple actions can induce positive move. Construction of bicycle lanes for example, are often inexpensive as compared to other parking structures but create a strong incentive for those who can commute by bicycle.

Get energy efficient

Improving the efficiency of buildings, computers, cars and products is the fastest and most lucrative way to save money, energy and carbon emissions. This does not mean going without such luxuries and necessities. Energy efficiency is about increasing productivity. More efficient buildings, cars and products will have a direct and lasting contribution to limiting carbon emissions. Conventional buildings can account for almost 40 per cent of CO₂ emissions. High performance, environmentally accountable, energy efficient and productive facilities are now economically possible.

Very simple measures can lead to immediate savings. Just turning off unused lights, motors, computers, air-conditioners can substantially reduce wasted energy and money. Lighting can account for 15-20 per cent of total electricity use. Compact fluorescent lights (CFLs) have evolved rapidly in the past decade. They now last between six and 15 years and reduce electricity use by a minimum of 75 per cent compared to a standard incandescent bulb. The advantages of CFLs and other high efficiency lighting have prompted legislation to ban incandescent bulbs. In 2007, Australia was the first country to mandate that no incandescent bulbs will be sold by

2012, a move that will reduce emissions by four million tonnes and cut power bills for lighting by up to 66 per cent.

Switch to low carbon energy

If possible, switch over to energy sources that emit less carbon and can reduce costs and emissions. Generally, coal produces twice the emissions of gas, six times the amount of solar, 40 times the amount of wind and 200 times the amount from hydro. In many parts of the world, customers can choose to have a percentage of their electricity supplied from a renewable energy source, such as a wind farm or landfill gas project. These 'green choice' programmes are maturing and proving to be a powerful stimulus for growth in renewable energy supply.

Larger users can even build their own lower emission energy systems, using solar power or lower carbon technologies such as generators powered by natural gas. A Global Environment Facility project in Eastern and Southern Africa is promoting small scale hydro schemes in the tea industry and cogeneration using agricultural waste from the sugar industry to generate electricity for industrial use and to feed into national grids.

At the small business or household level, incentives can make solar photovoltaic systems and other renewable energy technologies cost effective. Rooftop solar electric panels can provide energy, reduce electricity costs and provide a buffer against price fluctuations. UNEP is helping promote such schemes in India.

The transport sector is responsible for 25 per cent of total energy consumption and greenhouse gas emissions, mainly from burning petrol and diesel. Various options exist for kicking the carbon habit. Hybrid engines that combine electricity and conventional petrol or diesel engines can offer substantial fuel savings while reducing emissions. Vehicles can also run on a range of alternative fuels that can offer both cost and environmental benefits, although they also often require an additional investment that take some time to pay back. These include compressed natural gas (CNG),

liquefied petroleum gas (LPG), liquefied natural gas (LNG) and biofuels. Biodiesel and bioethanol are biofuels made from crops, such as wheat, soy, corn and sugar cane. They are often blended with petrol or diesel, and almost all vehicles can run on blends up to 10 per cent without modification. Specially enabled biofuel cars can run on higher blends, such as a mix of 85 per cent bioethanol and 15 per cent petrol. In many parts of the world, biofuels are becoming more popular and easier to find commercially and in various blends. For companies with automotive fleets, biofuels can be a cost-effective low-carbon alternative.

Invest in offsets and cleaner alternatives

There is a limit to how much efficiency you can squeeze from your lifestyle or your organisation's operations, or how much renewable energy you can employ. The choice for those who wish to compensate for their remaining emissions is to fund an activity by another party that reduces emissions. This is commonly called a 'carbon offset' or 'carbon credit'. The term carbon neutral includes the idea of neutralizing emissions through supporting carbon savings elsewhere. Climate change is a global problem, so carbon reduction will have the same impact no matter where they are implemented. Carbon credits can be generated by emission-free energy generation including demand reduction.

Get efficient

Looking at your life or business through a carbon neutral lens can help you in other ways by increasing the efficiency of resource use, avoiding and reducing waste and ultimately improving your overall performance and reputation. Economists are fond of saying that there are no banknotes lying around because someone will have already picked them up. In climate change, there are still plenty of banknotes just waiting to be picked up. After all, carbon is generally the waste product of producing energy, and reducing waste and becoming more efficient is always a good idea. Integrate the 3R approach—Reduce, Reuse and Recycle—into your thinking.

Offer-or buy-low carbon products and services

The market for climate friendly products and services is growing rapidly, from energy efficient products to new renewable energy systems. To offer such products, however, it's important to begin from the design stage. Actions as simple as adding energy efficient specifications into the design process, for example, can produce a design that minimises energy consumption during its use and saves customers the time and energy from making adjustments to a product after a purchase.

A more systematic approach comes from the field of 'design for sustainability', which includes life cycle design and environmentally conscious design and manufacturing. This new approach considers environmental aspects at all stages of development to create products with the lowest environmental impact throughout the life cycle of the product. Ecodesign is an important strategy for small and medium sized companies both in developed and developing countries to improve the environmental performance of their products, reduce waste and improve their competitive position on the market.

Buy green, sell green

The market for green products and services is growing rapidly. In many countries consumer surveys report that growing numbers of consumers are willing to buy green products if given the choice. For businesses, innovative product design and presentation combined with responsible marketing and communications can help ensure that this consumer interest translates into purchasing. However, the market for green products remains underdeveloped because people still find it difficult to locate products or trust their environmental claims. Businesses houses can help consumers to be more climate friendly, from the online click for carbon offsetting on a tourism booking website to the label on a product at the local store.

Team up

Many private sector companies are increasingly working with non-governmental organization, cities or governments to identify and implement best practice solutions to reduce CO₂ emissions.

Communication

The increasing importance of climate change means that companies and organisations will need to communicate. Transparency is critical. The internet and other new media mean that companies, organizations and governments cannot hide behind green wash. This is where tools for verification and reporting guidelines with recognized indicators are critical. One example is the Global Reporting Initiative (GRI). Internal communications via intranets and company publications can report progress and acknowledge contributions by individual staff or teams. It's also important to let shareholders know that reducing emissions, particularly by improving efficiency is a win-win situation that can also boost a company's reputation. Consumers and investors alike are requesting information on a company's response to risks and opportunities related to climate change.

On this World Environment Day, the Punjab Pollution Control Board (PPCB) pledges to reduce the carbon dioxide emission in the State of Punjab with the help of other related departments like PEDDA, Punjab State Electricity Board, Transport Deptt. to implement such policies and programmes to meet the UNEP targets. The State of Punjab having huge quantity of bio-mass has the potential to generate about 500 MW of electricity. Out of which the 300 MW projects have been cleared and the projects of 16 MW generation have already been commissioned from this renewable source of energy. The State Govt. has already made it compulsory to use CFL lighting, solar water heating system in existing Govt. buildings and to make new Govt. buildings as energy efficient buildings. Rainwater harvesting is made essential in all the construction projects of the State. The PPCB is encouraging cleaner technologies i.e. coal gasi-fires to make producer gas to reduce CO₂ emissions in steel industry. The PPCB has

requested to Deptt. of Transport to take effective measures, so as to reduce the CO₂ from the transport sector. All industries and construction projects have been directed to develop and to preserve green belt to generate mitigative effects.

To sum up it can be said that there is a need to bring about a change in life style and consumption pattern in developed and developing country. Communities should generate political consensus to mitigate greenhouse gases. Climate change is no longer an environmental issue but is related to global security and survival. Punjab must adopt new, energy efficient technologies in its industrial processes to reduce CO₂ level. We should give emphasis to use renewable source of energy like wind, solar and biomass energy. In the State of Punjab collaborative action by Govt., the community and individuals could combat climate change.

I call upon all, let's focus together to make concerted efforts to thwart the increasing CO₂ in environment. Let us spread the message that To reduce CO₂ in the atmosphere-Kick the Habit of his generation.

*The writer is the Member Secretary of Punjab Pollution Control Board.