sustainabilitynext
PROFIT FOR GOOD

May 2022, 96th Issue, ₹50

Trends, Analysis Green Products, Green Books, Youth Entrepreneurship

Purpose
To excite entrepreneurs, executives and graduate students about immense opportunities in green business.

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Image Credit - Oxford University

6 Startups Hold Big Promise for Climate Action

A good number of the 2022 Fast Company's annual rank of 50 top innovative companies are directly and indirectly related to sustainability, climate change and inclusivity. Here's a snapshot of what these start-ups are up to and how they could revolutionize how we deal with climate crisis.

Stripe Climate, ranked number one, allows any business to automatically direct a fraction of its revenue to Stripe for supporting carbon removal technologies in under a minute. So far, the company portal shows, 15,000 companies across 40 countries have joined in. Stripe is essentially an online payments company headquartered in San Francisco.

It helps firms that want to do their bit for the climate but don't know how. The carbon removal purchase proposals are evaluated by 13 climate science experts. The purchase cover a wide range of technologies like permanent geologic storage, ocean alkalinity enhancement or direct air capture.

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Alignment with UN SDG Goals: Grasim, Tech Mahindra, Tata Power in Top 50 List

Stripe's service is significant because technologies capable of delivering carbon removal at scale is not yet big enough. The IPCC models for achieving net zero emissions by 2050 will require permanent removal of gigatons of carbon from the atmosphere every year.

Stripe also gives money to firms to bring their technologies to market and will help with purchase in the initial years. It is often the first customer and helps them scale fast. The innovative firm plays a catalytic role for speeding up carbon capture and storage across the world.

Stripe Climate made a small beginning with $ One million in October 2020. The carbon removal commitments as of December 2022 was $ 15 million. Firms that sign in give a percentage of their sales that pass through Stripe's software. It is now open to new customers as well. For Stripe Climate and for companies with similar goals to scale, they will need policy support. For example, companies can be mandated to give two percent of their net profits to Stripe or similar firms. This will be a gamechanger the world needs badly.

Solugen, ranked second, is devising an emissions-free way to turn sugar into industrial chemicals. It uses enzymes and metal catalysis to turn corn syrup into industrial chemicals. Currently, companies use oil, coal or natural gas to do this. This technology can be used in water treatment, concrete production to reduce cement and in agriculture to deliver nutrients to crops. The impact of this technology will be massive.

Twelve, ranked third, breaks up CO2 to form new chemicals. It's potential is being tested on making jet fuel using the new chemical and other industrial parts. At scale, this technology could revolutionize almost everything we do today.

Climate Trace, ranked fifth, is a coalition of organizations that help countries capture real time and realist data on emissions. With 300 satellites and 11,000 sensors, Climate Trace will make countries or even organizations think twice before submitting fudged data.

Watershed, ranked sixth, launched in February 2021, helps companies capture their true carbon footprint. So far, the data captured is said to be not even 20%. With Watershed's innovation, companies can capture their carbon footprint almost 100% by looking at a firm's entire value-chain.

Doconomy, ranked seventh, does what Watershed does for firms, to individuals – help them capture their carbon footprint better. This could encourage faster and better consumer behavior. The ripple effect could a much larger population to get on to reducing their negative impact on the planet.

Alignment with UN SDG Goals: Grasim, Tech Mahindra, Tata Power in Top 50 List

Grasim Industries, Tech Mahindra, Tata Power, Wipro, Ambuja Cements, Hindustan Unilever, Hindalco Industries, Tata Steel, Infosys, ITC and Marico have made it to the top of the 50-company ranking based on how they are aligned to the 17 UN Sustainable Development Goals.

The 2021 Capri Global Capital Hurun India Impact 50 produced a scorecard using publicly available data, including annual financial reports, ESG, CSR, sustainability reports and media. A five-member advisory panel consisting of subject matter experts ranging from professionals to academicians helped in shaping the scoring methodology.

Highlights

- With a cumulative sustainability score of 47, Grasim Industries ranked number one, contributed towards 17 sustainable development goals. Of which, four goals have measurable time-bound targets. Tech Mahindra ranked second with a sustainability score of 46, followed by Tata Power Company and Wipro.
- Only 14 companies reported their sustainability goals against all 17 UN SDG pillars. The SDGs most prioritized by companies are Climate Action (SDG 13), Responsible Consumption and Production (SDG 12). Life below water (SDG 14) is the least prioritized UN SDG goal. Only Adani Ports & Special Economic Zone have a documented measurable goal against the same.
- About measuring goals, the highest measured pillar was Climate Action with 37 companies measuring it. This was followed by the Responsible Consumption and Production pillar with 31 companies measuring it. With eight goals, Hindustan Unilever has the highest number of measurable Sustainable Development Goals with time-bound targets, followed by ITC, and Tech Mahindra with seven measurable goals each. Interestingly, three companies in the list have no documented measurable goals against any pillar.
- On going green, a time-bound journey towards net-zero emission of greenhouse gasses, only 29 companies featured in the **report** have time-bound targets to achieve carbon neutrality. ITC and Infosys achieved carbon neutrality in 2006 and 2020 respectively. Cipla and Adani Ports & Special Economic Zone target to achieve carbon neutrality by 2025. Mahindra & Mahindra, UltraTech

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Cement, Hindustan Zinc and Tech Mahindra implemented an internal carbon pricing policy to reduce emissions.

- Most companies in the ranking came from 13 cities across India. Led by Mumbai with 27 companies and followed by New Delhi with four companies. Financial services led the way with eight companies, followed by software and services with 6 Companies. **With an average score of 36, manufacturing companies scored higher than service companies which registered an average score of 34.**

Jinisha Sharma, Social Impact & Strategy, Executive, Capri Global Capital believes this report would challenge and inspire more companies to start their own journey by better understanding the impact of their business functions on society and environment. He believes that beyond corporate social responsibility there is a strong business case for companies to innovate to benefit all stakeholders not just shareholders.

To Anas Rahman Junaid, MD and Chief Researcher, Hurun India the ranking tells the stories of these corporations and of sustainable development in modern India. The list indicates that India Inc. is actively pursuing structural updates to systematically measure and report sustainability goals.

2021 Capri Global Capital Hurun India Impact 50 -Top 10

Rank	Company	Score	Hurun India 500 Rank	Industry	Top Contributing SDGs
1	Grasim Industries	47	39	Cement Products	Zero Hunger, Gender Equality, Climate Action, Responsible Consumption & Production
2	Tech Mahindra	46	30	Software & Services	Industry, Innovation & Infrastructure
3	Tata Power Company	45	63	Electric Utilities	Clean Water & Sanitation, Affordable & Clean Energy, Quality Education
3	Wipro	45	10	Software & Services	Gender Equality, Affordable & Clean Energy
5	Ambuja Cements	44	N.A.	Cement Products	Sustainable Cities and Communities, Clean Water & Sanitation
5	Hindustan Unilever	44	N.A.	Personal Products	Responsible Consumption and Production
7	Hindalco Industries	43	42	Metals & Mining	Affordable & Clean Energy
7	Tata Steel	43	29	Metals & Mining	Clean Water & Sanitation
7	Infosys	43	4	Software & Services	Gender Equality
10	ITC	42	14	FMCG	Zero Hunger
10	Marico	42	61	FMCG	Responsible Consumption & Production

Of Life Changing Seasons

Another sizzling summer is upon us. But, in a few months, the raging heat will give way to a thundering monsoon and eventually, the coldness of winter will close our year. With its varied landscapes, India enjoys a rich heritage of seasons and children's literature offers a vibrant insight to this cyclical pattern of life.

By Archana Natraj

> *"Spring passes and one remembers one's innocence.*
> *Summer passes and one remembers one's exuberance.*
> *Autumn passes and one remembers one's reverence.*
> *Winter passes and one remembers one's perseverance."*
>
> — Yoko Ono

Changing seasons are probably the simplest reminders of the rhythm of nature and a silent lesson that there is nothing as certain as change. With its varied landscapes, India witnesses various hues of the six seasons – spring, summer, monsoon, autumn, pre-winter and winter. Even the youngest children notice this change as they put on nice hats, fluffy warm sweaters or sturdy raincoats, depending on the weather outside. Children's literature is replete with books that capture the significance of seasonal change for young readers.

Among the most common are books that tie in weather change to the diverse traditions and festivals we celebrate. Pratham's gorgeously illustrated series **Indian Seasons & Festivals** by Mala Kumar and Priya Kuriyan is a great introduction to this theme. The books in this series:

'Everything Looks New', *'Hot Tea and Warm Rugs'*, *'Kheer on a Full Moon Night'*, *'Lassi, Ice-cream or Falooda'* and *'Peacocks and Pakodas'* take the youngest readers on a joyous ride through spring, winter, autumn, summer and monsoon. The series begins with the young protagonist planting a little sapling in spring. This reappears through the various books, as the wide-eyed child watches

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the changes around her. From changes in nature outside, to festivals, clothing and food at home, the text is rich in details that readers would relish.

Rachna Chhabria's **Festival Stories Through the Year** is another book that uses storytelling to offer readers a rich insight to seasonal change through the festive lens. Meanwhile, Avanti Mehta and Nirupama Sekhar's **The Kite Tree** is a poetic ode to the seasons and the wondrous changes they bring to a tree on top of a hill.

Seasonal eating provides a rich palate that is a healthy and sustainable way to encourage local farmers. In Bijal Vachharajani's **What's Neema Eating Today?** little Neema finds herself chomping through a delectable spread all year long. From juicy mangoes and slippery lychees in summer, to sunny corn in the monsoon and sour tamarind in winter, the book is delicious reminder to embrace variety rather than sticking to favourites and staying in our comfort zones.

While talking of seasonal change, it is impossible to ignore the impact of human-induced global warming on seasonal patterns. As trees are felled, the perfect weather of Shajarpur slowly undergoes a change, with a few extra days of summer, winter, or some extra rain. But the townsfolk are too busy to notice, until air conditioners are suddenly needed to quell the rising temperatures. In **Savi and the Memory Keeper** Bijal Vachharajani, among India's most well-known writers of stories on climate change, weaves a funny and thoughtful narrative on resilience in the face of personal loss, grief and an ever-warming world.

Like the mountain goat in Alison Byrnes' poignant **At Least I'm Okay!** if we remain unaffected by the changes around us, until trouble hits home, it may indeed be too late. Yet, through its pattern of changes, nature continues prompting and prodding us – if only we notice. In the words of the American writer, Daniel Abraham *"We say that flowers return every spring, but that is a lie. It is true that the world is renewed. The flower that wilted last year is gone. Flowers do not return in the spring, rather they are replaced. It is in this difference between returned and replaced that the price of renewal is paid. And as it is for spring flowers, so it is for us."*

List of Books

Indian Seasons & Festivals Beginner Reader Series by Pratham Books

- **Everything looks new!** by Mala Kumar, Manisha Chaudhry
- **Hot Tea and Warm Rugs** by Mala Kumar, Manisha Chaudhry
- **Lassi, Ice-cream or Falooda?** by Mala Kumar, Manisha Chaudhry
- **Peacocks and Pakodas!** by Mala Kumar, Manisha Chaudhry

What's Neema Eating Today? by Bijal Vachharajani
The Kite Tree by Avanti Mehta
Festival Stories Through the Year by Rachna Chhabria
A Cloud Called Bhura: Climate Champions to the Rescue by Bijal Vachharajani
Grrrs to Hisses and their homes' by Katie Bagli and Paramita Mullicki
Savi And The Memory Keeper by Bijal Vachharajani
At Least I'm Okay! By Alison Byrnes
Seasons with Zayn and Zoey by Tvisha Doctor

KOOVAGAM, INDIA - MAY 06: Group of transgenders attending the religious ceremony during festival of transgenders held at Koothandavar temple on May 06, 2015 in Koovagam,Tamil Nadu.

TISS, Pernod Richard to Train Transgenders to Become Managers

Pernod Ricard India Foundation recently announced its partnership with the Tata Institute of Social Sciences (TISS), and the Collective Good Foundation (CGF) to launch India's first Academic-Corporate Fellowship Program for the transgender community. This program will systemically enable trans persons from underserved communities across India to craft their career paths in the corporate world.

With inequitable access to education and skills, trans persons are often forced to take up menial roles in society and continue to face significant socio-economic and cultural barriers in their journey towards financial independence. In addition, with barriers like the high bar on minimum education and experience, along with the lack of gender-neutral policies, systems and infrastructures, and low social acceptance, only a few trans persons ever make it to the executive and managerial positions in their corporate careers.

This fellowship program provides adequate training and exposure to transform them to take on managerial and higher positions in the corporate ladder. Trans persons between the age group of 18-25 years can apply for the program as there is no higher education bar for the applicants. They will be shortlisted through an online process followed by a round of group discussions and personal interviews. The first batch of 20 fellows starts on 1st July, 2022. Applications for the one-year Fellowship closed on 30th April 2022.

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The one-year fellowship program is divided into two distinct phases. The first phase seeks to build theoretical acumen in business subjects and workplace skills through 6 months of **immersive classroom training and project work** led by the faculty and mentors at TISS. It will be followed by 6-months of **hands-on workplace immersion** through internships at leading corporates and non-profits to provide multi-faceted exposure and experiential learning.

A press note stated that each fellow will be offered a total stipend of INR 2,40,000 along with INR 96,000 for travel and stay during the year. Through both phases, fellows will be provided with **constant emotional and psycho-social support in addition to career guidance** from experienced LGBTQIA+ professionals, leaders from corporates, industry and non-profits.

Upon successful graduation, the fellows will be awarded with the completion certificates from TISS. This will provide them with strong credentials that will enable corporate inclusion. Further, the fellows will also be assisted in charting out their future goals, and the program will attempt to facilitate corporate placements for interested fellows in partnership with Pride Circle.

Pernod Ricard India Foundation (PRIF) has so far touched ~13,00,000 lives near 24 plants in more than 19 states by focusing on water resource management, education, livelihood generation, healthcare, and empowering social change makers.

The Tata Institute of Social Sciences (TISS), a Multi-Campus Network University offers teaching, research, and outreach programmes from four campuses: Mumbai (Main and Naoroji); Tuljapur; Guwahati; and Hyderabad. TISS is a unique institution that brings together high-quality scholars and practitioners from Social, Economic, Political, Physical, Habitat, Engineering, Health, and Environmental Sciences to co-create teaching and research programmes to address the most critical current and emerging issues of the nation.

For more details, please visit: https://transformationfellowship.in/
FAQs: https://transformationfellowship.in/faqs/

Image credit - ESG News

Amex issues $1 billion ESG bond

ESG Today has reported that American Express is offering its inaugural $1 billion sustainability note, according to a prospectus on its website and filed with the SEC, with proceeds from the issuance funding green and social projects.*

The sustainability notes, maturing in 2029, form part of a $3.5 billion notes offering, which also includes a $2 billion 2024 fixed rate note, and a $500 million floating rate note.

The framework has received a second party opinion (SPO) from Moody's ESG Solutions. The framework outlines the range of green and social projects that may be funded by the notes. Green categories include Circular Economy, Green Buildings, and Energy Efficiency and Renewable Energy, with projects including procuring and fabricating recycled materials for credit cards, retrofitting buildings, and investing in renewable energy power purchase agreements or on-site renewable energy projects.

Social categories include Socioeconomic Advancement and Empowerment, Access to Essential Services, and Affordable Housing. Examples of projects that may be funded under this category include supplier diversity programs, initiatives to drive consumer spending at small businesses, expanding access to financing products and economic opportunities by supporting businesses of underserved populations, and investing in funds providing affordable housing to low- and middle-income communities.

Mahindra Launches Net Zero Energy Home In Bengaluru

Mahindra Lifespace Developers Ltd., the real estate and infrastructure development arm of the Mahindra Group announced the launch of India's first Net Zero Energy residential project, Mahindra Eden, in Bengaluru. A press note says these homes are certified by Indian Green Building Council (IGBC).

The unique design features of this residential development are expected to save over 18 lakh kWh electricity annually, equivalent to powering over 800 homes. The remaining energy demand for the project will be met from renewable sources through both on-site solar and wind energy systems, and purchase of green energy from the grid.

Mahindra Lifespaces' plans to build only Net Zero buildings from 2030.

Arvind Subramanian, Managing Director and CEO, Mahindra Lifespace Developers Limited said, "Global climate change is one of most pressing issues and **buildings alone are responsible for approximately 36% of the total energy consumption and close to 40% of carbon emissions.** As a pioneer in sustainable development with a 100% certified-green portfolio, we were keen to take the next leap in sustainable design and development. Building net-zero homes is one of the cornerstones of a reduced carbon future, thereby an important solution to climate change and we are committed to playing a leading role in this energy transition of the real estate sector."

A company note says Mahindra Eden is being developed by adopting climate responsive design strategies and energy conservation measures that include optimal building orientation to maximize

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natural light and ventilation, optimum shading for windows and balcony, SRI paints on roof and exterior walls for high heat reflectivity, high-performance glass on windows and balcony to reduce heat ingress from the building envelope, and energy efficient lighting and equipment. The building will have contemporary Variable Voltage Variable Frequency (VVVF) elevators that use less energy during acceleration and deceleration.

Nature Positive

Furthermore, the project also has multiple sustainability features that are available across Mahindra Lifespaces® developments like low-flow water efficient fixtures, rainwater harvesting, and sewage treatment plant. This will help reduce the water demand of the project by 74% when compared to conventional buildings. Additionally, the project will deploy sustainable strategies such as waste segregation, composting, and waste recycling through a resource recovery center and vendor tie ups. E-waste management will divert 100% of the annual e-waste away from landfills, making it zero e-waste project.

Along with energy, water, and waste efficiency, the project is designed to be 'Nature Positive', preserving and nurturing over 100 species of plants, more than 25 species of birds and over 25 species of butterflies. Initiatives for naturalizing and streamlining of waterbodies within the project will also be undertaken. The project has been designed with more than 85% open space.

Mahindra Eden spans across 7.74 acres and its nature-positive amenities have been thoughtfully designed keeping in mind the natural eco-system and the evolving needs of homebuyers.

Established in 1994, Mahindra Lifespace Developers Ltd. ('Mahindra Lifespaces') has 28.2 million sq. ft. (2.6 million sq. m.) of completed, ongoing and forthcoming residential projects across seven Indian cities; and over 5000 acres of ongoing and forthcoming projects under development/ management at its integrated developments / industrial clusters across four locations.

Watershed Organization Wins Award for Odisha Project

Watershed Organization Trust (WOTR) bagged two awards from FICCI and TERI-IWA-UNDP for its contribution to water management and water stewardship.At the 9th Edition of the FICCI Water Awards, WOTR was felicitated with Joint Second Prize in the 'Water Initiatives by NGOs' category. With this WOTR was also celebrated with TERI-IWA-UNDP Water Sustainability Award for 'Excellence in Participatory Water Management' for its Water Stewardship Initiative.

In 2018 WOTR had taken up 'Building Adaptive Capacities and Resilience to Climate Change of Tribal and Marginalized Communities' in Odisha. The project was implemented in 11 villages across 4 gram panchayats in Rayagada district. The project contributed to an improved climate adaptive and resilient livelihood for rural communities and the dissemination of participative climate change adaptation strategies at the national level too.

On WOTR's Water Stewardship Initiative won the prestigious TERI-IWA-UNDP Water Sustainability Award for 'Excellence in Participatory Water Management' as its Water Stewardship Initiative in Maharashtra. Its project ensured sustainable, equitable and adequate supply of water for various categories of users, through supply and demand management measures at the village and community level in the region.

WOTR team has been working with government, panchayats, and local administrations to empower vulnerable communities, women and farmers with a focus on ecosystem and landscapes, climate, water, agriculture, livelihoods, health and sanitation and gender equality. WOTR also engages with institutions and other stakeholders to transform learnings from ground experiences and research programs and shapes effective policies and programs.

Keeping an eye on climate change with commitment to sustainable development, WOTR has been employing the Ecosystem-based Adaptation approach to building resilience in rural communities across 7 states of India. **WOTR has successfully facilitated 230 NGOs and governments' Project Implementation Agencies (PIAs),** which are important partners for outreach and up-scaling of sustainable initiatives. **Additionally, WOTR has published over 136 articles/studies and books, over 106 educational and training films, and 24 tools for wide-scale adaptation.**

WOTR was established in 1993 and is headquartered in Pune, Maharashtra. As on March 2021, WOTR, in collaboration with its partners, has worked in over 5,300 villages across 9 Indian states – Maharashtra, Telangana, Andhra Pradesh, Madhya Pradesh, Rajasthan, Jharkhand, Bihar, Chhattisgarh and Odisha. **It has impacted more than 4.5 million people, trained over 560,000 people from across India and 63 countries and collaborated with 230 NGOs/ Project Implementing Agencies (PIAs), and promoted over 15,500 SHGs involving 190,000 women.**

Ambuja Cement Wins Social Impact Award 4th Time

Ambuja Cement Foundation, the CSR arm of Ambuja Cements, won three awards at the 4th Social Impact Awards 2022 held by the Indian Chamber of Commerce (ICC) in Kolkata in April 2022.

Ambuja Cement Foundation, Sankrail won an award in 'Gender Equality and Women Empowerment' in the large industry category while Ambuja Cement Foundation Farakka won an award for its work in 'Water Resource Management and Livelihoods' and a 'Jury Award' in the Health Category.

A press note stated that from around 60 applications from various companies and NGOs, Ambuja Cement Foundation stood out in water, women empowerment and health. For the fourth consecutive time in a row, Ambuja Cement Foundation Farakka and Sankrail have been winning the ICC Social Impact Awards for their work in community development initiatives of the rural community.

ACF has been working in Sankrail, an industrial block in West Bengal with nearly 130 heavy industries, on gender sensitization and specifically on women empowerment in 16 villages around the Ambuja Cement plant areas. Under the women empowerment program, focus is on forming self-help groups, promote credit planning and integrate the program with other thrust areas of agriculture, water resource management, and health and skill development. The organization encourages local women to participate in local development issues and be a part of community or panchayat meetings, leading to 40% of women being part of village level institutions and committees.

Farakka is another block of West Bengal which is based close to the Bangladesh border and considered one of the very under-developed block of the state. Health indicators were very poor in the villages but with Ambuja Cement Foundation focused on interventions and community involvement, behavior change in family planning, maternal & child health and anemia prevention has been quite visible in these areas. The team has also been working on improving livelihood of small land holders through water harvesting and lift irrigation systems which is helping them grow more crops, get better yield and earn more.

The ICC Social Impact Awards is an initiative of the Indian Chamber of Commerce (ICC) to recognize exemplary work done in the field of social investment, CSR and sustainability on a pan India basis.

Ambuja Cements Ltd., a part of the Holcim Group, is among India's leading cement companies. It has a cement capacity of 31 million tonnes with six integrated cement manufacturing plants and eight cement grinding units across the country.

How to Select Right Air Compressors

By Conrad Latham

Image Credit - IndiaMart

When your company decides to convert to an energy-efficient, environment-friendly air compressor, it has already made the most essential and advantageous decision. However, there are a number of factors to consider in order to optimise your savings and lower your total cost of ownership.

While alterations can be made after the compressor has been purchased, these changes are usually linked with greater costs. As a result, it's critical to get it right the first time.

Keeping down investment costs

A compressor's total cost of ownership includes the cost of purchase as well as the cost of operation over its lifespan. The most recent environment-friendly compressors with cutting-edge technology are normally more expensive, but they have reduced running expenses, which saves money in the long term. The original investment accounts for a minor portion of the total cost of ownership, with energy expenditures accounting for the most.

Choosing the correct air compressor type is still important, even though contemporary air compressors are all about efficiency. That implies buyers must first determine their compressed air requirements.

That starts by asking the following questions

1. How much airflow and pressure do they need and for which applications
2. Will the compressor run constantly or intermittently
3. How important is air quality
4. Does the air demand fluctuate or remain steady

Answers to these questions will decide the optimal compressor size, if a model with variable speed drive is better (for changing air demand), and whether a piston compressor or a rotary screw compressor is required (for intermittent use and limited air demand).

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An oil-free compressor is the best option if air quality is a priority. A drier should be included if the application requires dry air.

All of these options demonstrate the importance of knowing the answers ahead of time. An air dryer, for example, could be installed after but it would be more expensive.

Keeping down operating costs

After you've decided on the most energy-efficient air compressor, the next step is to cut operating costs even more. You have a lot of possibilities. **Keep in mind that the quality of the intake air is just as important as the purity of the departing air.**

It is preferable if the air is cleaner. If the compressor is installed in a location where the intake air is filthy or dusty, for example, such particles will find their way into the equipment, necessitating the use of filters to keep them out of the compressed airflow. And each filter will increase your maintenance price and cause a pressure decrease, hence increasing your energy bills.

That is why it is important to place the compressor in an area where such air contaminants are kept to a minimum. Ambient temperature also matters. A 5°C increase in the air inlet temperature will reduce the compressor's performance by 2%. And that efficiency loss adds up over time.

Another way to optimize your compressor efficiency is to reduce the pressure in its distribution system by 1 bar (14.5 psi), which saves 7% in electric costs. If your applications can run at a lower pressure, then this is a very simple measure you can take to cut your electric bill even more. An effective way of doing this is to use a central controller for all compressors and dryers. This allows operators to choose the best machine combination and save energy. This type of controller can also be combined with connectivity technologies, allowing you to monitor and optimise your compressed air system from anywhere.

Conrad Latham
GM at Atlas Copco India

Don't let your heat go to waste

Heat is produced by compressors. To keep the ambient temperature low, most organisations allow the heat to dissipate as rapidly as possible. However, rather than letting it go to waste, installing an energy recovery system will allow you to collect and reuse up to 90% of the energy used to drive a compressor.

Don't let the warmth evaporate into thin air. Use it to heat a structure, water, or steam instead.

Allow a professional to assist you in selecting an energy-efficient air compressor. Granted, there is a lot to consider, but if you follow the suggestions above, you will soon reduce your carbon footprint while also lowering your energy bill.

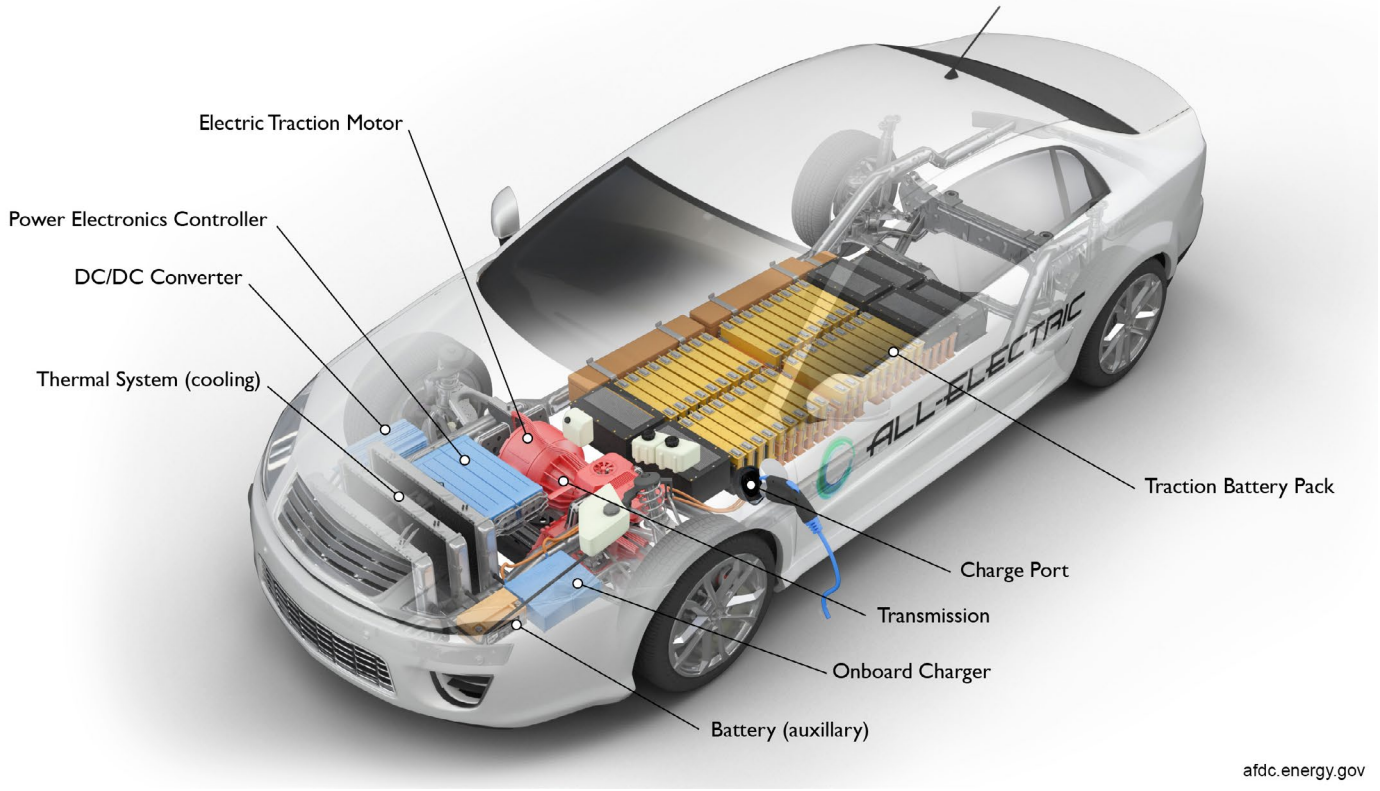

Image Credit - Alternative Fuels Data Center - Department of Energy

Environmental Impact of e-cars

By Saewe Martin

Are electric cars environmentally friendly? A look inside the battery of an e-car will give us an idea.

The battery is the heart of an electric car and has a significant impact on its environmental footprint. Without it, nothing moves; it stores energy for the charging process, provides power for the engine and is a decisive parameter for the car's range.

The battery pack of an electric car should not be thought of as a single component. Rather, it consists of numerous modules with multiple battery cells that are interconnected. In this way, the battery provides the necessary energy for the powertrain.

In addition to **high energy and power density,** the most important requirements are **functionality and safety**. The battery itself is therefore encased in a housing made of materials that are robust, flame-resistant and as light as possible.

Electromobility and Circular Economy Initiative

Lanxess offers various chemicals for the field of electromobility. Flame retardants, coolants, high-tech thermoplastics for battery and electric powertrain components, but also starting materials for cathode materials and electrolyte components.

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Lithium-ion batteries are the most widely used. Why lithium? The electricity that is needed to power the engine and other units such as the steering, braking unit, heating, air conditioning and on-board computer is nothing more than a flow of electrons.

The alkali metal has an important property for the battery: it releases its electrons very easily into the current flow and has a low intrinsic mass. Essentially, **the more lithium in the battery electrodes, the higher the capacity.** In addition, lithium-ion batteries show limited aging during charging and discharging.

Electric vehicles are considered climate-friendly. After all, no fossil fuels such as gasoline or diesel are burned to power the engine. This also eliminates carbon dioxide emissions.

However, if we look only at the production process, the **environmental balance of electric cars is initially worse than that of vehicles with internal combustion engines,** according to the German Federal Ministry for the Environment.

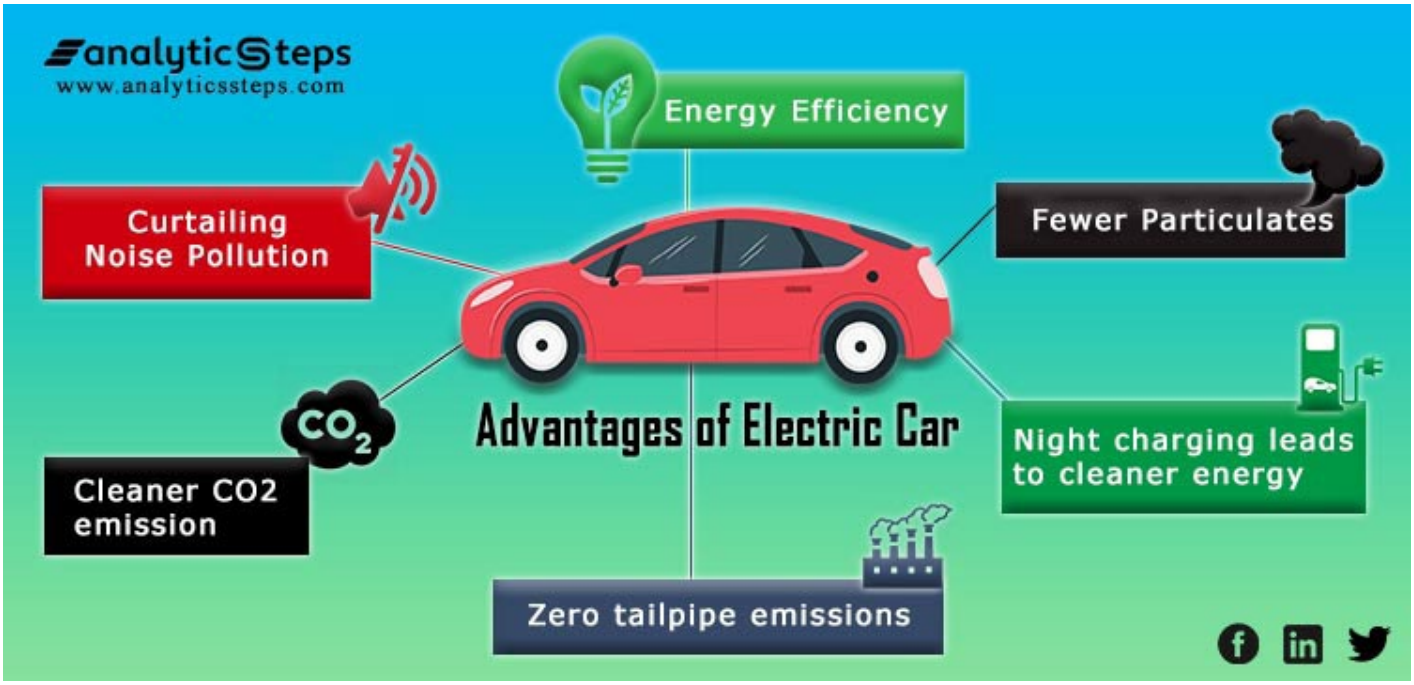

Image Credit - Analytics Steps

Reasons for this include:

- A large proportion of the batteries currently come from Asia. There, the share of coal-based power generation is significantly large.
- More raw materials are needed, including larger quantities of cobalt, copper and nickel. But the extraction of these raw materials is energy-intensive, associated with high environmental burdens, and in some cases ethically problematic.
- Large amounts of CO_2 are also produced in intermediate products such as steel, aluminum and plastics due to the high energy input.

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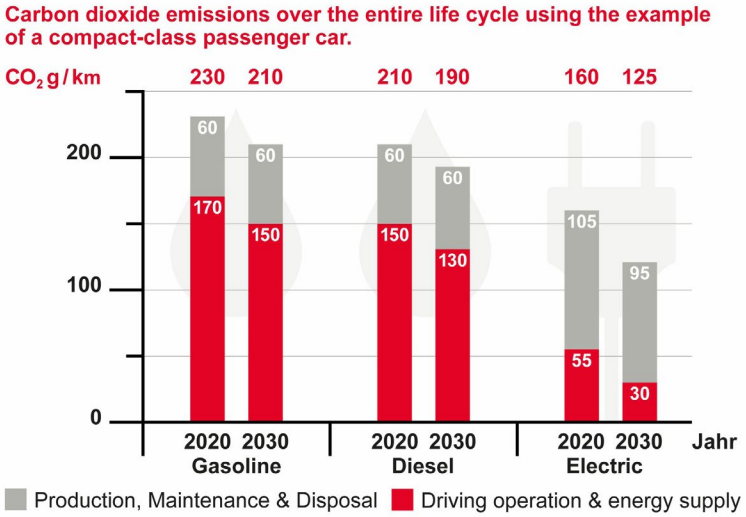
Comparison of CO_2 emissions of “electric cars” vs. conservative vehicles

Over the entire life cycle, however, the climate balance of the e-car compares favorably with vehicles running on gasoline or diesel engines. Significantly less carbon dioxide is produced during driving and energy supply. This overcompensates for the electric vehicle’s poorer carbon dioxide emissions in production, maintenance and disposal.



According to the German Ministry of Environment, **electric vehicles already produce 30 percent less greenhouse gases than gasoline-powered vehicles.** Compared to a diesel vehicle, the figure is 23 percent. With the planned expansion of renewable energies in Germany in the coming years, this advantage will increase further.

What can be done to improve the environmental performance of e-cars?

There is potential for improving the environmental performance of electric vehicles. According to the **Swedish Environmental Institute IVL** and the Fraunhofer Institute for Systems and Innovation Research (ISI), the use of **renewable energies** in production plays a particularly important role here. Usage of such energy currently is still low but increasing more and more.

In addition, work is being done on other technologies that are more environmentally friendly. Currently, for example, there are some promising pilot projects for the use of combined lithium and sodium-ion battery systems for electric vehicles. These would be more resource-efficient because they do not require cobalt or nickel.

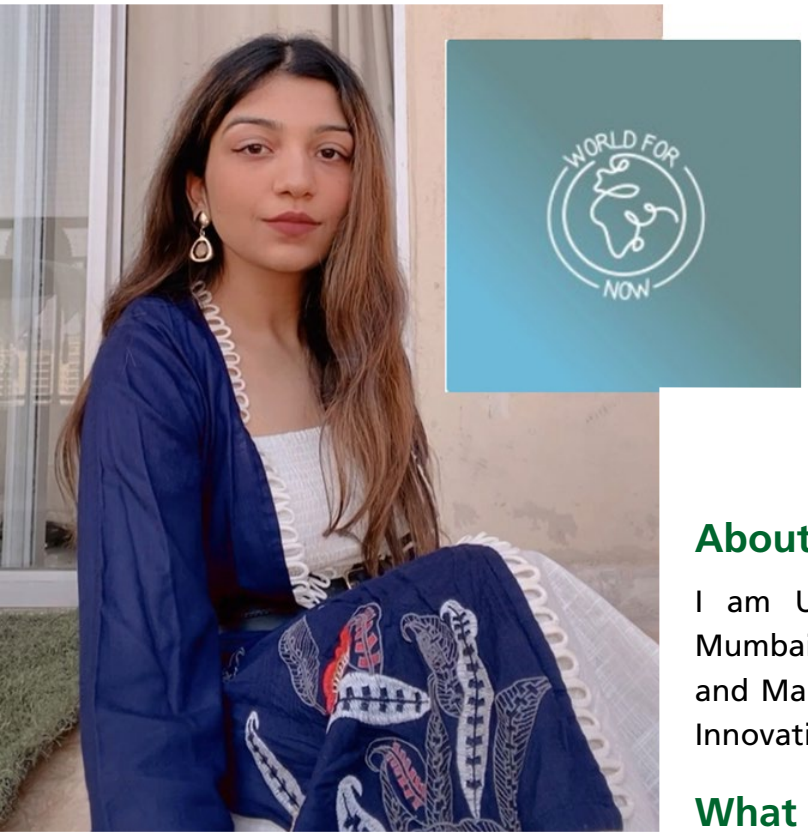
What is the impact of recycling processes?

With regard to a more sustainable use of raw materials in battery production, **recycling processes are becoming increasingly important.** Legal recycling quotas play a central role here. For example, since 2016, a minimum collection quota of **45 percent has already applied to the member states of the European Union for the recycling of lithium-ion batteries.** However, the ISI still sees further potential for recycling the materials contained in the batteries.

The contribution that the automotive industry can have towards climate protection is therefore obvious: It is the further expansion of electromobility in combination with consistent application of circular economy methods. According to a **study by the World Economic Forum** and management consultants Accenture, **this alone offers the potential to reduce CO2 emissions per passengers km by up to 75 percent by 2030.**

Saewe Martin, Head of Electromobility and Circular Economy Initiative

Even a Small Change Matters



More and more young people are joining the fight to conserve the planet that holds their future. From awareness to action, their initiatives span a huge range. In an effort to bring these to wider knowledge, SN has launched a Youth EcoVoices section for young people who are doing their bit for nature. So, if you have anything to 'crow' about, shout out… we're all ears.

About me

I am Urmika Saboo. I hold a BA (Sociology) from Mumbai University and a Diploma in Strategic Design and Management from the Indian School of Design and Innovation, Parsons, Mumbai.

What are you doing?

I run a social media page World For Now that seeks to inform users of the eco-friendly actions that they can take as individuals and as a community to bring about even a small change. How to? When to? What to? are some of the questions that we seek to answer.

Why are you doing this?

A few years ago, my life's motto was to earn money and live a lavish life. But all that changed after I watched the documentary, An Inconvenient Truth. Despite so many years of learning EVS in school, I realised how little I knew. This made me really upset. EVS is so theoretical and boring that it loses the potential to create young environmentalists. I am doing this to bring about an environment-oriented system redesign that offers action-oriented and interesting education to make young people aware of everything happening around the globe and what they can do to bring a change.

When did you begin?

I began in 2018. After working on the page on my own for about 8 months, I increased my team to 6 people.

How did you begin?

The Diploma in Strategic Design and Management from the Indian School of Design and Innovation, Parsons, Mumbai, shaped my mindset and brought out my passion and creativity in all paradigms of life. We were exposed to sustainability, green initiatives, material exploration, which made me really curious and furious about the critical situation at hand. Education played a key role in helping me take my first step towards becoming an environmental advocate. One of my favourite professors and now mentor, Gourav Keswani helped me shape my vision and what I'm trying to achieve today.

What has been the impact?

The page has reached over five countries and built a community of motivated folks who love talking about climate change. We have focused a lot on ideation, debating on various topics, growing our network and collaborating with different pages/ organisations. For instance, we partnered with Earthly Education that's run by a team of 4 Australian scientists and has more than 130k followers. We also collaborated with a Portugal-based company, Eutopia, that has a database of more than 16,000 climate-tech companies.

Where can one know more about your work?

https://www.instagram.com/worldfornow/

https://in.linkedin.com/company/world-for-now

Can you share a list of the green books on your bookshelf, for young people interested in environmentalism?

The Future We Choose: Surviving The Climate Crisis by Tom Carnac Christiana Figueres

All We Can Save: Truth, Courage, and Solutions for the Climate Crisis edited by Ayana Elizabeth Johnson and Katharine K. Wilkinson

The Uninhabitable Earth: A Story of the Future by David Wallace-Wells

Unearthed: An Environmental History of Independent India by Meghaa Gupta

Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants by Robin Wall Kimmerer

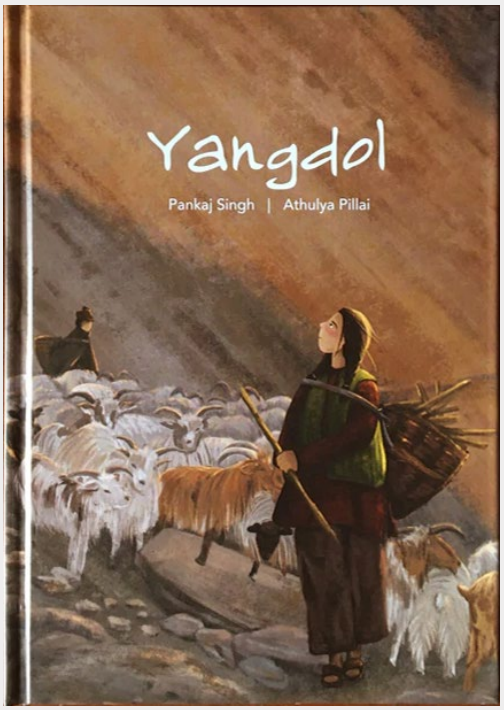
How to Do Nothing: Resisting the Attention Economy by Jenny Odell

An Ecotopian Lexicon Edited by Mathew Schneider-Mayerson and Brent Ryan Bellamy

Click here if you want to be featured.

A Life in Nature

By JoAnne Saldanha



Yangdol is a little girl born in a remote mountain village in Ladakh, to parents who bring her up with a deep love for the natural world around them. "We are all woven in an invisible bond. This land is home. It belongs to all of us," her father would say.

When some of their livestock are killed by the most elusive of creatures – the snow leopard – Yangdol is terribly upset. So, when she finds her mother offering prayers, not just for the dead livestock, but also for the snow leopard, she is shocked. Her mother explains, "…know this child, for thousands of years and more, this land was the kingdom of the beasts and birds that roamed here. We did not always live here. But they let us call it home. We must respect that." Never forgetting her parents' words, Yangdol grows up respecting the land, the life in it and all the elements of nature.

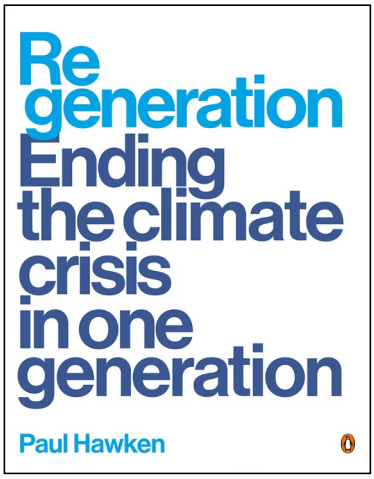
Written in evocative, lyrical prose, **Yangdol** by Pankaj Singh is the story of a life lived in nature, with a deep awareness of one's role and place, and a yearning to coexist with inhabitants who have been here before us. It is easy to lose oneself in this tender tale that transcends time and is bound to touch readers of all ages.

Towards the end, an aged Yangdol is filled with joy at the sight of a snow leopard and its cubs sitting in her garden. The 'grey ghost of the mountain' that had eluded her all her life was before her eyes. It is with this wondrous picture in her mind that Yangdol breathes her last breath. Her funeral turns out to be a festival of mountain creatures who come to bid farewell to a human who had truly lived as one with them.

Longer than the standard picture book, Yangdol has been inspired by a photograph of an old woman, peering at a snow leopard. Athulya Pillai's soft watercolour illustrations complement the text and offer the reader an atmospheric gaze into the protagonist's life and the Ladakhi landscape that is underrepresented in Indian children's publishing.

The only limitation, perhaps, is its prohibitive price of Rs. 800, that made me think twice before picking up a copy of this self-published book. But the good writing, gorgeous illustrations and superior production quality are hard to miss. I wish more traditional publishers would publish books like this, so they can benefit from the economies of scale and reach more people.

Address Current Needs Not Future Threats



Paul Hawken is known to offer radically different, yet seemingly simple solutions to the climate crisis. In his second book Regeneration, Ending the Climate Crisis in One Generation, a follow-up sequel to Drawdown, was published September 2021 by Penguin Randomhouse.

The dangers of climate change and a warming world have been in the public eye for fifty years. For three decades, scientists have urged us to address future existential threats. But Paul Hawken has flipped this narrative. He is working on bringing people back into the conversation by demonstrating that **addressing current human needs rather than future threats is the only path to solving the climate crisis.**

From land to ocean, food to industries – Regeneration proposes an extensive menu of actions that collectively can reverse the overheating and degradation of our planet. The solutions, techniques, and practices range from solar power, electric vehicles, and tree planting to bioregions, azolla fern and forest farms; they are all doable, science-based, and comprise a precise and unequivocal course of action. The book is a call to action by individuals, communities, and governments.

He shows how industries are extractors rather than regenerators. The book argues how we can all do our bit to take the agency away from the corporations who are benefiting at great cost to the rest of us and the planet.

In Drawdown, Hawken offered 100 most substantive solutions to reverse global warming based on meticulous research by leading scientists and policy makers around the world. **This book urges people not to be driven by fear but believe in realistic solutions that are already available.**

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Information in this publication is drawn from a variety of sources, including published reports, interviews with practicing managers, academia and consultants. While doing so utmost importance is given to authenticity.

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Dear Readers,

SustainabilityNext (SN) has been educating and exciting thousands of entrepreneurs, executives and graduate students, since March 2013 every month, for free. SN's purpose is to educate, inspire and provoke all stakeholders to move swiftly from AWARENESS to ACTION.

SN is by far India's most read digital magazine that covers articles/reports on Green Business, Green Products, Social Entrepreneurship, Green Literature, Green Technology, among others. A Children section was added in mid 2021.

SN launched India's first Green Literature Festival (www.greenlitfest.com) in December 2021.

For SN to grow and stay relevant it needs to transition from a grant-self-funded model to a community-funded as well as a sustainable for-profit business model. Your timely and generous support will truly help its mission.

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