

ECOTOPIA CHARTER





“

Whatever you do in life will be insignificant. but it is very important that you do it, in your lifetime; whether it lasts one hundred years or one hundred seconds.

”

Mahatma Gandhi



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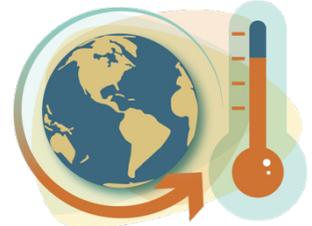
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Introduction

Impact of Climate Change

As has been confirmed by the Intergovernmental Panel on Climate Change (IPCC), as a result of human activities ranging from deforestation to the burning of fossil fuels via transportation or even factory production, mankind is contributing to the greenhouse effect immensely. In turn, the emissions of greenhouse gases have resulted in rising temperatures, contributing to a great extent of global warming.



Climate change brings with it disastrous consequences for all living organisms. Along with posing a threat to all species of flora and fauna as a result of habitat destruction and odd weather patterns, climate change is also linked with other global issues affecting mankind.

It has been proven by expert researchers along with communities that global warming and climate change affects not only how healthy people are, but also where they can live, grow food and maintain infrastructure. In just the past few decades, global warming has worsened extreme weather patterns, caused the melting and destruction of glaciers in the Antarctic, led to long lasting wildfire seasons, resulted in bleaching of coral reefs and caused the expansion of mosquito territories, increasing the risk of transmission of diseases.

Effects of Climate Change: Timeline

2005



- The Kyoto Protocol (an international environmental treaty created to limit the production of greenhouse gases) goes into effect, signed by major industrial nations except the US.
- Researchers link warming to a record US hurricane season, accelerated melting of Arctic sea ice and Siberian permafrost.
- It was the second warmest year on record.

2006



- The Stern Review concludes that climate change could damage global GDP by up to 20% if left unchecked.
- Carbon emissions from fossil fuel burning and industry reach eight billion tones per year.

2007



- Arctic sea ice hits its lowest summer ice extent on record.

2008



- Arctic sea ice hits its second lowest summer ice extent on record. Several breakups of ice shelves take place.
- The polar bear is listed on the US Endangered Species Act, because of the risk to its habitat from climate change.
- World Conservation Union finds that thousands of species are at risk from climate change
- Half a century after beginning observations at Mauna Loa, the Keeling project shows that CO₂ concentrations have risen from 315 parts per million (ppm) in 1958 to 380ppm.

2009



- The U.S. Environmental Protection Agency declares carbon dioxide and other heat-trapping gases to be pollutants under the Clean Air Act.
- An ice bridge connected to the Wilkins Ice Sheet of Antarctica breaks apart.
- Many of the world's major rivers are found to be losing water.
- A major study suggests that humanity can emit no more than 1 trn tonnes of carbon, if we are to avoid temperature rises of 2°C or more.
- China overtakes the US as the world's biggest greenhouse gas emitter - although the US remains well ahead on a per-capita basis.

2012



- The first phase of the Kyoto Protocol expires.
- Studies find that recent disastrous heat waves, droughts, extremes of precipitation, and floods were made worse by global warming.



2013

- The Mauna Loa Observatory on Hawaii reports that the daily mean concentration of CO₂ in the atmosphere has surpassed 400 parts per million (ppm)

2015

- Researchers find that the collapse of the West Antarctic ice sheet may be irreversible, bringing meters of sea-level rise over future centuries.
- Paris Agreement: nearly all nations pledge to set their own targets for greenhouse gas cuts and to report their progress.
- Solar and wind energy become economically competitive with fossil fuels in some regions

2019

- Mean global temperature is 14.8°C, the warmest in tens of thousands of years.
- Level of CO₂ in the atmosphere is 415 ppm, the highest in millions of years.
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services—a UN science panel warns that 1 million plant and animal species are on the edge of extinction due to climate change and habitat destruction

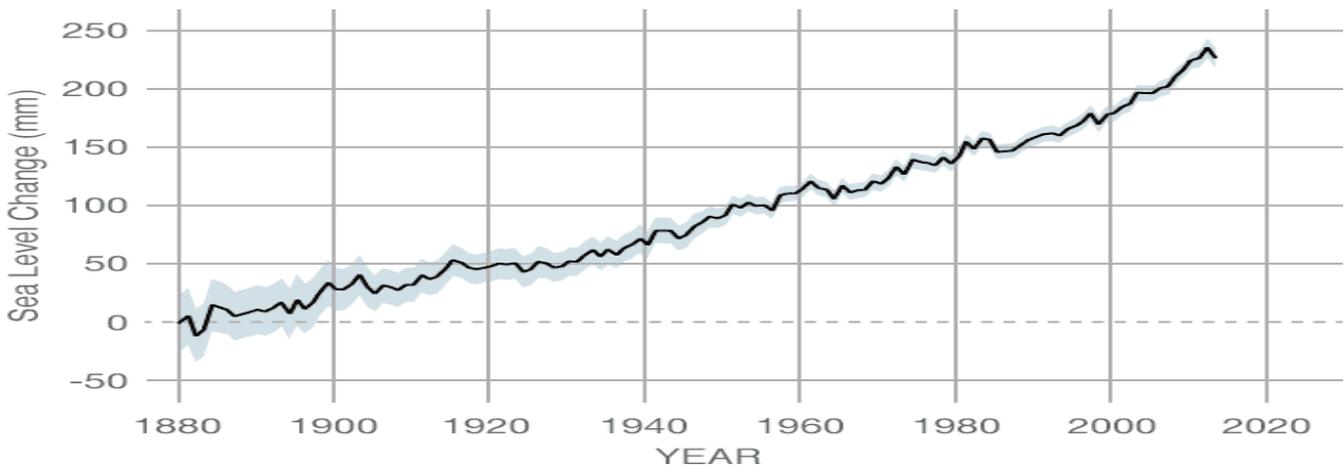
2020

- The California battles largest ever fire in its history.
- Bush fires in Australia claim 18.6 mn hectares, destroyed nearly 6000 building and left over 400 people dead
- “Due to the Covid lockdown across India, carbon emissions are predicted to fall by around 8% in 2020,” said S K Bajpayee, Ministry of Environment, Forest and Climate Change
- Unprecedented rainfall and flash floods.



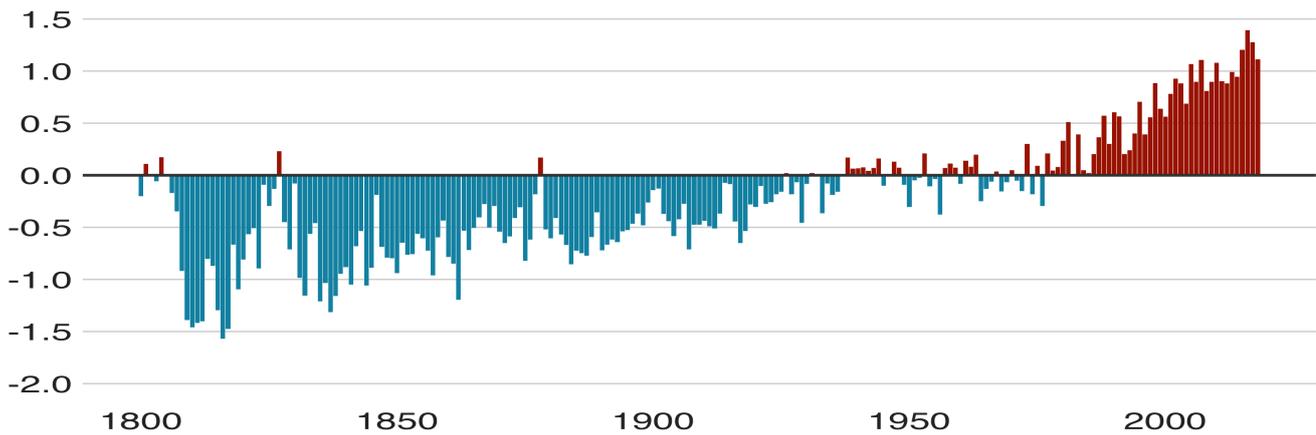
GRAPH INDICATING RISING SEA LEVELS

Source: NASA Climate



GRAPH INDICATING THE RISE IN GLOBAL WARMING

Source :BBC



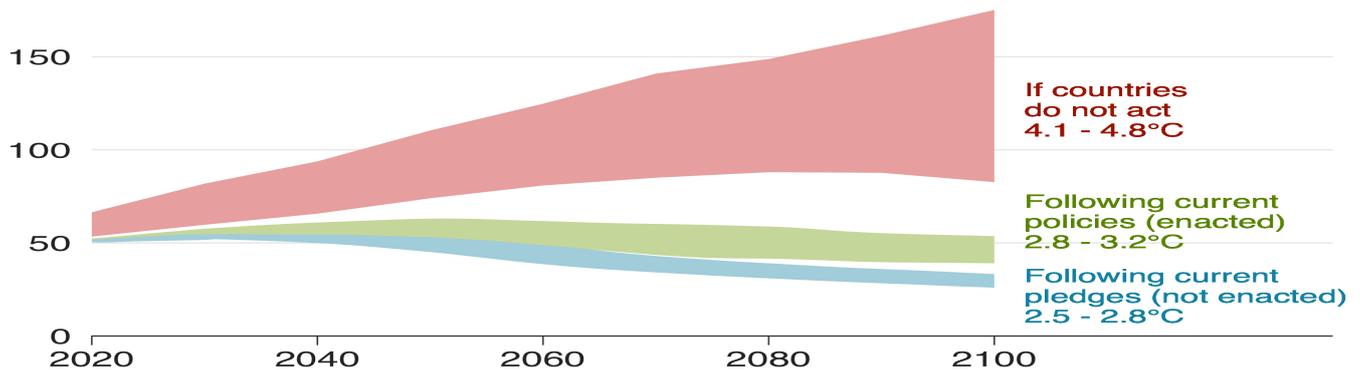
Note: Average is calculated from 1951-1980 land surface temperature data

Source: University of California Berkeley

BBC

GRAPH INDICATING TRAJECTORY OF GLOBAL WARMING BASED ON RESPONSE OF COUNTRIES

Source: BBC



*Emissions are in Gigatonnes of CO2 equivalent

Source: Climate Action Tracker

BBC

Need for a solution

While greenhouse gas emissions into the atmosphere are estimated to drop about 6 % in 2020 as a result of travel bans and economic slowdowns due to the COVID-19 pandemic, this is only temporary. Climate change is not on pause. Once the global economy and local economies begin to recover from the pandemic, GHG emissions are projected to return to higher levels. It is crucial to understand that saving lives and livelihoods, both require urgent action to address the pandemic as well as the climate emergency.



2020 in fact, marks a crucial time for global climate action, not only since it falls between the 2010 baseline for carbon dioxide emissions and the 2030 deadline for significant cuts, but also because it is a significant year for environmental negotiations, with new global biodiversity goals expected later this year. Although united international action is pivotal in reducing climate change - via legal mechanisms, financial resources and support to green technologies - change can also start with each of us. With ways by which we think and act, with our attitudes and behaviours, we all can work collaboratively to combat climate change among other environmental issues.

Across the world, **Education for Sustainable Development (ESD)** has come forth as a foundation for tackling climate change. Based on the idea that we all have a role to play in addressing global challenges, ESD promotes expansion of knowledge, development of skills, and the maintenance of as well as commitment to values, required to act in order to create a more healthy, fair and environmentally sustainable society. Inspired by this approach, we would like to make a difference as well.

Project

Ecotopia, a project initiated by the 4 schools of the Narsee Monjee International Trust including JNIS, JNS, CNS and JNS Gift City, and it aims to combat climate change among other environmental issues by **establishing school cultures** of sustainability and **collaboratively working** towards different sub environmental initiatives.



Every year, **one main project** will be chosen, and all four schools will work on that project in their locality or city. In this way, we will try to make a larger impact on the country. We aim to set an example and make sure that other educational institutions take inspiration. This project will be student led.



Vision statement

We, The Zero Hero:

This primarily means that we must work towards making our schools eco-friendly in every possible manner. This can be done by trying to aim at emitting zero carbon emission.



Mission statement

"To create a survivable and balanced ecosystem."

This is our prime motive.



Whole-school approach to tackling climate change among other environmental issues

This project will require and include the help of **all the stakeholders** involved through and with the school in any way shape or form.

Students

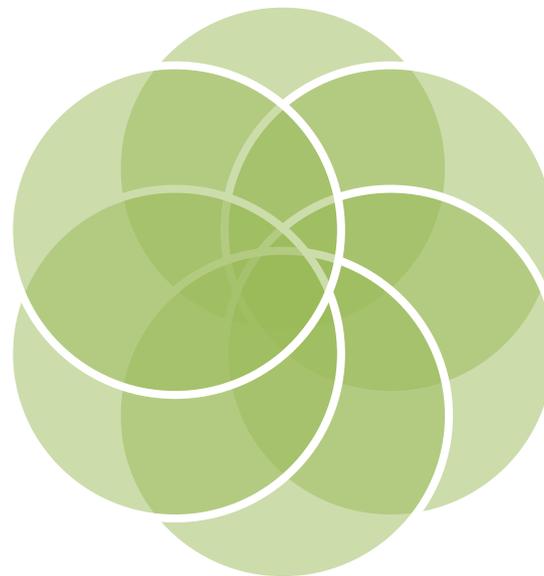
- Lead the initiative whilst coming up with all ideas and executing them in a way that benefits the school and the climate

Families & the local community

- Support the school in all initiatives and take part in them enthusiastically, as and when required, thus helping the school achieve its goal.

Parents & Families

- Encourage the students to pursue these initiatives, and will try to adapt and advocate for a carbon neutral institution.



Teachers

- Support their students and actively involve climate impacts in their curriculum and style of teaching,

Heads of School

- Advocate about the issue and the initiatives taken by the school on any and all platforms

Admin Team

- Make sure necessary equipment, resources and methods are used to both, help the students and run the school in the most carbon efficient way possible.

This is how the entire school will work towards the goal of carbon neutrality.



Becoming Environment and Climate - Friendly Schools

Sustainable Development Goals adopted by the UN

The 70th UN General Assembly adopted the Sustainable Development Goals (SDGs) which form a program of sustainable, universal and ambitious development, a program of the people, by the people and for the people, conceived with the active participation of UNESCO.



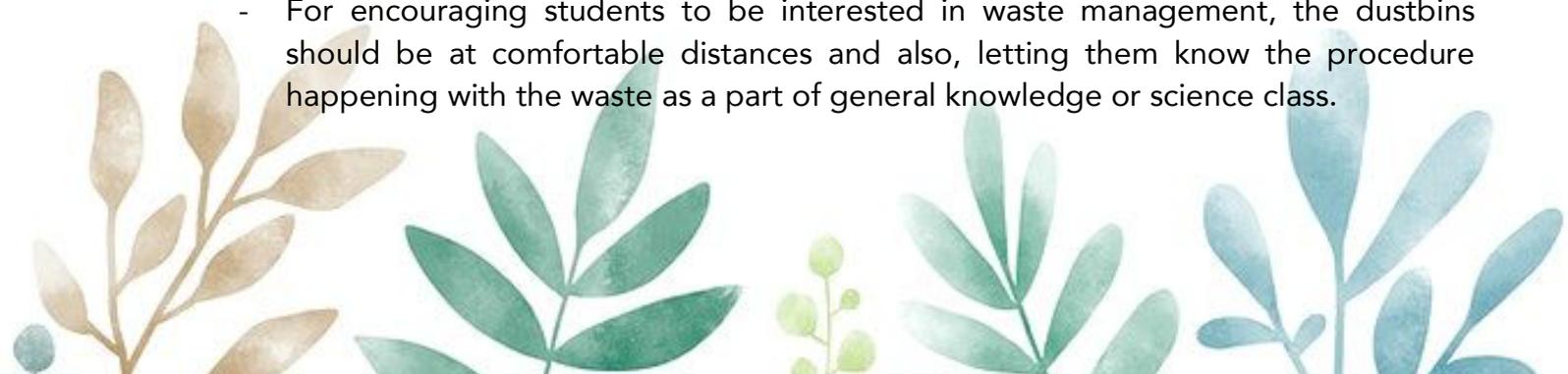
Developing an internal school culture of sustainability

- **Creating awareness**

- Encouraging the students about the importance of **waste management**. Starting by segregating biodegradable and non-degradable waste. After which the biodegradable waste from the students, teachers, cafeteria and admin could form compost which will be used in school gardens.



- For encouraging students to be interested in waste management, the dustbins should be at comfortable distances and also, letting them know the procedure happening with the waste as a part of general knowledge or science class.



- **Tree plantation** competition between the classes from grade 2-7 for a greener school along with plant exhibitions-indoor and outdoor plants. With this competition will come the sense of responsibility and acknowledgement.

- **Drawing competitions** and poster making which shall be put up in the entire school. Awareness posters across the campus, as repetition is the best teacher, as if we look at environment awareness posters all around, we tend to implement them more.



- The schools may go **digital for the purpose of circulars and worksheets**. They are much more efficient and also help us create awareness about the importance of trees and paper in the world which is already leading to severe global warming. The schools will also insist on double sided printing.

- Learn and Educate people about **home gardens**, they should have a garden at home.



- **Educate** the community to get their cars timely checked as it emits a lot of gases.

- A set of **stationary cycles** which would create energy while using them.

- **Establishing rules, policies and regulations**



- Our main aim should be to use **natural resources** as much as possible to generate energy like sun, water, wind etc.

- We can **upcycle the paper waste** to make more paper which can be written and painted on.

- The idea of **pool-in** on odd days (like the exams or something similar) should be encouraged. Apart from the midterm and final exam all tests and exams can be conducted online.

- The **food shouldn't be wasted** in the canteen (instead, give the left-over food to an orphanage).

- **Rain water** harvesting in the school can be an initiative taken for consuming the rain water in the best possible manner.



- If noticed when the staff waters the trees and ground with pipe, a lot of water is wasted. For the same, we can save a considerable amount of water wasted through using **sprinklers** as they reduce the amount of water wasted. RO waste water to be used for cleaning and watering plants.



- **Shutdown and unplug** the electrical appliances when they are not in use. When not in the room, lights and fans must be switched off.
- During morning hours in winter, **power shut** for 1 hour should be done in order to reduce the energy consumption. Outdoor sessions to be promoted during winters.

- **Role of vision and mission statement in developing the culture**

- Schools should be **net 0 buildings**, which means zero carbon emission. These buildings reuse water after using the basin by making it clean and reuses it in gardening, bus washing etc., and uses solar panels. (Gift City already does).

Roles of stakeholders

All stakeholders, internal and external will play an important part in this initiative. They will all have their respective roles and responsibilities in helping the community through this project. The roles of individual stakeholders are outlined below:



Students

- They will **assess the impact** their school has on the climate. They will do so by measuring electricity usage and their school's carbon footprint. They will also regularly assess the progress of their school, by carrying out energy audits
- They will **identify the channels** through which their school is having the largest negative impact on the environment.
- After identifying the possible problem areas, they will **set goals** to which the school will work toward
- They will make plans and identify the best methods, after research, to **reduce** their school's carbon footprint
- They will then **put their plan into action**, by creating, managing and taking part in clubs, projects, raising awareness and advocating or in any other way that seems fit
- They will **mentor younger students** to become more aware of the climate crisis and teach them to be responsible toward their environment





Teachers

- Teachers will **advocate for the cause** inside the school, especially in classrooms environments wherein they will reinforce the environmentally friendly policies set by the school.
- They will make sure that **every student takes part** in this initiative in some capacity.
- They will **inculcate knowledge about climate change and sustainable living** in their respective curriculums.
- They will **supervise the students** in all their endeavors and activities, and offer help as and when required



Principal and Administrators

- They will **advocate for this initiative on any and all platforms**, whilst keeping in mind the vision and mission of this initiative in mind.
- They will **assist work done** by the students and teachers in any way shape or form, for instance providing the students and teachers with resources and time required to complete a particular task or project.
- They will **consider consequences of a decision regarding climate change**, and how it fits in with the values and beliefs of this initiative.



Custodians and Building Operators

- They will **run the building** in a way that reduces the school's carbon footprint as much as possible.
- They will **implement technologies** and systems that help the school in reducing their carbon footprint and/or technology and solutions proposed by students.
- They will see to it that **waste is disposed of properly**.
- They will continually adapt **new technology and methods** in a way that reduces the school's carbon footprint.
- **Paper is recycled** continuously.
- **Markers** are recycled and **e-waste** disposed effectively.
- Dustbins and e-waste, composting



Cafeteria Staff

- They will be essential in **decreasing food wastage** through **controlling portions** given to students
- They will work with the school's **recycling program** to help with the process of waste food segregation and disposal
- They will also **discourage wastage** of food by students.
- The cafeteria staff will oversee the **composting of waste food**
- The cafeteria staff will be in-charge of **adding posters** in the cafeteria



Office Support Staff

- They will work with students to **conduct the clerical** and administrative work that comes with a student led green initiative in school
- They will help the students and the school take **necessary budgetary decisions** in order to responsibly have a significant impact on the school environment
- They will help **highlight the school's green values** and initiatives in school presentations and websites
- They will help the school measure the **electricity and water usage** of the school and help **track the progress of Ecotopia**



Families

- Encouraging students to bring sustainable practices from **school to the home** environment
- Taking initiative **within the house** to implement green practices that are being taught in school
- **Volunteer or donate** in school led initiative aimed for helping the environment
- Share their **knowledge of sustainable practices** with other people



Local Community Members and Initiatives

- **Volunteer** in school led initiatives helping the local environment
- **Share their expertise** with students in order to aid them with their projects
- **Partner with Ecotopia** to help the local community

Planning, action, evaluation, reflection

- Improvement manifests itself in two forms, instantaneous breakthroughs and incremental changes, both of which we hope to see on our slowly rising graph charting the progress of Ecotopia.
- The basis of this graph finds itself in planning, action, and the evaluation of the two. As a management system, this process has very few flaws; it eliminates margin for error and makes statistical mistakes very unlikely- every loophole can be smoothly filled and cemented.



Planning

- Arguably the most important part of any formulated set of steps, planning provides the basic framework of the action. With all the flaws and imperfections, it still manages to accurately convey a broad idea of the steps that will, in the near future, be taken to ensure the meeting of an objective.
- The objective is the component that the plan aims to fulfill, and with an objective as a starting point, we have a definite goal to work towards. Planning is the most important step because it is the first one to be taken, and is best done as a team. Multiple dedicated students working together will make for the exchange of creative ideas and innovative solutions, to cumulatively build a strong, unwavering plan.



Action

- The next step in the process of commitment involves taking action, implementing the plan. This is a long process that bleeds into the next step as well. After a certain point, both this step and the next will overlap, and commence simultaneously.
- For a smooth course of action with no hitches, again, a team is optimal. The joining of forces to take steps or complete assigned work, in optimal cases through bite sized delegation to subgroups, will ensure much faster results. There is also the fact that most difficulties a single individual cannot overcome, may be overcome by a team, ready to generate solutions at the drop of a hat.



Evaluation

Somewhere along the action process, we may encounter roadblocks or obstacles that we did not anticipate or make provisions for. We may also find problems in the original plan, that cause issues with the carrying out of the plan. If the implementation of one strategy causes a snag in another, we must make note of it for the future.

The best way to evaluate a plan is to implement it. It allows you to immerse yourself in the process, the hands on experience pointing out more room for improvement than words on paper ever could. Evaluation must be done on three parameters:

Amount of progress made v/s amount of progress expected

Impact or outcome of action taken

Room for improvement/notes for the next time.



Reflection

- Reflection delves deeper into the last evaluative procedure, i.e room for improvement and notes for next time. It is optimistic to expect the smooth functioning of everything from the outset, perhaps a little naive as well; accounting for errors and then noting them down later will mean we may have to account for less errors the next time any action is taken.
- This step involves the team giving feedback on their experience, the snags they encountered, and miscellaneous suggestions they may have had for the next time.

These four steps conducted in tandem and in succession will definitively contribute to both the breakthrough variety and the cumulative improvement variety of the progress that we, as a team, hope to make with Ecotopia.



Key steps to becoming a Climate-Friendly school

- **ACT**

- Self-Analysis-

- Self-assessment, providing an honest picture of the school's current performance with respect to climate change.
 - Water in the washrooms, taps, cooler etc
 - Food being wasted in the canteen
 - Electricity in the classrooms (fans, lights)
 - Stock of recycling facilities for paper in classes and staff rooms
 - Track the usage of AC (whole day; off during breaks)
 - Canteen food (sourced ethically and locally? Free range and organic food if possible?)
 - Recycling bins placed strategically in and around the school
 - Eco friendly cleaning material, non-toxic hand wash
- We may even make questionnaires to take stock of how students' home lives are impacting the climate, to perhaps further identify the largest area that warrants concern.



- Developing an Action Plan-

- A comprehensive framework of aims and priorities, specific tasks, expected outcomes. Including time frames would be very useful.
- Four areas of schoolwide approach to be taken care of.
 - School governance
 - Teaching and Learning
 - Campus and Facility management
 - Partnerships with the community.



- Clarification of Roles and Responsibilities-

- Leader board should be free of any bias, gender or otherwise, ensuring that one's circumstances do not dictate their opportunities if they are a student of the school. The leaders of any Ecotopia related team shall share the workload, participate and make use of their skills, all of which are essential to the process.
- Setting up a climate action team with clear roles and responsibilities in order to coordinate the development, execution, implementation and revision of the whole-school action plan is a correct way to go about it.
- Setting clear terms on the hierarchy of teams under Ecotopia, both for the initiative and for each individual school. Setting clear standards and conditions for leadership positions, not ambiguous even though they may be lenient.



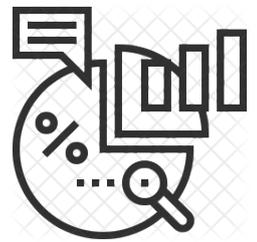
- **PLAN**

- Implementation of action plan

- The finalised action plans must be implemented in the four areas of a school-wide approach as mentioned under *Developing an Action Plan*. Allowances may be made for differing contexts of each school such as campus or foyer sizes, but the overall skeleton of the final plan will be quite similar for each school, and must be implemented with commendable zeal.
- All the members of the school committees as well as founding members of Ecotopia, extended members (media team, tech team, creative writing team, etc.) must be involved in implementing the action plan. Tasks under each team's jurisdiction must be delegated to them at this junction, for them to spring into action for immediate and delightful results.

- Collecting Data while Implementing the Plan

- Several types of data must be used to capture deep, extensive and system-wide change.
- A school's assessment portfolio may include:
 - Data collected through thorough, student-led investigations such as energy audits, biodiversity counts, transportation surveys, ecological footprint analyses and community attitude surveys;
 - Quantitative data already collected by the school as a part of its normal operations such as attendance records and electricity bills;
 - Qualitative data such as a sample of students' work, lesson plans, teacher observations, photographs, school newsletters, climate team meeting minutes and action plan.



- **REACT AND REVIEW**

- Taking time to reflect and review goals, strategies and achievements

- After attempting to achieve the school's climate action goals, take time to review or even change goals, action plans and methods.
- The climate action team should coordinate this process with respect to the growth and impact witnessed after the implementation of the action plan.



- Sharing and Celebrating the Results and Lessons learned

- Communicating the results and lessons within and beyond the school community builds accountability around climate action. Sincere, appropriate and public celebration of the school's success and achievements also builds morale and motivates the community to sustain projects. Around the world, schools have found a plethora of creative ways to share their accomplishments and lessons learned, such as:



- Using the data collected to deliver the curriculum e.g. Students create graphs to represent and illustrate changes in electricity consumption;
- Putting up posters made by students in a prominent spot in the school;
- Sharing tips for families to introduce sustainable and environmentally-friendly practices at home;
- Inviting visitors for student led tours showcasing numerous climate action projects;
- Presenting results and lessons learned at conferences and in academic journals;
- Seeking certification with national or international award programmes.

Areas for Action

Guidelines

- Write major action guidelines that all schools aim to abide by, and mention strategies that would be used

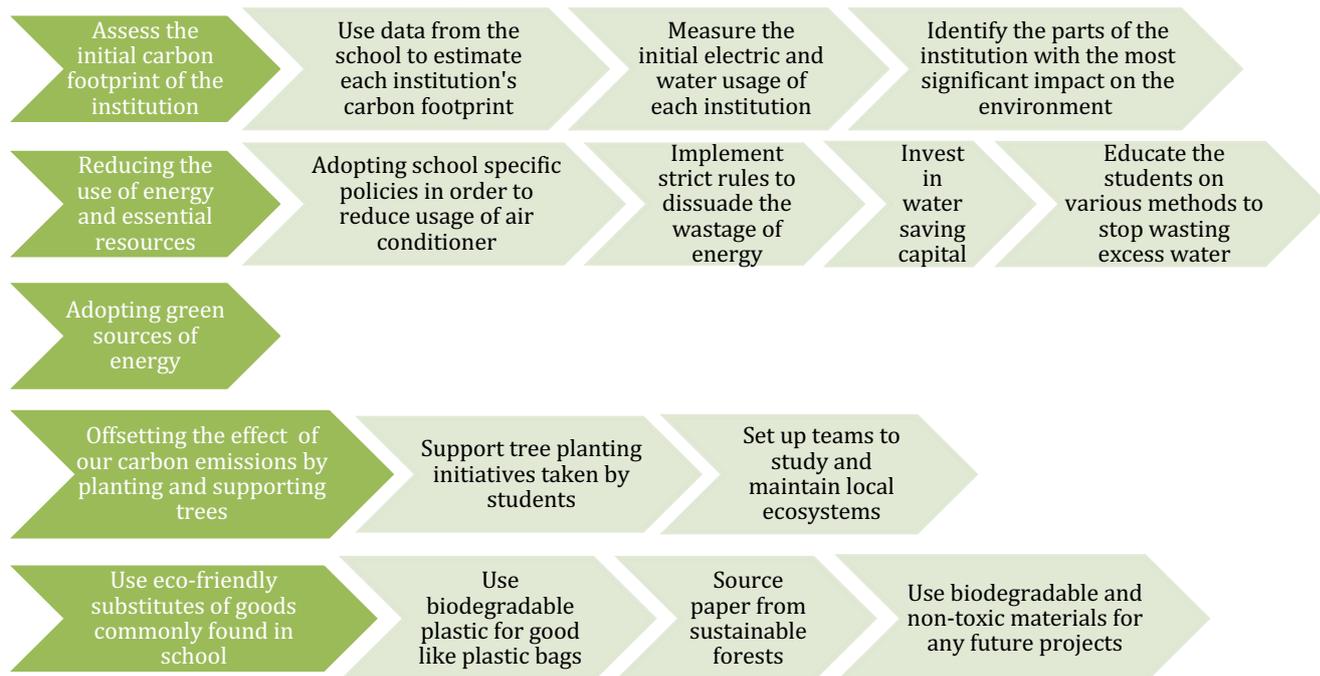
Examples:

- Creating teams
- Creating awareness via social media and a website
- Areas for action/ sections such as energy, waste, etc
- Empowering students to act

Major goals and strategies



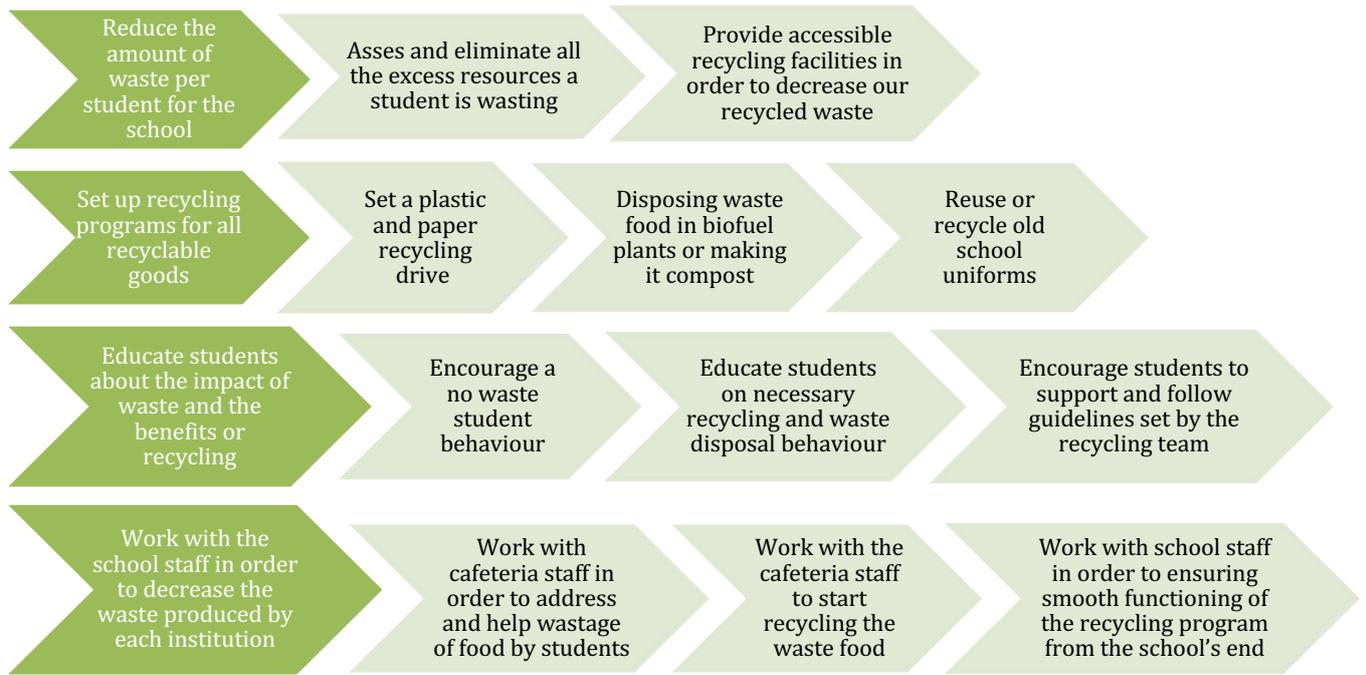
● **Goal 1: Working towards being Carbon neutral institutions**



- Assess the initial carbon footprint of the institution
 - Use data from the school to estimate each institution's carbon footprint.
 - Measure the initial electric and water usage of each institution
 - Identify the parts of the institution with the most significant impact on the environment
- Reducing the use of energy and essential resources
 - Adopting school specific policies in order to reduce usage of air conditioner
 - Implement strict rules to dissuade the wastage of energy
 - Invest in water saving capital
 - Educate the students on various methods to stop wasting excess water
- Adopting green sources of energy
- Offsetting the effect of our carbon emissions by planting and supporting trees in our local environment
 - Support tree planting initiatives taken by students
 - Set up teams to study and maintain local ecosystems
- Use eco-friendly substitutes of goods commonly found in school
 - Use biodegradable plastic for good like plastic bags
 - Source paper from sustainable forests
 - Use biodegradable and non-toxic materials for any future projects



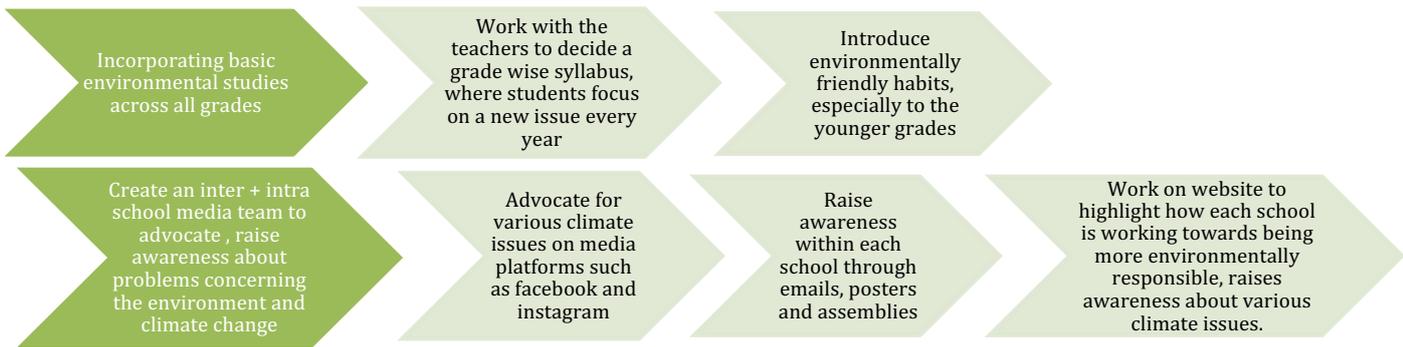
● **Goal 2: Become zero waste institutions**



- Reduce the amount of waste per student for the school
 - Asses and eliminate all the excess resources a student is wasting
 - Provide accessible recycling facilities in order to decrease our recycled waste
- Set up recycling programs for all recyclable goods
 - Set a plastic and paper recycling drive
 - Disposing waste food in biofuel plants or making it compost
 - Reuse of recycle old school uniforms
- Educate students about the impact of waste and the benefits or recycling
 - Encourage a no waste student behaviour
 - Educate students on necessary recycling and waste disposal behaviour
 - Encourage students to support and follow guidelines set by the recycling team
- Work with the school staff in order to decrease the waste produced by each institution
 - Work with cafeteria staff in order to address and help wastage of food by students
 - Work with the cafeteria staff to start recycling the waste food
 - Work with school staff in order to ensuring smooth functioning of the recycling program from the school's end

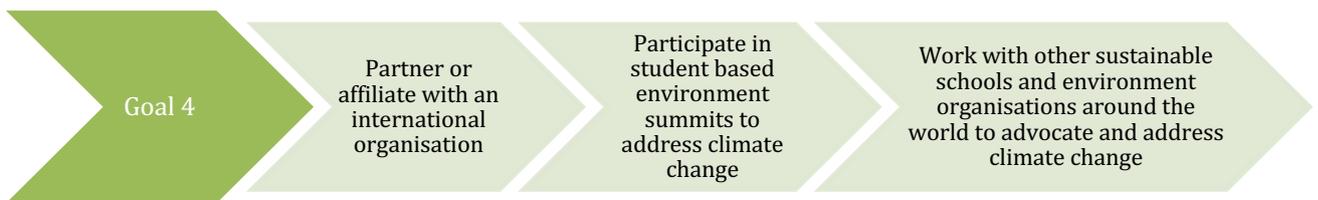


○ **Goal 3: Educate every student to be environmentally literate and responsible**



- Incorporating basic environmental studies across all grades
 - Work with the teachers to decide a grade wise syllabus, where students focus on a new issue every year
 - Introduce environmentally friendly habits, especially to the younger grades
- Create an inter and intra school media team to further advocate and raise awareness about problems concerning the environment and climate change
 - Advocate for various climate issues on media platforms such as Facebook and Instagram
 - Raise awareness within each school through emails, posters and assemblies
 - Work on a common website which highlights how each school is working towards being more environmentally responsible, and also raises awareness about various climate issues.

○ **Goal 4: Have a global impact on the fight against climate change**



- Partner or affiliate with an international organisation
- Participate in student-based environment summits to address climate change
- Work with other sustainable schools and environment organisations around the world to advocate and address climate change



Monitoring Progress

Methods to measure and monitor progress

- Each school will have their **own action plan** to act as a **time table and reference** to create the **weekly reports** and needs to include the following:
 - The task
 - The deadline of the task



What overarching goal is meant to be achieved:

- Tasks will have certain outcomes which will be made and will differ school to school and whichever outcome is achieved will add to the % completion of the task.
- Post task the % completion with evidence of the algorithm used to calculate the % completion and the work being done by people should be included.
- Pictures, videos and other forms of evidence are required to back up the quantitative data a being collected.
- Attach google drive links below the % completion section which will include 2 folders, one with the graph or the algorithm and the other is the primary data resulting in the value of % completion.
- % completion should be as close as possible to 100. Below a certain percentage completion actions will be taken.
- **Monthly reports** from the school heads to the main leaders to make sure progress is accounted for. It will be done as follows:

- **Reports** will have a deadline, being the last day of every month.
- **Sectional heads** will attach their reports to the folder called "**Progress report**" so that each sectional head can see the progress and take inspiration.
- The **use of excel is recommended** to give % completion of tasks but any other algorithm works too.



- These reports will be stored on the **common drive**.
- Reports shall include the task designated, the % completion of the task in the group and a list of names given the most contribution and list of names not doing any task.
- These reports will be discussed **monthly with all the 4 schools** to have an idea of the overall project of the initiative.
- Members doing consistently commendable work in the 4 schools will get the **chance to lead along with selected leaders** in the common initiatives of all the 4 schools.

Bibliography and reference cite

Guide used:

https://www.unesco.de/sites/default/files/2019-03/Getting_Climate-Ready-Guide_Schools.pdf

<https://www.project-syndicate.org/commentary/tackling-climate-change-with-covid19-urgency-by-mary-robinson-and-daya-reddy-2020-04>

<https://www.climaterealityproject.org/blog/communicating-urgency-climate-crisis>

<https://www.unsdsn.org/understanding-climate-action-urgency-in-2020>

<https://history.aip.org/climate/timeline.htm>

<https://www.newscientist.com/article/dn9912-timeline-climate-change/>

<https://www.bbc.com/news/science-environment-15874560>

<https://www.sierraclub.org/sierra/most-important-environmental-stories-2019>

<https://www.clipartkey.com/>

