SDG 13: Climate Action

SDG 13 in India: Climate Action

Sustainable Development Goal 13 (SDG 13) focuses on taking urgent action to combat climate change and its impacts. India, as one of the world's fastest-growing economies and a significant emitter of greenhouse gases, recognizes the critical importance of addressing climate change for sustainable development. The country has undertaken numerous initiatives to mitigate climate change effects, adapt to its impacts, and transition towards a low-carbon economy.

Efforts by the Indian Government to Address Climate Change

1. **Commitment to International Agreements**:
    - **Paris Agreement Pledges**: India has committed to reducing the emissions intensity of its GDP by 33-35% by 2030 from 2005 levels. Additionally, it aims to achieve 40% of its installed electric power capacity from non-fossil fuel sources by 2030.
    - **Nationally Determined Contributions (NDCs)**: India's NDCs outline its strategies for climate change mitigation and adaptation, emphasizing renewable energy expansion, sustainable agriculture, and enhanced carbon sinks.
2. **National Action Plan on Climate Change (NAPCC)**:
    - **Launched in 2008**, the NAPCC comprises eight missions focusing on solar energy, enhanced energy efficiency, sustainable habitat, water conservation, sustaining the Himalayan ecosystem, a "Green India," sustainable agriculture, and strategic knowledge for climate change.
    - **Expansion of Missions**: The government is working on adding new missions, such as those on wind energy and waste to energy, to strengthen climate action.
3. **Renewable Energy Initiatives**:
    - **National Solar Mission**: Aims to establish India as a global leader in solar energy by increasing the installed solar capacity to 100 GW by 2022, which has now been surpassed with ambitious targets set for 2030.
    - **Wind Energy Expansion**: India is the fourth-largest wind power producer globally, with plans to increase wind energy capacity significantly.
4. **International Solar Alliance (ISA)**:
    - **Founded by India and France**, the ISA aims to promote solar energy utilization among member countries, facilitating technology transfer, and mobilizing finance for solar projects.
5. **Afforestation and Green Cover Enhancement**:
    - **Green India Mission**: Part of NAPCC, this mission focuses on increasing forest cover on degraded lands and enhancing ecosystem services like carbon sequestration.

    - **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**: Facilitates afforestation activities by utilizing funds collected from industries that have diverted forest land for development purposes.
6. **Energy Efficiency Programs**:
    - **Perform, Achieve, and Trade (PAT) Scheme**: Encourages industries to reduce their energy consumption through market-based mechanisms.
    - **UJALA Scheme**: Promotes the distribution of energy-efficient LED bulbs to reduce electricity consumption.
7. **National Clean Energy Fund (NCEF)**:
    - Established to support clean energy initiatives and funded by a cess on coal production, the NCEF finances projects that aim to reduce carbon emissions and promote renewable energy.
8. **Climate Resilient Agriculture**:
    - **National Mission for Sustainable Agriculture (NMSA)**: Focuses on developing climate-resilient farming practices, soil conservation, and water efficiency to safeguard food security.
9. **Urban Climate Action**:
    - **Smart Cities Mission**: Incorporates climate-smart features like energy-efficient buildings, renewable energy integration, and sustainable urban planning.
    - **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)**: Enhances urban infrastructure with an emphasis on green spaces and reduced pollution.
10. **Disaster Management and Adaptation**:
    - **National Disaster Management Plan**: Addresses climate-induced disasters with strategies for mitigation, preparedness, and recovery.
    - **Early Warning Systems**: Implementation of advanced meteorological systems to predict extreme weather events.

SDG 13 at the University of Petroleum and Energy Studies (UPES)

The University of Petroleum and Energy Studies (UPES) actively contributes to SDG 13 through its commitment to sustainability, climate action research, educational programs, and community initiatives. As an institution specializing in energy and related sectors, UPES plays a crucial role in shaping future leaders who are equipped to address climate change challenges.

1. Sustainable Campus Initiatives

- **Energy Efficiency and Renewable Energy Use**:
    - **Solar Power Installation**: UPES has installed solar panels on campus buildings to harness renewable energy, reducing reliance on conventional power sources.
    - **Energy-Efficient Infrastructure**: Buildings are designed with green architecture principles, utilizing natural lighting and ventilation to minimize energy consumption.
    - **LED Lighting**: Replacement of conventional lighting with LED bulbs across the campus to enhance energy efficiency.
- **Waste Management and Carbon Footprint Reduction**:

    - **Waste Segregation and Recycling**: Implementation of waste management practices, including composting organic waste and recycling paper, plastic, and electronic waste.
    - **Carbon Footprint Monitoring**: Regular assessments of the university's carbon footprint to identify areas for improvement and track progress.
- **Water Conservation Measures**:
    - **Rainwater Harvesting Systems**: Collection and utilization of rainwater for landscaping and non-potable purposes.
    - **Water-Efficient Fixtures**: Installation of low-flow faucets and dual-flush toilets to reduce water usage.

2. Climate Change Education and Awareness

- **Academic Programs and Courses**:
    - **Specialized Degrees**: UPES offers programs in **Environmental Engineering**, **Sustainable Energy**, **Climate Science**, and **Environmental Policy**, integrating climate change concepts into the curriculum.
    - **Interdisciplinary Approach**: Courses emphasize the nexus between energy, environment, and sustainability, preparing students to develop holistic solutions.
- **Workshops and Seminars**:
    - **Guest Lectures by Experts**: Hosting climate scientists, policymakers, and industry leaders to share insights on climate action and sustainability.
    - **Student-Led Conferences**: Encouraging students to organize events like **"Climate Action Week"**, promoting awareness and engagement.

3. Research and Innovation

- **Renewable Energy Research**:
    - **Solar and Wind Energy Projects**: Research on improving the efficiency of solar panels and wind turbines, energy storage solutions, and grid integration.
    - **Bioenergy and Waste-to-Energy**: Exploring the potential of biofuels and converting waste into energy as sustainable alternatives.
- **Climate Modeling and Impact Studies**:
    - **Collaborative Research**: Partnerships with governmental agencies and international organizations to model climate scenarios and assess impacts on various sectors.
    - **Adaptation Strategies**: Developing frameworks for climate-resilient infrastructure and disaster management.
- **Publications and Patents**:
    - Faculty and students contribute to academic journals and conferences, sharing findings that advance climate science and technology.

4. Community Outreach and Engagement

- **Awareness Campaigns**:
    - **Tree Plantation Drives**: Organizing events to plant trees in the campus and neighboring communities, enhancing green cover.
    - **Cleanliness Drives**: Participating in initiatives like **Swachh Bharat Abhiyan** to promote environmental hygiene and reduce pollution.
- **Educational Programs**:

    - **Workshops for Schools**: Conducting sessions on climate change and sustainability for students in local schools, fostering early awareness.
    - **Collaboration with NGOs**: Partnering with non-profit organizations to implement community-based climate action projects.
- **Sustainability Clubs and Student Initiatives**:
    - **Eco-Clubs**: Student-led groups that advocate for environmental stewardship and organize activities related to conservation and sustainability.
    - **Competitions and Hackathons**: Encouraging innovation through events that challenge students to develop solutions for climate change mitigation and adaptation.

5. Policy Advocacy and Collaboration

- **Industry Partnerships**:
    - Collaborating with energy companies and environmental organizations to promote sustainable practices and influence policy.
    - **Internship Opportunities**: Providing students with hands-on experience in organizations working on climate action.
- **Participation in National Programs**:
    - **Engagement with Government Initiatives**: UPES aligns its efforts with national missions like the NAPCC, contributing expertise and research support.

Impact of UPES's Contributions to SDG 13

UPES's comprehensive approach to climate action exemplifies its commitment to SDG 13. By integrating sustainability into its operations, academics, research, and community involvement, the university:

- **Educates Future Leaders**: Equips students with the knowledge and skills to address climate challenges in their professional careers.
- **Advances Climate Research**: Contributes to the global body of knowledge through innovative research and collaborations.
- **Promotes Sustainable Practices**: Serves as a model for environmental responsibility within the higher education sector.
- **Engages the Community**: Amplifies impact through outreach programs that foster environmental awareness and action beyond the campus.

Through these efforts, UPES not only supports India's national climate goals but also contributes to global initiatives aimed at combating climate change and promoting sustainable development.

Centre for Energy, Environment, and Sustainability Studies (CEESS)

https://research.upes.ac.in/centre-for-energy-environment-and-sustainability-studies-ceess/ [1]

Centre for Energy, Environment, and Sustainability Studies (CEESS) is a constituent think tank and research centre of excellence of School of Business, UPES. Its primary aim is to promote multidisciplinary research in areas of Economics, Environment, Energy, Globalization, Trade,

Transport, Supply chain and Sustainable Development. Considering the Environmental policies of the country against thriving energy requirement and demand for infrastructure development in achieving high economic growth needs a balanced approach that can be derived from informed and effective research and development. Given what has been said, CEESS will be a major player to suggest policy reforms, as a result of its R&D that will help the policymakers to achieve sustainable development goals. Along with the vision of "Make in India" and "Atmanirbhar Bharat Abhiyan", CEESS through its research and publication will assist policymakers to design their policies towards self-dependence, generation of employment and increasing value-addition with new initiatives to support both the manufacturing and services sectors and improving the 'ease of doing business' in the country.

The centre will promote research on issues pertaining to the economy, energy, environment, and society in the context of trade, transport and globalization with a specific focus on sustainable development. Centre will help suggest strategies for the implementation of energy, environmental and economic policies through R&D that will help policymakers to design effective policies for the country and the rest of the world.

BROAD RESEARCH THEMES

• The broad themes that will be primary areas of research at CEESS are:

• Energy Business: Renewable and Non-renewable energy business

• Business and Sustainable Development

• Environmental Economics and Energy

• Climate Change Economics and Policy

• Economics and Business Studies

• Transportation and Green Supply Chain Management

• Trade, Environment and Globalization

• Marketing Management and Energy Business

• Public Policy and Governance

FUNCTIONS OF THE CENTRE

• To promote Research and Development

• To promote international and national research collaborations

• To promote to submit joint funded research proposals

• To promote interdisciplinary and multidisciplinary research

• To conduct research workshops, seminars, conference, panel discussions, and guest/distinguished lectures

• To help in disseminating research output through publication, workshop, seminar etc.

• Building a network with industry, research think tank, ministry at the national and international level for joint research collaboration and funding.

STI Forum 2023

https://twitter.com/DrSKrishnan/status/1654360058854080520 [2]

Co-organised #STIForum 2023 event with @IndiaDSTon Community Resilience Resource Centres for Post-Covid Socioeconomic Recovery. Impactful use cases by @wii_india @AmritaUni @UPESDehradun on community resilience.

@UNDPAccLabs

@Gina_labs

@RozitaSingh

@swetha_kolluri

@ErikaAntoine

Leveraging science, tech & innovation (#STI) for #ClimateResilience.

@IndiaDST & @UNDP

IN organized an event at #STI Forum on role of Community Resilience Resource Centres for SDGs & post COVID-19 recovery.

Over 100 participants from 40 countries🌏participated in the forum.

STI Forum 2023

https://twitter.com/shokonoda/status/1654141419978629122 [3]

Science, Tech & Innovation (#STI) are protecting communities🧑‍🌾🧑‍🌾 from #ClimateChange.

Participated in an event on building community resilience by

@IndiaDST

&

@UNDP

IN at #STI Forum 2023 w/

@srivaric

Highlighted IN's use of frugal innovation 💡 for SDGs & post-pandemic recovery.

Project Swachhta

https://www.upes.ac.in/social-impact/project-swachhta [4]

Aligned with the objectives of Swachh Bharat Mission to clean up streets, roads and public spaces in the cities, towns, urban and rural areas, Project Swachhta has evoked a sense of responsibility among the residents of Dehradun too. Cleanliness drives are being conducted at regular interval in areas adjoining the campus. The local residents have also been sensitized to join the program. The aim is to instill the value of cleanliness among youth through voluntary work in order to take the cleanliness drive to the next level.

Zero-waste accessories and gifting solutions by UPES students

https://blog.upes.ac.in/zero-waste-accessories-and-gifting-solutions-by-upes-students/ [5]

PRADEEP JAGWAN · AUGUST 27, 2021

Team Kalakrit, comprising UPES School of Design students – Khyati Gupta, Ridhi Sood, and Kashish Kohli – make biodegradable and eco-friendly products under the guidance of their professor, Manas Ranjan Misra

During the festive season, we often come across gifts that are non-biodegradable and add to the carbon footprints. Team Kalakrit, comprising UPES School of Design students – Khyati Gupta, Ridhi

Sood, and Kashish Kohli – have come up with a sustainable solution under the guidance of their professor, Manas Ranjan Misra.

These students have been making baked clay earrings, home décor items, therapeutic aromatic candles, and they even take customised orders for similar products. The products are organic, vegan, natural, sustainable, recycled, handmade, and biodegradable.

Says Khyati Gupta, “The idea came from the basic thought of ‘wastage and burden’ that a rakhi creates in its wake. Due to religious reasons, the thread cannot be disposed of in a bin and plastic is extremely harmful to nature. We can do a lot for our environment by making gifting options at home with eco-friendly materials instead of plastics, sparkles, beads, etc., caring for the environment, while retaining style, coolness, purpose, and fashion. Our products are zero-waste and come with zero-waste packaging.”

These products are zero-waste and come with zero-waste packaging

She further adds, “Through our products, we attempt to support the families who have lost their primary breadwinners due to Covid-19. We want to support underprivileged people by offering them employment opportunities. We also intend to conduct workshops in the less developed areas to create awareness of these handicrafts. We even want to expand our venture, targeting all the Indian festivals and events.”

Talking about the response to their products, Kashish Kohli says, “We are overwhelmed with the feedback that we got from our audience. Some people have even extolled our products as ‘revolutionary’. Some people also appreciated the finishing and design, and we are going to keep improving on it in all our upcoming projects. UPES provided us with a platform and audience who supported us throughout. We are even looking forward to getting registered with UCIE.”

Green Up Club

https://www.facebook.com/greenupupes/ [6]

The Health Effect of Air Pollution

https://www.facebook.com/greenupupes/photos/a.1533322970215340/3125976874283267/ [7]

Air pollution is causing way more damage to not only us but to our kids and animals. More and more people are suffering form air pollution. Kids with asthma have such a hard time breathing. They can't even play outside sometimes. Pollution has risen dramatically in past years affecting air pollution to cause the greenhouse effect and health problems, land pollution which causes harm to our environment, and water pollution which impairs water ecosystems. These obstacles cause harm and distress to plants, animals and humans. The rising of these various types of pollution is an everyday problem that affects our life and future and the environment day by day. So we should take our time and think about our actions before we do them. So help stop air pollution.

National Pollution Prevention Day

https://www.facebook.com/greenupupes/photos/a.1533322970215340/3032183520329270/ [8]

Every year, 2 December is observed as National Pollution Prevention Day in order to commemorate those who lost their lives in the Bhopal Gas Tragedy in 1984.

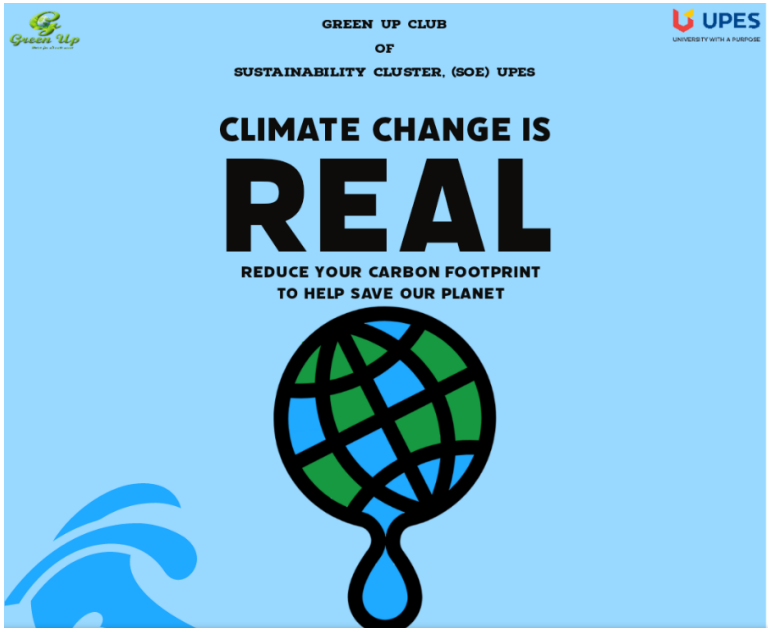
This day also aims to make people understand the need for preserving our natural resources.

National Pollution Prevention Day 2021 is observed with the theme of raising awareness around pollution along with urging the government to adopt policies that can help in reducing the effects of pollution.

On the National Pollution Prevention Day, it is our responsibility to avoid wastage of natural resources and prevent industrial pollution.We also need to focus on afforestation to combat the loss of green cover in the country.

Climate Change

https://www.facebook.com/greenupupes/photos/a.1519593978254906/2999142333633389/ [9]



Climate change is no longer some far-off problem; it is happening here; it is happening now."

•The Day recognizes the Earth and its ecosystems as humanity's common home and the need to protect her to enhance people's livelihoods, counteract climate change, and stop the collapse of biodiversity.

The theme for 2021 is Restore our Earth.

•Tropical forests are incredibly effective at storing carbon, providing at least a third of the mitigation action needed to prevent the worst climate change scenarios. Yet nature-based solutions receive only 3% of all climate funding.

•Natural climate solutions such as restoring degraded forests could create as many as 39 jobs per million dollars spent — that's a job-creation rate more than six times higher than the oil and gas industry.

SOME WAYS TO REDUCE CLIMATE CHANGE and not limited to this:-

1. Leave the car at home

2. Plant more trees

3. Eat less meat and dairy

4. Reduce water waste

5. Invest in energy-efficient appliances

Stop Global Warming

https://www.facebook.com/greenupupes/photos/a.153322970215340/2992838577597098/ [10]

It’s time we start taking care of our #Mother_Earth or else we and our generations will have to suffer.

Global warming is increasing rapidly all over the world.

Technology and urbanization are developing at a cost and i.e., our environment.

We have to start working on the concept of #Sustainable development

Socio-economic development should be sustainable.

Take a pledge to work for the environment and help this environment to grow better.

"We don't own the earth, we borrow it from our children"