

GREEN JOBS



NEWSLETTER

ISSUE 21 | January 2023



GREEN JOBS FOR Climate Empowerment

INSIDE THE ISSUE

- Message from the Chairman's Desk
- Message from the CEO's Desk
- COP27 - Addressing Climate Change Issues
- WePOWER and SCGJ
- SCGJ Statistics through 2022: Q1 - Q3 Trainings
- SCGJ Statistics through 2022: Projects and Skill Gap Studies
- SCGJ Vision and Future Outlook
- Proceeding of Webinar Series: Azadi Ka Amrit Mahotsav

MESSAGE

From the Chairman's Desk.

I wish a very Happy New Year to all the readers of the SCGJ Newsletter.

Skills and Green Skills are the key to achieve clean energy transition. A loud and clear message has come from recently concluded COP 27 that there is a need for renewed solidarity between countries, to deliver on the landmark Paris Agreement, for people and the planet. The goal is very clear which is to provide secure energy, affordable energy and clean energy to all of us. We have witnessed record temperatures, more heat waves, increased extreme weather events such as floods, cyclones or droughts drying up of rivers and forest fires all over the world.

“

The goal is very clear which is to provide secure energy, affordable energy and clean energy to all of us.



While carbon neutrality agenda continues to be priority for leaders across the world, there are challenges. In the COP 27 meet in Egypt there have been frank discussions about companies being dishonest about their climate action. On one hand there are promises being made to slash emissions and on other hand companies and nations are finding loopholes to invest in production of oil, coal and gas. I would say that amid this turbulence on path of net zero, leaders will have to be much more serious to balance resilience with an energy secure future.

There is fortunately alignment of all-global leaders be it organizations or be it Prime Ministers or Presidents of the world. There is alignment on four thoughts which is good news to my mind. One is there got to be focus on sustainable manufacturing. Second is making strides to recycle materials. Third is focus on renewables and invest in new sources of sustainable fuels like green hydrogen.

Task of achieving carbon neutrality is neither simple nor easy. While there is alignment on these four thoughts all across the world there are four universal problems which we need to address. Those are the hurdles we all are facing. One is deploying capital at a scale. The green hydrogen dream needs huge investment. Second is scaling up supply chain infrastructure. There has been a disruption of supply chain globally over the last three years which we have all witnessed. Unless and until there is a robust supply chain infrastructure available there are going to be again challenges in implementing this green economy. Third is managing economic dislocations and fourth is labour and talent sort shortages.

The path of net zero will not be a straight line. There is consensus that diversifying the energy supply with renewables green hydrogen and green power promotes energy security and economic competitiveness. I believe that India is in a unique position and it appears that we will leapfrog. We can expect massive expansion of green hydrogen and green ammonia production in our country. India is committed to curb its dependence on energy imports and there is need to wean the economy away from fossil fuels.

Mr. Sameer Gupta

Chairman
Skill Council for Green Jobs



MESSAGE

From the CEO's Desk.

Wishing a very Happy and Prosperous 2023 to all our readers and stakeholders of skill ecosystem.

The Skill Council for Green Jobs has completed 7 years of its operations. Our aim has been to identify the skilling needs of service users as well as manufacturers and service providers in clean energy sectors, and implement nation-wide, industry-led, collaborative skills and entrepreneurial development initiatives to support India's potential for "Green Businesses". SCGJ is the only Sector Skill Councils in the green energy space to have been recognized as an "Awarding Body" by the National Council for Vocational Education and Training (NCVET).

SCGJ continued with its effects to consolidate and strengthen its technical capabilities, review of qualifications, training materials and developing qualifications for new thematic areas with many bilateral and multilateral institutions like GIZ, UNDP, FCDO and USAID. SCGJ has developed qualifications in upcoming areas of Solar EV charging stations, solar cold storage and now exploring areas of Green hydrogen and air pollution control in the Country. In total, SCGJ has 50 NSQC approved qualifications ranging from NSQF level 2 to level 7.

During the current year, SCGJ got CSR funds for implementation of projects on sustainable development including SBI cards funded project on installation of Solar power project at Pt. Madan Mohan Malviya Hospital, Malviya Nagar, Delhi, and is also implementing a flagship deep-dive landscape research on Green Jobs in India funded by JP Morgan India Pvt. Ltd. The study will highlight existing status and potential demand of green jobs in India and map the landscape of various actors in the green jobs value chain. SCGJ got a project from World Bank for recommending vocational education in solar energy for Schools and from UNDP for developing qualifications on solar EV charging stations and cold storage. SCGJ has provided online trainings to over 1500 trainees from 82 ISA member countries (Primarily African) on solar proposal evaluation, solar roof top systems, solar mini grids and solar water pumping systems. The trainings were delivered in English, French and Spanish. GIZ has also supported SCGJ to develop an online training module/ E learning platform for technicians of waste water treatment plants and for solar grid engineers. Climate Policy Initiative sponsored trainings for 40 Solar Rooftop Entrepreneurs in Feb-March 2022 and again 40 Entrepreneurs in Dec,2022.

Our efforts towards promotion of learning continued through the series of webinars on the occasion of "Azadi Ka Amrit Mahotsav" covering various topics in Renewable Energy, Sustainable Development, waste management, waste to fuel etc. I am happy to share that we celebrated the 50th webinar of this series by organizing a panel discussion on rise of green hydrogen economy. Chairman SCGJ addressed the panelist representing reputed institutes and organizations involved in promoting the Green Hydrogen sector.

I am pleased to inform that SCGJ was invited in the 3rd Conference of the South Asia Women in Power Sector Professional Network (WePOWER) held in Bangkok, Thailand. The conference focused on increasing workforce participation of women in energy sector projects and institutions and promoting normative change regarding women in Science, Technology, Engineering, and Mathematics (STEM) education.

Our efforts during the year 2022 was to extend outreach of SCGJ from National to International bodies and share our experiences of skilling in the Green Energy space.

Dr. Praveen Saxena

Chief Executive Officer
Skill Council for Green Jobs

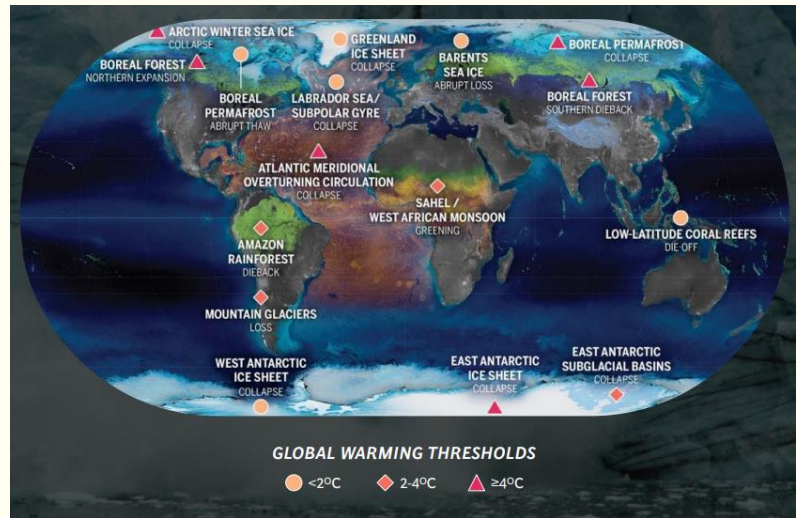


“*Our efforts during the year 2022 was to extend outreach of SCGJ from National to International bodies and share our experiences of skilling in the Green Energy space.*”

COP27, EGYPT 2022

Addressing Climate Change Issues

The 'Conference of the Parties' COP are the largest international climate change conferences currently held under the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC is an international convention which entered into force on 21 March 1994 and was opened for signature at the Rio Earth Summit in 1992. The UNFCCC has "near universal membership" with 198 countries having ratified it. The UN has stated that the convention's objective is to stabilize greenhouse gas concentrations at a level that would prevent dangerous levels of climate change.



Source: COP 27 - An Inside Perspective, Nov 2022 (BCG)

The ultimate objective of the convention is to stabilize greenhouse gas concentrations at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system.

It states that such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner.

COP27 is the 27th Conference of Parties which was held at Sharm El-Sheikh under Egypt's presidency of the COP from 6th to 20th November 2022. COP 27 continued the work on implementing of the 2015 Paris Agreement's aim of limiting the global temperature increase to "well below" 2.0 degrees Celsius above pre-industrial levels, and to pursue efforts to limit temperature increases to 1.5 degrees Celsius.

It followed COP26 which was held in 2021 in Glasgow under the UK's presidency. There was participation of more than 49,000 participants across countries to share ideas, solutions, and build partnerships and coalitions. Indigenous peoples, local communities, cities and civil society, including youth and children, showcased how they are addressing climate change and shared how it impacts their lives.



Goals and Vision for COP27

MITIGATION

Climate change should be mitigated by limiting global warming “well below” 2 degrees Celsius and countries should “work hard” to keep the 1.5 degree target alive and COP27 should review ambition in NDCs (nationally determined contributions), and create a work program for ambition on mitigation.

ADAPTATION

COP27 should witness an enhanced global agenda for action on adaptation, confirming what we agreed on in Paris and further elaborated in Glasgow pact.

FINANCE

COP27 should make significant progress on the crucial issue of climate finance while moving forward on all finance related items on the agenda. There was a need for improved transparency in the flow of finance and facilitated access to meet the needs of developing countries specially Africa, LDCs (least developed countries), and SIDS (small island developing states).

COLLABORATION

UN negotiations are based on consensus and that reaching agreements would “require inclusive and active participation from all stakeholders”. Ensure participation by all “relevant stakeholders” at COP27, particularly vulnerable communities and representatives from countries in the African region [which] the private sector and civil society needed to work together “to transform the way in which we interact with our planet”.



The decisions taken emphasized the critical importance of empowering all stakeholders to engage in climate action; in particular through the five-year action plan on Action for Climate Empowerment and the intermediate review of the Gender Action Plan. These outcomes will allow all Parties to work together to address imbalances in participation and provide stakeholders with the tools required to drive greater and more inclusive climate action at all levels.

Young people in particular were given greater prominence at COP27, with UN Climate Change’s Executive Secretary promising to urge governments to not just listen to the solutions put forward by young people, but to incorporate those solutions in decision and policy making. Young people made their voices heard through the first-of-its-kind pavilion for children and youth, as well as the first-ever youth-led Climate Forum in parallel with the formal negotiations, the Global Climate Action space at COP27 provided a platform for governments, businesses and civil society to collaborate and showcase their real-world climate solutions. The UN Climate Change High-Level Champions held a two-week programme of more than 50 events. This included a number of major African-led initiatives to cut emissions and build climate resilience, and significant work on the mobilization of finance.

The World Leaders Summit, held over two days during the first week of the conference, convened six high-level roundtable discussions. The discussions highlighted solutions – on themes including food security, vulnerable communities and just transition – to chart a path to overcome climate challenges and how to provide the finance, resources and tools to effectively deliver climate action at scale.

During the talks, it was clear that there was a need for funding for loss and damage issues as the impact of the climate change that cannot be adapted to, such as sea level rise and ecosystem collapse particularly for developing countries need to be attended for restoration by support from the developed countries. COP27 not only saw the issue firmly established at the heart of climate negotiations, but achieved agreement on the establishment of a fund, an outcome few had thought likely ahead of the talks. Although details need to be thrashed out at future COPs – including the crucial matter of who pays and who receives – the agreement is a major breakthrough for poorer nations.

The fossil fuel industries also had very large representation which reflects from participations of lobbyists from oil and gas industries. These figures show the growing influence of oil and gas interests at the climate talks. As per the deliberations with the fossil fuel lobbyists, the Sharm El-Sheikh Implementation Plan included “low-emissions” energy alongside renewables as the energy sources of the future. It was felt that Greenwashing should be avoided and businesses should have net-zero climate targets which includes overall reduction in all emissions, including from the supply chain, and should cover the short, medium and long term. Detailed transition plans should demonstrate how capital spending will be aligned with the targets, while progress should be reported in a way that allows comparison with peers. At COP27, organisations representing 350 m small-scale farmers globally requested an openly to build a stronger, more sustainable and fairer food system. In response, the COP27 presidency launched the Food and Agriculture for Sustainable Transformation (FAST) initiative, to improve the quantity and quality of climate finance contributions aimed at transforming agriculture by 2030, to be led by the UN Food and Agriculture Organisation. At the COP 27, multiple initiatives to boost resilience of populations and infrastructure were launched, emphasizing rising awareness of the impacts that climate change is already having on poorer people, and the increasingly urgent need to adapt. These include asking governments to embed water management in national climate adaptation efforts; and also a new UN action plan, which aims to ensure that all populations are covered by early warning systems in the next five years.

Key Outcomes of COP27

- COP27 saw the launch of a new five-year work program at COP27 to promote climate technology solutions in developing countries.
- Governments were requested to revisit and strengthen the 2030 targets in their national climate plans by the end of 2023, as well as accelerate efforts to phasedown unabated coal power and phase-out inefficient fossil fuel subsidies.
- Countries launched a [package of 25 new collaborative actions](#) in five key areas: power, road transport, steel, hydrogen and agriculture.
- UN Secretary-General António Guterres [announced a USD 3.1 billion plan](#) to ensure everyone on the planet is protected by early warning systems within the next five years.
- The G7 and the V20 (‘the Vulnerable Twenty’) launched the Global Shield against Climate Risks, with new commitments of over USD 200 million as initial funding. Implementation is to start immediately.
- Announcing a total of USD 105.6 million in new funding, Denmark, Finland, Germany, Ireland, Slovenia, Sweden, Switzerland, and the Walloon Region of Belgium, stressed the need for even more support for the Global Environment Facility funds targeting the immediate climate adaptation needs of low-lying and low-income states.
- The need for funding for loss and damage was finally acknowledged by richer nations. About €340m in new pledges for loss and damage were made, including from the EU, New Zealand and Canada.



A high level delegation led by Hon'ble Union Minister of Environment, Forest and Climate Change, Shri Bhupender Yadav participated in COP 27. India in collaboration with UNDP, UN in India and UNEP India organized a session on understanding the Concept of LiFE at the sidelines of COP 27 at the India Pavilion highlights experiences and best practices to support strategies and action towards sustainable living and climate action. This event was launched by the Hon'ble Minister of Environment, Forest and Climate Change and a compendium of best practices, Prayaas Se Prabhaav Tak – From Mindless Consumption to Mindful Utilization was released. While welcoming the delegates from all the countries to India Pavilion, Union Minister of Environment, Forest and Climate Change said that Prime Minister of India Shri Narendra Modi has provided a simple solution to the complex climate change problem. He said that India believes that climate action starts from the grassroots, individual level with the theme of LiFE- Lifestyle for Environment. India looks forward to substantial progress in the discussions related to climate finance. India is looking forward to the introduction of new technologies, and new collaborations to facilitate technology transfers. Taking a step further, at COP27, India submitted its Long-Term Low Emission Development Strategy (LT LEDES) to UNFCCC, which included plans for rapid expansion of green hydrogen production, three-fold increase in nuclear capacity by 2032, 20 percent ethanol blending in petrol by 2025.

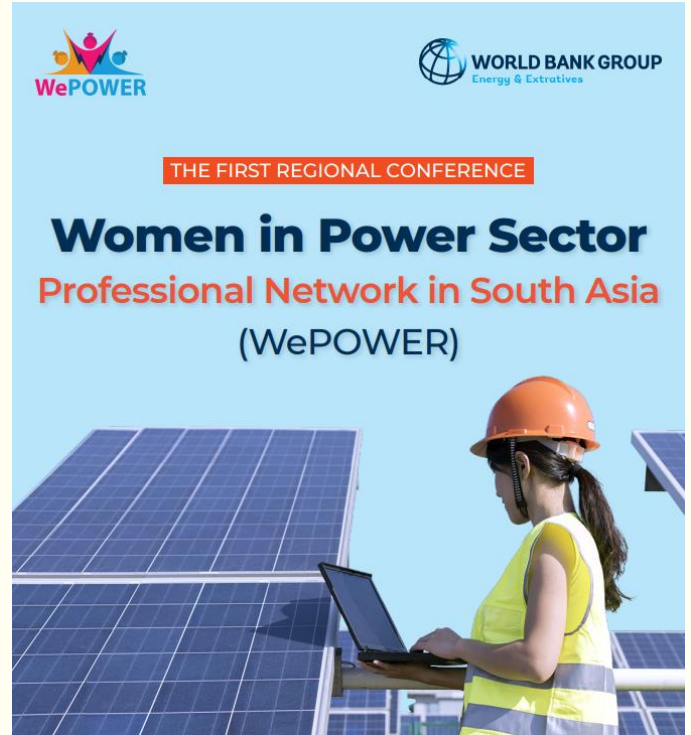
India is well on course to achieve its short-term target to meet 50 per cent of its energy needs from renewable fuels by 2030. However transition to a net zero carbon economy by 2070 will require many challenges. The document, released at the COP27 at Sharm El-Sheikh in Egypt, also notes that adapting to climate change would cost more and hence the focus on generating more funds during climate negotiations. The strategy document does not specify mid-term targets or goals. However, the government's other policies do offer insights into the net-zero pathway. The National Hydrogen Mission launched in 2021, for instance, aims to make India a green hydrogen hub. The country also has clean energy plans such as 20 per cent ethanol blending with petrol to burn less fossil fuel by 2025 and an electric vehicle project has been on the government's anvil for at least five years. Using several of these technologies will require industries to make large-scale changes. The recent impetus on renewables could mean that such electricity is from a clean source. That's perhaps one reason the strategy document is alive to scenarios in which fossil fuels continue to constitute a significant part of the energy mix. It talks of using methods such as carbon capture and storage (CCS) to remove GHGs before they enter the atmosphere. India has recently signed an MoU with Norway's state-owned energy Equinor to participate in several projects, including renewables and carbon capture utilization and storage (CCS).

At COP27, India pushed for climate finance (including implementing the annual funding from the floor of US\$100 billion), but the progress has been slow. India has also submitted the country's long-term low-emissions growth strategy, which also indicates low carbon pathways in India's key economic sectors. Additionally, India updated its Nationally Determined Contributions in August 2022 to increase the country's ambition for its 2030 climate targets. So far, 58 countries have submitted their long-term low-emission development strategies (LT-LEDS). India will assume the G-20 presidency with the motto 'One earth, One family, One future'. With schemes such as FAME that have accelerated the adoption of electric vehicles in the country, India is nearing its climate goals in time.

Women in Power Sector

WePOWER & SCGJ

India is significantly investing in clean energy, grid modernization, and digitalization of its utilities. Consequently, job profiles in the Indian energy sector are evolving with more emphasis on renewable energy solution. There is a growing demand for skilled human resources to fill green jobs. Women can help to fill this skill gaps required for the energy transition. However, the participation of women in the energy sector remains very low. To address this, The World Bank is committed to promoting gender equality in the Indian Electricity sector. Towards this goal, the World bank, in collaboration with the Asian Development Bank launched the WePOWER in February 2019. Since its launch in 2019, WePOWER continues to be a leading champion of promoting gender diversity and women's empowerment in the energy sector. WePOWER Partners have completed over 1,400 gender activities that benefitted over 28,000 females and the network looks forward to another excellent year of WePOWER partnerships to achieve their mission of more and better jobs for women.



The South Asia Women in Power Sector Professional Network (WePOWER) is a partnership of over 31 (and counting) electricity utilities and energy-sector organizations, who collectively work to increase women's participation in energy-sector projects and institutions as well as promote normative change regarding women in Science, Technology, Engineering and Mathematics (STEM) education.

The 3rd WePOWER Conference was held from 6th- 8th December, 2022, in Bangkok, Thailand. This Conference was co-organized by the World Bank's South Asia Gender and Energy Facility (SAGE) and the Asian Development Bank which was attended by 31 WePOWER Partners, and representatives from 35+ electricity utilities, energy-sector organizations, and other stakeholders across South Asia and beyond.

The Conference also witnessed participation of high-level country delegates and senior representatives, including HR directors, from all the major power utilities in South Asia along with over 200 participants from across the region.

Objective

The goal of the Conference is to get a consensus on:

- 1) Scaling up the number of WePOWER Partners and their impact
- 2) Ensuring the long-term sustainability of the WePOWER Network
- 3) Knowledge-sharing to promote gender diversity in the energy sector

Opportunity

The Conference also presented an opportunity to strengthen the high-level dialogue and cross-regional knowledge-sharing towards increasing the workforce participation of women in the energy sector.

Participation of Skill Council for Green Jobs (SCGJ) at WePOWER

SCGJ was invited to the 3rd WePOWER Conference during December 6th-8th December, 2022 in Bangkok, Thailand to share the Indian experience of skilling and jobs across the Green jobs segment in which Mr. Arpit Sharma, COO, SCGJ and Deepak Rai, VP, Standards & Research, SCGJ participated.

Deepak Rai, VP, Standards and Research, SCGJ presented on the overall Indian skilling ecosystem, SCGJ current interventions and anticipated jobs in the evolving energy sector along with how the country is preparing for the workforce for future jobs and the skills required for the emerging jobs across the region. Participants also brainstormed on identifying top key technical and soft skills i.e., Technology design, Robotics & Intelligent Automation, Information & Communications Technologies (ICT), Big data specialists, Strategic & Leadership Skills, Marketing Skills, Financial, Legal & Contract management etc. that would be required for future careers in the energy sector and what more can sector organizations shall do to inform women students and young professionals choose a career in energy sector.



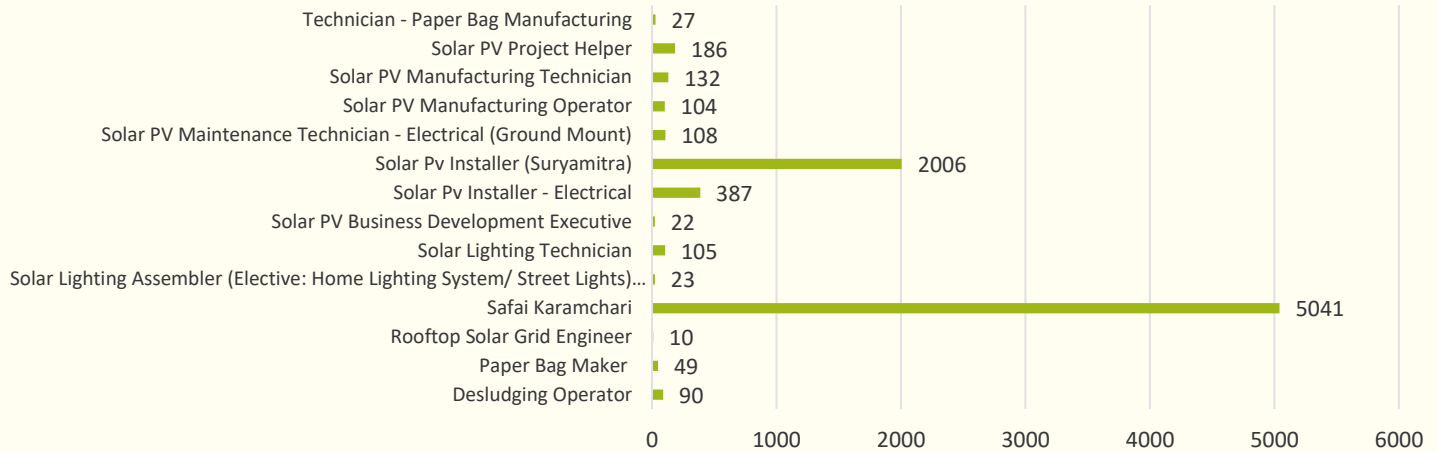
SCGJ has been focussing on scaling up various skilling interventions curated for female candidates to ensure that the female participation in the renewable energy sector along with the entire green business sector in India significantly improves. SCGJ has trained and certified over 509,000 trainees till date (mainly in waste management and renewables mainly solar energy) with approximately 10-15% female participation rate and aims to further train and certify up to 3 Million trainees by 2030, with at least 30% female participation. It is important to note that majority of the skilling programs particularly in solar energy are targeted for vocational candidates for typically technicians job role focusing on both rooftop and ground mounted solar power plants for performing Construction along with Operations & Maintenance functions. In recent years, the fast growing solar energy sector in the country has witnessed significant participation of women workforce in senior roles however the participation of female candidates in semi-skilled or skilled work functions like solar PV Technicians has not improved much. One of the key reasons is that solar power plants, particularly ground mounted projects are located at distant sites and female candidates find it difficult to choose a career working on those far off project sites. Nonetheless, grid interactive solar rooftop project sites which are mostly located in urban areas offers them a distinct advantage to opt solar as a career. While building on its experience of designing and implementing skilling interventions across green jobs thematic sectors, SCGJ intends to become a WePOWER partner and support the India chapter which also includes leading discoms, PSUs and academic & training institutions, and subsequently showcase its gender specific engagement in alignment with the goals of WePOWER network.

Q1-Q3 Trainings

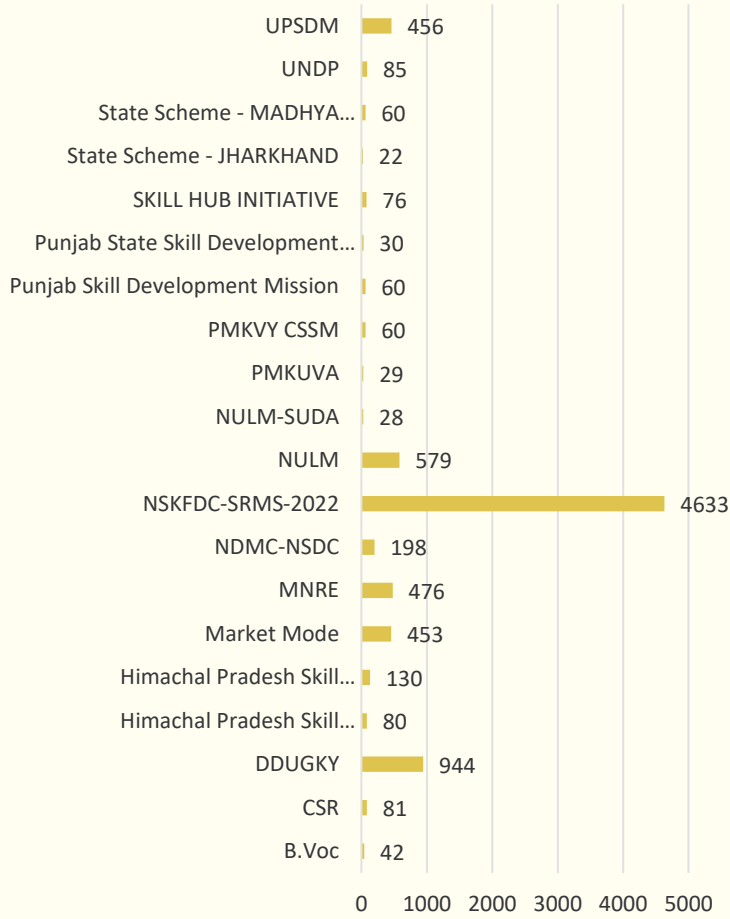
SCGJ Statistics through 2022

Total Training = 8296
Cumulative Training = 526476

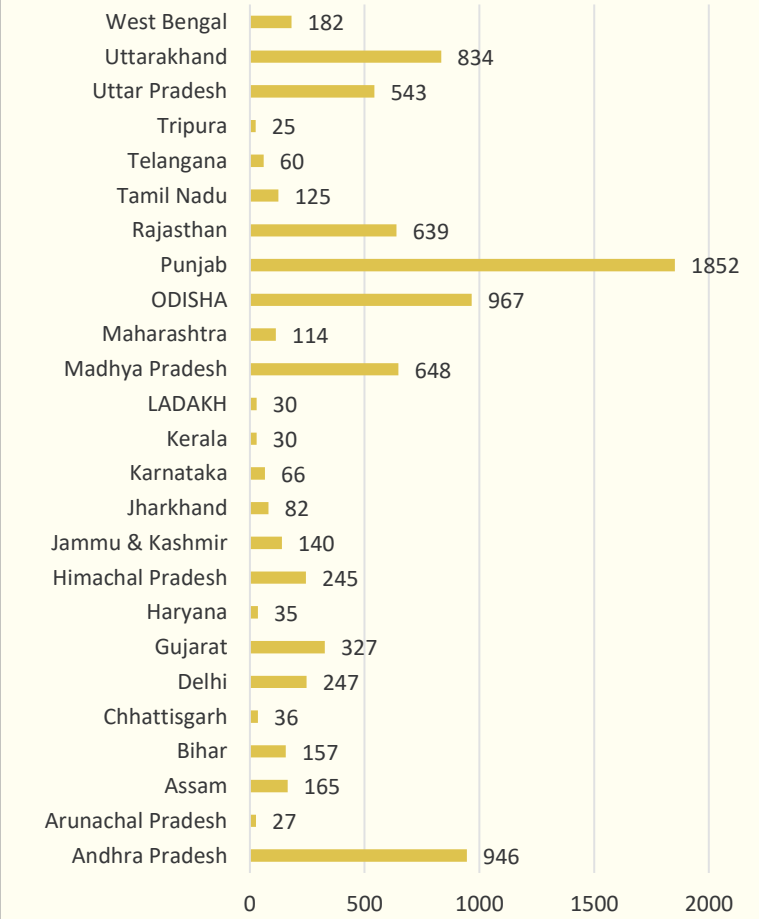
Job Role Wise



Scheme Wise



State Wise



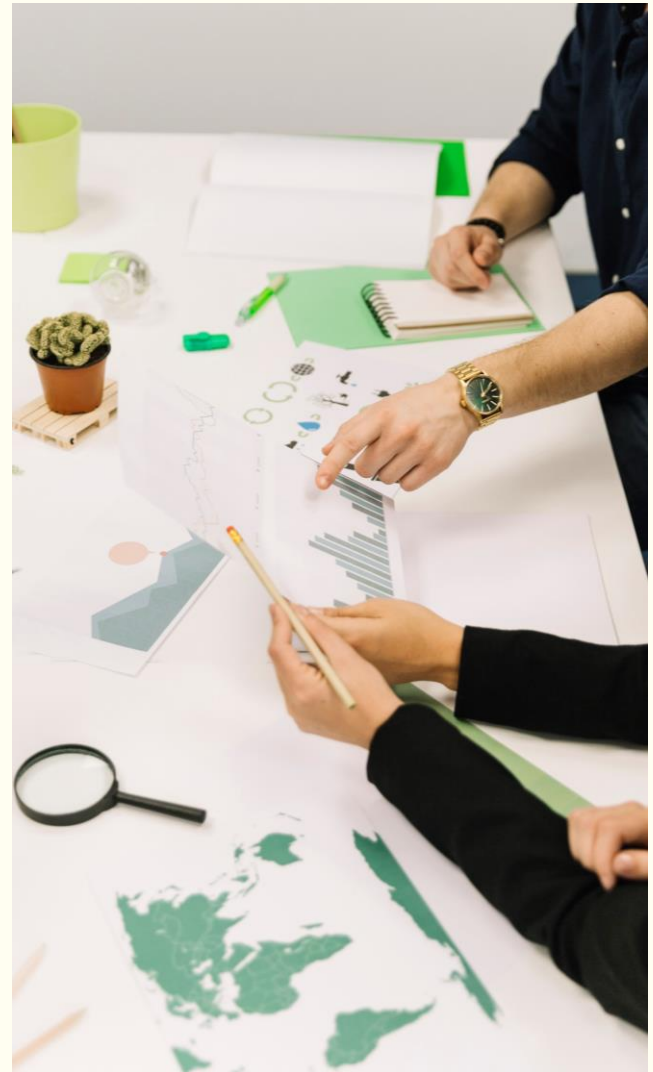
Projects and Skill Gap Studies

SCGJ Statistics through 2022

CSR and other Funded Projects

United Nations Development Programme Funded Project

United Nations Development Programme (UNDP) is supporting SCGJ in developing 4 new Job roles in Solar Cold Storage and Solar based EV charging segment and subsequently training 1000 candidates in selected states across chosen job roles. Approx. 300 trainees are also being trained on Suryamitra job role in the state of Bihar and Madhya Pradesh under that project. To attract more female candidates for such trainings, UNDP has also provided an additional incentive of Rs 2500 for each successful female candidate. So far, the following 4 new qualifications have been prepared and approved by the 24th NSQC 1. Junior Technician-Solar Cold Storage (Level 3) 2. Solar Cold Storage Entrepreneur (Level 4) 3. Junior Technician- Solar EV charging station (Level 3) 4. Solar EV Charging Entrepreneur (Level 4). All these new qualifications are meeting the National Credits Framework and other related requirements and so also have On the Job training (OJT) elements which needs close engagement with concerned industry segment across selected states. Suitable technical content are also being developed for all these new job roles. The project is expected to be completed by Feb 2023.



World Bank Supported Project

The World Bank is currently supporting SCGJ in implementing a project which aims to identify and recommend possible innovations to strengthen the design and delivery of vocational skills in Renewable Energy (focus on solar energy), through structured research in schools for children aged 15 -18 years (Class 9-12) across Government Schools in Gujarat. This research will provide actionable recommendations on incorporating vocational skills in renewable energy which can facilitate school-to-work transition. This will also outline key Insights and suggestions to develop and customize training programs with a focus on vocational solar skills. This study has its importance in the light of the New Education Policy (2020) where Vocational Education is being actively integrated with general academic education at school as well as college level.

The key objectives of the project are:

- Research and identify solutions to improve access to aspirational and age-appropriate Renewables/Solar Energy based systems vocational skills.
- Recommend possible processes that can be established to deliver customized vocational skills- based training through enhanced classrooms and E- learning platforms.
- Set up a group of experts to perform focused group discussions and consultations to identify and provide recommendations to suitably incorporate vocational component(s) in the existing content.
- Identify and prepare list of equipment required to develop/strengthen school labs.
- Identify possible solutions to equip teachers to work with students to help them pursue Renewables/solar skills and concerned vocational career track.

JP Morgan Chase Funded Project

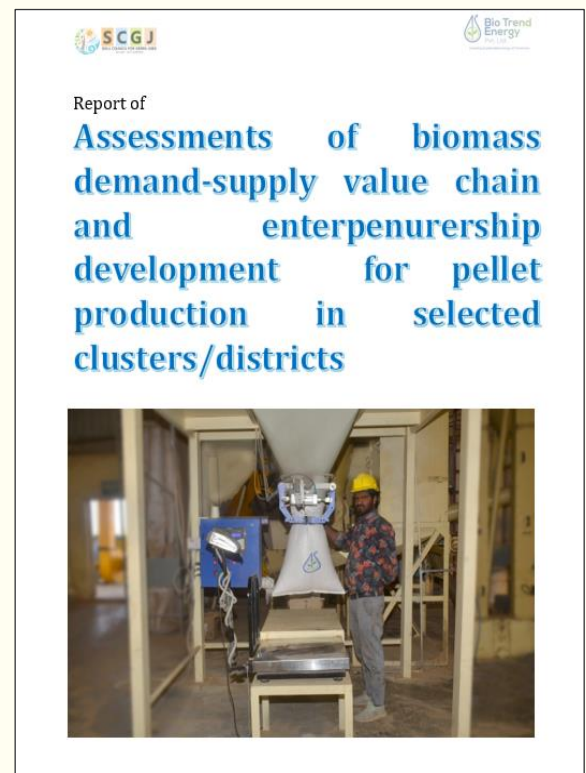
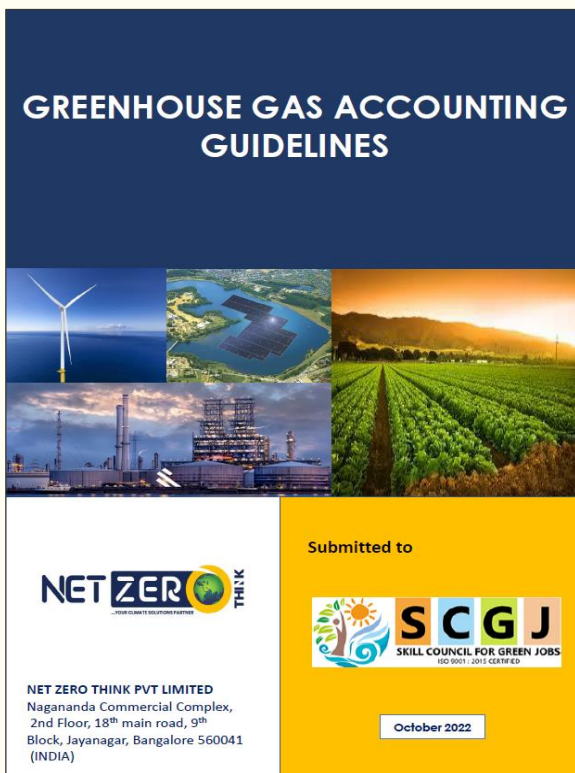
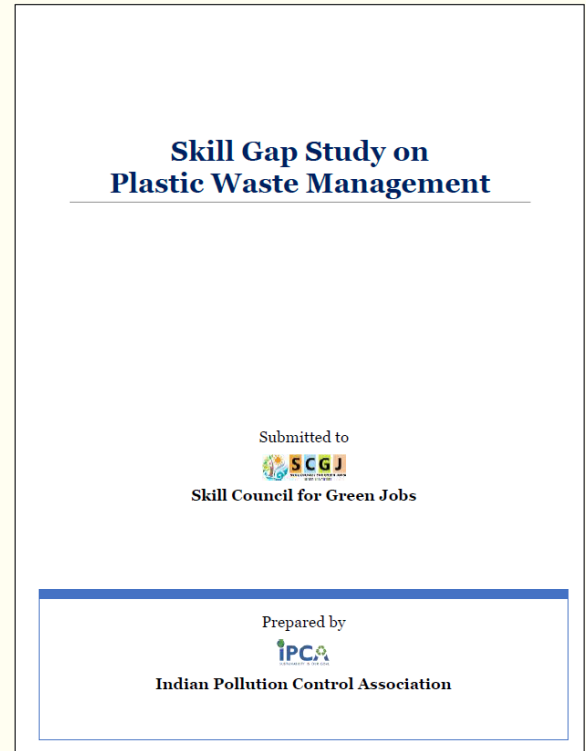
SCGJ in collaboration with Sattva Consulting with the support from JP Morgan Chase is implementing a study on the landscape of Green Jobs. This study aims to understand the potential of Green Jobs and the corresponding skilling landscape across the country. This project will strengthen the skilling ecosystem for green jobs in India by increased funding and support to improve skilling programs. With a focus on 6 key sectors including renewable energy, EV, Apparel, Green construction, Plastics and E waste management etc., the study will highlight existing status and potential demand of green jobs in India and map the landscape of various actors in the green jobs value chain, to further identify opportunities for enabling a green economic recovery in the country. The study will also distil insights using mixed methods research, which would include secondary research through survey of employers, trainees, trainers, training partners, and other key stakeholders of the skilling ecosystem besides disadvantaged populations (low income groups, women, school dropouts, unemployed people). The findings from the research will act as a guide for all relevant stakeholders (e.g. Government, candidates, employers, training institutes, etc.) in the green jobs ecosystem in India, and outline recommendations for funders (with a specific database relevant for philanthropic actors) towards addressing existing barriers in skilling and increasing the number of people engaged in green jobs in India.

Climate Policy Initiative (CPI) Funded Trainings

Climate Policy Initiative (CPI) is currently supporting SCGJ in implementing 2 physical training batches on Solar Rooftop Entrepreneurship. This is an extension of the previous phase of the project where up to 53 candidates were trained as Solar Rooftop Entrepreneurs, across Delhi, Hyderabad and Ahmedabad. In the current phase, up to 40 candidates have to be trained and certified on "Solar Photovoltaic Entrepreneur" which is a mixed job role with suitable focus on entrepreneurial opportunities (as an option) across rooftop, ground mounted civil & electrical functions along with solar pumping business space. Very recently the first batch under this phase of the project was trained during a 2 days physical training at Bhubaneswar, Odisha. The next training shall be scheduled in early Jan 2023 at SCGJ training facility in New Delhi.



Skill Gap Studies Conducted



Skill Council for Green Jobs

Vision and Future Outlook

Skilling & Entrepreneurs Development

SCGJ intends to continuously align all its skilling interventions with the key missions and schemes of the Government including Atmanirbhar Bharat, Make in India, National Solar Mission, National Hydrogen Mission, Clean India Mission, Clean Ganga Mission, National Climate Change Action Plan etc.

Training on Carbon Neutral Processes

Introduce customized training modules on Carbon Neutral processes for every manufacturing job role.

Partnerships to Upskill Existing Workforce

SCGJ to work more closely with Industry for upskilling of existing workforce including on greening the jobs by introducing energy and material efficiency and waste management.

Partnerships with Educational Institutions

Enhancing Partnership with Educational institutions including schools for integrating vocational learning with the implementation of New Education Policy

Adopt Global Best Practices

Identify globally adopted best practices on zero emission processes for large scale production units, SMEs, Industrial clusters, farm practices, etc.; develop training modules & delivery platforms.



Proceedings of Webinar Series Azadi Ka Amrit Mahotsav



Webinar Series Celebration
By Skill Council for Green Jobs
#Skill4NewIndia



Webinar Hosted
Every Friday

SCGJ celebrates Azadi ka Amrit Mahotsav with a series of 75 webinars on Sustainable Development, Renewable Energy and Waste Management

Visit: scgj.azadikamritmahotsav.in

We thank all our eminent speakers from India and Overseas



Celebration of 75 years of India's Independence

Government of India is commemorating 75 years of progressive India and the glorious history of it's people, culture and achievements by celebrating 'Azadi Ka Amrit Mahotsav'. The 75th anniversary of India's independence is a testament to its march from a young nation to an economic superpower today. Much of this journey has been possible due to the rich heritage of skills and craftsmanship that has strengthened the country. It is indeed a step towards aligning all its efforts with the larger vision of building a New India. As a part of the 'Azadi ka Amrit Mahotsav' 2021-22, Skill Council for Green Jobs (SCGJ) is organizing a series of Webinar on Sustainable Development, Renewable Energy and Waste Management by inviting eminent and learned Speakers so as to deepen the understanding of recent developments in these sectors.

The first in the series was launched on 24th September 2021 by Mr. Sameer Gupta – Chairman (SCGJ) and Dr. Praveen Saxena – CEO (SCGJ). SCGJ is continuing to bring eminent Speakers in diverse field/sectors so to enhance knowledge and learning and bring forth various development and innovation in Renewable Energy(RE) and waste management as a part of the 'Azadi ka Amrit Mahotsav' 2021-22.

By December 2022, a total of 59 webinars have been organized on different topics.

SCGJ is presenting the proceeding of the events in this and upcoming newsletters.



Webinar on Pharmaceutical Pollution & Sustainable Development Goals

Ms. Prerna D Katyal

Pharmacy Officer Incharge, Directorate General of Health Services
Government of NCT of Delhi



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Ms. Prerna D Katyal is a Pharmacy officer with Directorate General of Health Services (DGHS) Govt. of NCT of Delhi and has 22 years of experience, in the field of pharmacy. She was the lead facilitator of DGEHS scheme launched by Delhi government, in the pandemic as a covid management task force and many more integral assignments. Being a strong environmentalist, she spreads awareness to resident welfare associations, pharmacy associations etc. and everyone around her to protect the environment by giving practical, handy tips and Monterey helping associations to grow more trees and work on composting of green garbage.

Webinar Summary

In the Presentation, as disposal of medicinal products does not appear to be regularized, pharmaceutical pollution is against the sustainable development goals. She also practiced Measures to achieve SDG's was discussed in this lecture. Pharmaceutical pollution refers to the waste generated in primary, secondary and tertiary health care systems, at homes, in Labs. Ex discarded, unused, expired medications, partially used syringes, vials, IV bags, medicated aerosols and inhalers, home used personal care and disinfectant products, over the counter medications, unused vaccines, out of date vaccines, out of date testing kits, expired lab reagents etc.

Untreated hospital wastewater is a heady cocktail of antibiotics and other drugs, making hot spot for Drug resistant pathogens known as superbugs. Some of these bacterial community is resistant to all available drugs making diseases incurable, it is a serious threat to mankind and this silent pandemic is going on killing many on the way. Awareness and appropriate action is need of the hour.

The segregation of pharmaceutical waste at the source should be done in proper manner. Controlled substances should be pulled out, packaging should be removed before incineration, chemotherapy and radioactive waste should be pulled out and treated well before disposing. In India we follow BMW guidelines. Along with the protocol for disposal, we all should follow the theory of minimalism at the manufacturers, distributor, pharmacy, prescribers and patients levels. Above all awareness and education in society especially handlers play important role and can prove game changer.



Webinar on Sustainable Development: A Right Approach to the Indian Economy

Prof. (Dr.) Monika Mehrotra

Director, BPM Girls Degree College, Uttar Pradesh



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Prof. (Dr.) Monika Mehrotra, has done her Ph.D. (Economics) from Allahabad University Allahabad, M.B.A, with specialization in Operations, NIMS University Jaipur. Prof. (Dr.) Monika Mehrotra, has teaching, research and extension experience of over 18 years in various capacities. Presently she is working as Director at BPM Girls Degree College Banda district of Uttar Pradesh. She has guided about 300 Masters'/4 Ph.D. students. Her research interest is on Indian Economy, Women empowerment, Environmental Issues and Knowledge Economy. She has received various National and International awards from different organization.

Webinar Summary

The term “sustainable development” first came to prominence in the world Conservation Strategy (WCS) in 1980. It achieved a new status with the publication of two significant reports by Brundtland on: North and South: a programme for survival and common crisis (1985) and Our Common Future (1983) and has gained even greater attention since the United Nations Conference on Environment and Development (UNCED) held in Rio de Jenerio in June 1992. “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The Objectives of sustainable development are: Economic growth, Environmental protection, Social inclusion .

The explosion of population means people will have to scramble for the limited life essentials like food, shelter, and water. Adequate provision of basic needs through using infrastructure capable of sustaining them for a long time. If governments insist on utilizing fossil fuel-based sources of energy instead of renewable and sustainable options, the cost and environmental effects of supplying these basic needs would become a tall order.

Sustainable development focuses on sustainable agricultural methods such as effective seeding techniques and crop rotation to promote high yields while maintaining the integrity of the soil, which produces food for a large population.

Sustainable development practices seek to reduce the use of fossil-based sources of fuel like oil, natural gas, and coal. Fossil fuel sources of energy are unsustainable since they will deplete in the future and are responsible for the emission of greenhouse gasses.

Sustainable development practices have the ability to create more financially sustainable economies across the globe. Developing countries that can't access fossil fuels can leverage renewable forms of energy to power their economies. From the development of renewable energy technologies, these countries can create sustainable jobs as opposed to finite jobs based on fossil fuel technologies.

Unsustainable development and overconsumption practices greatly impact biodiversity. The life ecosystem is designed in such a way that species depend on one another for survival. For instance, plants produce oxygen that humans need for respiration. Humans exhale carbon dioxide that plants need for growth and production. Unsustainable development practices like emission of greenhouse gasses in the atmosphere kill many plant species resulting in the reduction of atmospheric oxygen.

Wind energy is energy harnessed from the motion of wind using wind turbines or windmills. Wind energy is renewable, which means it's never-ending and can be used to substitute energy at the grid. This makes it a good sustainable development practice.

This is energy harnessed from the sun using solar panels. It's advantageous since it's absolutely free and its supply is infinite. These factors make it beneficial to consumers and good for Mother Nature because it doesn't contribute to the emission of greenhouse gasses.

Crop rotation, in contrast, is defined as "the successive planting of different crops on the same land to improve soil fertility and help control insects and diseases." This way of farming is not a new practice, but rather a more ancient way of farming chemical-free, whilst maximizing the long-term growth potential of land.

The first is that for many aspects of development, using sustainable methods and materials is expensive. While the long-term cost of sustainability does prove to be less expensive than traditional development, the creation of a sustainable project may be far more expensive in the first phase.

The second major issue is that there is not a generally accepted need for sustainable development. This is an education issue that may take many years to resolve.



75
Azadi Ka
Amrit Mahotsav

Skill India
शिक्षण है ही - कृषि है ही

GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

SCGJ
SKILL COUNCIL FOR GREEN JOBS
ISO 9001:2015 CERTIFIED

Webinar on Universal Access to Clean Energy - Challenges and Possible Ways

Dr. Manjushree Banerjee
Fellow, The Energy and Resources Institute



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)

Speaker Profile

Dr. Manjushree Banerjee is a Freelance Contributor with the Observer Research Foundation (ORF), New Delhi and frequently writes on the issues related to clean energy, sustainable development and energy access. Her primary engagement is as Fellow with The Energy and Resources Institute (TERI) New Delhi.

Webinar Summary

The speaker discussed about the influencing factors and challenges associated with universal access to electricity and clean cooking fuels & technologies. The factors and challenges were discussed using various case studies and practices. Access to electricity covered households, health facilities, and community streetlights. The challenges associated with the transition to clean cooking fuels & technologies were discussed through the lens of biomass-based fuels, LPG, and electricity. The speaker also shared her own field level and research experiences at appropriate places.



Webinar on **From Flower Trash to Cash: Recycling and Reuse through Value Addition**

Dr. Gaurav Sharma, Associate Professor & Head
Rani Lakshmi Bai Central Agricultural University, Jhansi



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Dr. Gaurav Sharma is Associate Professor (Horticulture) and Head of the Department of Floriculture and Landscaping at RLBCAU, Jhansi. Dr Gaurav Sharma has teaching, research and extension experience of over 15 years in various capacities as Subject Matter Specialist/Assistant Professor/ Scientist/Associate Professor at ICAR-Central Rice Research Institute, Cuttak, Indira Gandhi Krishi Vishwavidyalaya, Raipur and Rani Lakshmi Bai Central Agricultural University, Jhansi. His research interest is on flower crop improvement and value-addition. Dr. Sharma has developed a marigold variety 'CG Gainda-1' and also established the 'Dry flower and value addition Lab' at IGKV, Raipur. He is a Fellow of Indian Society of Ornamental Horticulture, recipient of International Society of Horticultural Science (ISHS, Belgium), award, Indian National Science Academy (INSA) Partial fellowship and Young Scientist Award.

Webinar Summary

It is estimated that religious offerings is of about 800 million tonnes of flowers in our country and Floral waste accounts for 16 per cent of the total river pollutants. The Major flowers available as wastes are Marigold, Jasmine, Tuberose, Hibiscus, Chrysanthemum etc. As religious offerings are considered sacred, it is not dumped in the landfills and temples throw their waste into local water bodies. Rotting flowers affect the water quality, the pesticides that are used on them, leach into the waters and harms marine life and also the dumping of flower wastes in the street lead to outbreak of insect-pest & diseases. Though flower waste is biodegradable but flower waste decomposes very slowly contrary to general belief. Value addition in waste flowers offers opportunity to re-use of waste flowers, provide eco-friendly and bio-degradable novel products and generate employment.

The flower waste can be used in industrial applications viz., compost, biogas, natural dyes and pigments, gual, essential oils, handmade paper, incense sticks etc. Carotenoids extracted from flower waste can be used in the pharmaceuticals, as nutrient/food supplement in nutraceutical industries and as animal feed additives particularly for poultry feeding. Use of flower waste as dry flowers has tremendous potential as they are long lasting, cheaper and having their own aesthetic value and can be used round the year. Various products from dry flower such as dry flower bouquet, memento, photo frames, wall quilts, cards, pot pourri can be made for commercial use. Value addition in waste flowers has become more pertinent today as during the Covid-19 pandemic, flower sector faced hardship and trading of fresh flowers had become a big challenge. Under these circumstances it is important to diversify in to value addition where ever possible for alternative income. However, there is a need to intensify capacity building and skill up gradation in these ventures and address the policy issues at local levels. Quite a few start-ups are coming up in a big and successful way to use the flower trash for making value added products and yet lot of scope and potential is there for recycling and reuse of flower waste through value addition.



Webinar on Electrification of Unelectrified Villages through Solar Microgrid

Mr. Prafulla V. Tayde

General Manager
Maharashtra Energy Development Agency (MEDA)



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Mr. Prafulla V Tayde, General Manager at Maharashtra Energy Development Agency (MEDA), A Government of Maharashtra Institution from 28 May 2018 to till date. Spearheading Amravati Division consisting of five districts with managing & Heading two District Offices.

All RE programmes in line with RE-2015/RE2020 policy & RE-Off-grid policy -2016/2022 in Amravati Division & Various Schemes, Programmes & Projects in line with guidelines and GRs of District Planning Committee and State Government. Solar Micro-grid, Solar-Wind Storage & other innovative RE projects & various CSR Projects. Energy Conservation Policy-2017 & other Energy Conservation Programme in Amravati Division.

Webinar Summary

- **Objectives of the Project:** To provide maximum un-interrupted power supply to the households in the conventionally un-electrified village through solar energy.
- **Project Site:** Makhala (Tembuni Dhana), G.P. Makhala, Ta. Chikhaldara, Dist. Amravati
- **Project Capacity:** 37.8 kW
- **Project Fund Source:** Integrated Tribal Development Project Office (ITDP), Dharni, Dist. Amravati, (District Annual Tribal Sub Plan)
- **Project Implementing Department:** Maharashtra Energy Development Agency, (MEDA- A Govt. of Maharashtra Institution), Divisional Office, Amravati
- **Project Work Order Cost:** Rs. 69,09,000/- (Rs. Sixty-Nine Lakh Nine Thousand Only)
- **Name of the Supplier:** M/s. Ampere Hour Solar Technology Pvt. Ltd., Pune

Brief Description: Solar Micro-grid Project includes Solar Power Plant, LT Power Distribution System, Service Connections and Internal Power Distribution System. Solar Modules installed on the Module Mounting Structure converting solar light energy into DC electrical energy. Further, Battery Bank along with Battery Management System is deployed in the project for the storage. This DC energy is being converted into AC energy through the inverters and transmitted up to the households through cable installed on LT Power Distribution Poles. Internal Power Distribution and Home Wiring are provided to households along with Energy Meters, Switches & Sockets, Angle Holders and LED's Lamps. Energy Meters are installed in 117 households in the village. In addition to this 20 Solar Street Lights of 7-watt capacity have been installed and 2 multigrain flour mills of 2 HP capacity each have been installed in the village.

Technical details of the project:

- | | |
|----------------------------------------|--------------------------------------------------------------------------------------|
| 1) Solar Module: - 335 Watt -117 nos. | 4) LED Lamps: -7 Watt- 2 nos. |
| 2) Inverter: -5 Kw- 06 nos. | 5) Solar Street Lights: -7 W LED,12 V, 40 Ah Battery and 50 W Solar Module - 20 nos. |
| 3) Battery: -100 Ah, 48 Volt - 23 nos. | 6) Multigrain Flour Mill: -2 HP-2 nos. |



Webinar on Agri-Voltaic - A Green Route to Address Energy and Food Crisis

Dr. Subhra Das, Professor and Head,
Solar Engineering Department, Amity University, Haryana



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Dr. Subhra Das has more than 20 years of experience in Academics and Research in the field of Solar and Renewable Energy. From 2012, she is serving as Professor and Founding Head of Solar Engineering Department in Amity University, Haryana. She is an active practitioner of Solar Energy as she is thoroughly involved in advancing technology through consulting, research and teaching. She is in the editorial board of Indian Journal of Power & River Valley Development and serve as reviewer for 8 international journals. She is the coordinator of Unnat Bharat Abhiyan, a flagship program of Ministry of Human Resource Development and had adopted five villages to conduct developmental activities.

Webinar Summary

Energy consumption in India has more than doubled since 2000, propelled upwards by a growing population. Although more than 900 million citizens have gained an electrical connection in less than two decades but there are widespread differences in energy use and the quality of service across states and between rural and urban areas. The affordability and reliability of energy supply are key concerns for India's consumers. India is the third-largest global emitter of CO₂, despite low per capita CO₂ emissions which is a major concern for the country and decarbonizing the energy sector is thus a major challenge for India. Although India is an agrarian country with around 70% of its people depending directly or indirectly upon agriculture but India scored 27.5 for the Global Hunger Index which says that the level of hunger is serious in India. These calls for a finding a sustainable solution which can address both Energy and Food Security. The solution is in the new technological advancement of Agri-voltaic which uses the same land area for solar electricity and plant cultivation including aquaculture. The integration of two technology is envisioned to bring new hope for the poor farmers in India who commit suicide due to lack of earning from the farm produce. The agri-voltaic plants (AVP) that are developed in India are mainly crop production type of AVPs having three different layouts namely interspace farming, farming below the panels and farming below elevated structures. There are sixteen operational agri-voltaic plants in India as reported by NSEFI and Indo German Energy Forum and some more are created which are in the developmental stage like the agri-voltaic plant developed at Amity University Haryana under 185 kWp ground mounted solar PV plant. Growing native plants under the solar panels improves local ecosystem thereby attracts insects, birds, and other wildlife to use the location. It improves performance of solar panels by reducing the temperature of the panels and reduces weed growth in the area. Adoption of agri-voltaic by farmers and landowners would result in increased energy production from renewable energy without compromising on the crop production. The opportunities from agri-voltaic is enormous but the lack of a thorough evaluation of the techno- economic feasibility of these plants in Indian conditions possess a major concern for farmers in adapting the technology. Also, there is very less clarity in the current policy framework regarding Agri-voltaic in India. Government of India is taking some initiatives to promote agri-voltaics in India under the KUSUM scheme. The scheme allows setting up of solar photovoltaic plants on stilts setup over the cultivable land where crops can be grown below the stilts while the power generated from the plants can be sold to the electricity distribution companies. With the positive response of agri-voltaic plants from across the globe, initiatives need to be taken to create awareness among landowners, farmers and solar developers regarding the technology and its associated benefits. This makes a perfect business model for sustainability of the Agri- solar energy projects and can be implemented in different locations under different climatic conditions.



Webinar on Potential of Solar Energy for Increasing the Productivity and Profitability in Agriculture

Dr. Aniket Kalhapure, Assistant Professor, Department of Agronomy, Banda University of Agriculture and Technology, UP Govt.



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Dr. Aniket Kalhapure is presently working as Assistant Professor of Agronomy in Banda University of Agriculture and Technology, Banda, U.P. Presently he is engaged in research activities in Agronomy along with teaching to UG, PG and PhD students. His expertise is in sustainable agriculture, organic farming and Integrated Farming System has handled several research projects in the field of Agronomic investigation. He is rewarded with South Asia Foundation fellowship and Jr. Scientist Award by Society of Agriculture Professionals, Kanpur. He is also rewarded by Banda University of Agriculture & Technology Banda and Mahatma Phule Krishi Vidyapeeth, Rahuri for rendering excellent services for the Institutes.

Webinar Summary

Agriculture is the predominant segment in Indian economy which comprised of total geographical area of 328 Mha and net cultivated area of 142 Mha. Food grain production was 297 MMT during the year 2020-21 with a projected demand of 335 MMT up to the year 2050. Working population engaged in agriculture & allied activities is about 60% along with average land holding of 1.08 ha per farmer; out of which 85 % farmers are small and marginal. Average income of farm family is Rs. 10128/- per month.

According to the report published in Scientific Reports, August 2019; transformation of 1% of farmland to solar panels could satisfactorily meet global electrical energy demand. The Key benefits of use of solar energy in agriculture:

- Reduced electricity costs
- Timely application of inputs: seed, sowing, irrigation, fertilizers, plant protection
- Diversification of the revenue stream
- Increased ability to install protected cultivation units to grow high-value crops
- Marketing with brand of sustainability as it is environment friendly source of energy
- Potential for water use reduction- Effect of day time operation
- Potential to increase cropping intensity- No electricity limitations

The Potential applications of solar energy in agriculture production are:

1. Solar pumps are convenient to install & use and there is no need to irrigate at night. It assures for application of water at critical growth stage. It is boon especially for remote areas.
2. Solar Off-Grid system: which is used for a fulfilling the domestic electricity needs of farm family. It is helpful to avoid Power cut & load shedding and also reduces electricity costs. It is easy to install and keeps the Environment clean and green.
3. Solar Sprayer: Solar sprayers is best option to farmer who are economically challenged and facing electrical problems like load shedding etc. It also not creates air pollution and noise. It is maintenance free device and cost efficient.
4. Solar dryer: It provides considerably more heat than the open condition. Humid air is removed by an exhaust fan or chimney. Food is enclosed in the dryer and therefore protected from dust, insects, birds, and animals.
5. Solar poultry farm: It helps to reduces ceiling radiant heat damage to animal sensitive heads. Provides complete and even heating of entire brooding area along with reduced bedding moisture and ammonia production.

Similarly solar energy can be used for operating tractors, greenhouse heater, refrigerator, milking machine, chaff cutter, thresher and many more equipment in agriculture production system.

However there are main constraints in use of solar energy in agriculture: As the energy unit cannot efficiently work under the cloudy/ rainy weather. Farmers have low awareness about solar energy. Still initial investment for solar energy system is relatively high and finance is not accessible or affordable for all in the form of insurance, loan & incentives. Still there is considerable lack of trust between farmers, utilities/ service providers and government. Many Initiatives have been taken by the Government to promote the use of solar energy in agriculture through various schemes so as to facilitate the farmers.

1. Solar Pump Scheme (Uttar Pradesh): In this scheme 2/3 hp capacity solar pump is provided to farmer with 70% subsidy (45 State+ 25% Centre) and 5 hp pump with 40% Subsidy (20% State + 20% Centre).
2. Remote Village Electrification Programme: It is designed to provide financial support for electrification of those remote unelectrified census villages and unelectrified hamlets of electrified census villages where grid-extension was either not feasible or not cost effective.
3. PM KUSUM Scheme by Central Government: It is launched in March 2019 by the Ministry of New and Renewable Energy (MNRE), to subsidize farmers to install solar irrigation pumps for cultivation. Each farmer will receive a 60% subsidy to set up tube wells and pump sets. They will also get 30% of the total cost as a loan from the Government.

Conclusion

Solar energy is practically convenient and economically feasible source and can be used into each and every field of Agriculture (viz. crop production, livestock, post harvest processing, etc.). It brings sustainable development and livelihood security among the rural households.



75 Azadi Ka Amrit Mahotsav | **Skill India** | **GOVERNMENT OF INDIA** | **MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP** | **SCGJ** | **SKILL COUNCIL FOR GREEN JOBS** | ISO 9001:2015 CERTIFIED

Webinar on Unlocking Green Job Opportunities in India's Clean Energy Sector

Dr. Akanksha Tyagi, Programme Associate,
Council on Energy, Environment and Water (CEEW)

Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)

Speaker Profile

Dr. Akanksha Tyagi is an interdisciplinary researcher with expertise in material and analytical chemistry. She is currently working as a Programme Associate at the Council on Energy, Environment and Water (CEEW), a Delhi based not-for-profit policy research think tank. Her research focuses on scaling distributed energy resources through technical and policy interventions, supporting a circular economy of minerals, and assessing the socio-economic impact of RE technologies to support India's clean energy transition. Dr. Akanksha holds a doctorate in Human and Environmental Studies from Kyoto University, Japan.

Webinar Summary

The presentation discussed the employment opportunities created by deploying various clean energy technologies like solar and wind. The presentation covered the different types of jobs (direct, indirect, and induced), associated skill sets, and the methodologies to estimate these jobs. While its primary focus was on solar and wind energy sectors, the session also addressed skill requirements in emerging areas like battery energy storage and waste recycling.



Webinar on Renewable Energy Transition in India: Opportunities and Challenges

Dr. Debajit Palit, Professor of Energy, NTPC School of Business
and Former Director & Senior Fellow, TERI



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Dr. Debajit Palit is a Professor of Energy at the NTPC School of Business, Noida. Before joining NTPC School of Business in April 2022, Dr. Palit was the Director of Rural Energy and Livelihood Division at TERI, New Delhi. He has more than 25 years of experience working in the domain of renewable energy, clean energy access, rural electrification, distributed generation micro-grids, energy-gender-poverty nexus, and water-energy-food nexus. He is featured in the Top 2% World's Scientists list for the last 3 years by Stanford University and Elsevier BV. Dr. Palit possesses vast national and international experience, working in projects for UN organisations, Bilateral organisations, The World Bank, Asian Development Bank, and national governments across 17 countries in Asia and sub-Saharan Africa.

Webinar Summary

The rise of renewable energy (RE) has brought great hope for our ability to tackle climate change. Its rapid growth in India for electricity generation is a key element for the country's transition to a low carbon economy and achieving the target of "Net Zero by 2070". RE has the potential to dramatically cut greenhouse gas emissions, expand access to affordable, clean energy for all, create employment opportunities and help the Indian economy thrive in the long term. Towards this India has made a commitment to 50% cumulative electric power installed capacity from non-fossil fuel based energy resources, especially RE, by the year 2030. Because of impetus to RE and its reducing cost, the RE capacity in India has grown at an average CAGR of 16% during the period from 2015 to 2022 with grid interactive RE going up by nearly four times in the last decade. India currently is the fourth highest in wind and solar power capacity globally.

Despite the opportunities provided by RE, there are also big challenges. Some of the risks are effect of increasing mineral use for equipment manufacture, land used for setting up large-scale solar and wind energy projects, water used for the operation and maintenance of certain technologies, and the challenge of sustainably managing technologies at their end-of-life. Such impacts risks hampering the achievement of the full potential of RE in creating long-term, sustainable value.

In view of the above, it is important to make the transition in a responsible manner. It is important to build a deeper understanding and take collective action on impacts, risks and the opportunities. It will also be worthwhile to form an integrated taskforce, consisting of both central and state government stakeholders and sector experts for planning and monitoring the implementation of "Net Zero by 2070".



Webinar on **Creating Wealth from Waste: Opportunity and Challenges**

Dr. Ratnesh Tiwari, Co-founder and Chief Executive Officer,
Koshish Sustainable Solutions Private Limited



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)

Speaker Profile

Dr. Ratnesh Tiwari is the Co-founder and CEO at Koshish Sustainable Solutions Pvt Ltd. Koshish, focuses on promoting sustainable energy solutions, sustainable agriculture practices and sustainable eco-friendly products leading to sustainable economic growth with environmental upgradation leading to irreversible human development. He has more than eight years of extensive experience as a researcher and consultant in the sustainability space. He has worked on several sustainable development programs sponsored by different National and International agencies.

Webinar Summary

Generally, waste can be defined a material which can be reused/recycled and reduced. It can be in the form of solid, liquid or in the gaseous form and each has its own method of disposal and management, which is a process required to manage the waste from its inception to final disposal. The waste can be generally classified as biodegradable and non-biodegradable ones, the biodegradable waste can be broken down in CO₂, CH₄, moisture by anaerobic action of microorganisms. The biogas technology is more user-cum environment friendly and step towards sustainability, which can contribute towards national energy security while converting the waste to wealth.

KOSHISH is an initiative by a team of young and dynamic professionals from Indian Institute of Technology (IIT) with a cumulative experience of 10+ years. Our Mission is to manage sustainable development by transforming project impacts into benefits not only for our clients but also for the surrounding communities and environment in which we work.

We are working on three verticals:

- Sustainable Energy
- Sustainable Agriculture
- Sustainable Sanitation

Our products range from the small family-friendly model, where the biogas is used for cooking purposes, to the one which can generate power and clean fuel, Bio-CNG.

In addition to the gas used the slurry, which is a sub-product, is very much rich in N, P, K, it is considered the richest organic fertilizer. The slurry can also be used as a raw material in manufacturing of biomass pellets, considered as green coal. We help to set up a biogas plant, with different raw materials, like cow dung, poultry waste, agriculture waste, press mud, and other biodegradable waste. Our biogas plant size ranges from small portable 2cum biogas plants to 12000 cum plants for biofuel production.



Webinar on Phasing-out Hazardous Plastic: A Transformational Livelihood-based Approach

K.J. Thomas, Chairman and Managing Director,
Bioway Packs Pvt. Ltd.



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Mr. K.J Thomas is a self-motivated entrepreneur works on business perceptive which is necessary for our future generations. He opted to become a business man at the age of early 20's and started his business career as a paper trader at Kottayam from where he hails from. He was one of the pioneers, to supply paper to many of the publishing houses in Kottayam Dist. in the initial days. Inquisitiveness was one of the inherent characters of Mr. Thomas he was having the habit of identifying new business opportunities in paper industry. He later identified the potential of note books, and he is the first one to introduce elongated stitching of the note book, till now not imitated by others. Then he identified the potential of paper bags in the market and formulated a unique method for making paper bags, it was a time of innovation spree for Mr. Thomas designed two specific machines for making paper bags and these machines only consumed the lowest voltage of electricity which was new to the market. These machines are patented pending and it facilitates to manufacture paper bags in any specification prevailing in the market. He is the state council member of CII (Confederation of Indian industries) understanding industry at large. Mr. Thomas has been in a paper related industry for more than 4 decades and out of this experience, he evolved with a concept of mass production of paper bags through man and machine combination and creates cluster formation to enjoy the economies of scale which is a pure benchmark in high productivity by low CAPEX. Currently, his company is the first training partner of SCGJ for the trade "Paper Bag Maker, Technician-Paper Bag Manufacturing, NSQF level 5 and 3" respectively. His training center is the first accredited training center by NSDC.

Webinar Summary

After Indian independence, this year we are completing 75 years. When we look back, we can see that from hunger to prosperity we had travelled a long way. Now India is in a comfortable position among the world countries.

While we were progressing on one side the other hand we hold fifth place in making pollution's of plastics.

- India is the fifth highest generator of plastic waste behind China, US, Indonesia.
- The per capita plastic waste generation has almost doubled over the last five years from 2015-16 to 19-20. Goa, Delhi and Kerala have highest per capita plastic generation.
- 15,000 tons of plastic waste is produced in India. This point of time I want to show you a recent clipping came in media.

According to Central Pollution Control Board(CPCB) data, in every minute 19 lakhs plastic carry bags are used in the country which may be replaced by paper bags. Here we should think of alternatives for single use plastics. India is having huge potential to strengthen the cottage and Micro enterprises through skill development. Paper bag making is one of the enterprise which must be supported through special project on skill development linking livelihood generation.. Different States are enforcing the ban on single use plastic carry bag where lacs of rural and urban employment opportunities may be switched to paper bag making business in the country. The only requirement is, unskilled labor one of the Entrepreneur may cater to produce minimum 1000 bag per day with 4 technicians.

Bioway Packed is the Entrepreneur on Paper Bag making cum Training Partner on Skill India. We request you to promote the special Skill development project on Paper Bag making for all the States. We create sustainable livelihood model by providing quality training. We have certified Master Trainer and Trainers created under Skill India Portal. We have industrial unit as well as good training facility at our premises. We could also supply innovated paper bag creasing machine under the trade mark registered brand "Bag master" and raw materials. We can also assist in marketing. Will create large opportunity for employment. Just they need is skill training and operational assistance to facilitation centre.

On behalf of the cottage industry of paper bags since it is a new eco-friendly cottage industry should give chance for development livelihood project, I strongly recommenced the government of India to avoid the 'GST' levied to finished paper bag and for raw materials. (only for cottage industry cluster) Benefits. If we do so, it can generate foreign exchange to our country, and it's a boon to the need one in the society with a vision to transform the state into skill hub by skilling the youth to enhance their employability and match the expectations of the Industry.



Webinar on Emotional Wellness at Workplace

Ms. Navroop Sood
CEO, Heal with Nav



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Ms. Navroop Sood is a trauma informed psychotherapist in private practice. She specializes in brain body modalities and helps people with various mental health issues. She is Trauma informed EMDR psychotherapist, Somatic Experiencing, TRE, Brain spotting, CBT, TA, NLP, Unleash the power within, Date with Destiny, Mastery University-Tony Robbins, Mentor-Swinburne University. She did her graduated from Delhi University in psychology (Hons). She did her Masters in Professional Counselling from Swinburne University of Technology – Singapore.

Webinar Summary

Research has repeatedly shown that improving well-being in the workplace has transformational benefits to the company. Meaning, happy employees have lower workman's comp claims and use fewer sick days. Productivity goes up, increasing workplace satisfaction and lowering the cost of employee health care Benefits are innumerable and worth paying attention to. Emotional wellness was defined as person's ability to handle their emotions during stressful times- effectively managing through challenges and change. In the workplace, emotional well-being encompasses creating a "culture of health" within the environment. This can be any activity designed to support healthy behavior among employees, such as on-site health education, smoking cessation, health coaching, stress management, on-site fitness programs, club memberships, or other programs that reinforce positive well-being.

Recognizing the importance of emotional well-being and the cost- benefit associated with it- the webinar discussed various ways organizations and employees themselves can contribute to this very important aspect. Webinar generated lot of interest in the participants and there was an engaging Questions and answers sessions at the end of the session.



Webinar on INDIA at Seventy Five: Sustainable Development, Renewable Energy and Posterity

Prof. Sakarama Somayaji, Volunteer Teacher,
Shree Kshetra Hosakatte Trust, Mundadi, in Udupi, Karnataka



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Professor Sakarama Somayaji is currently (from January 2020) working as a volunteer teacher to meet the educational and career guidance needs of the underprivileged students served by the Shree Kshetra Hosakatte Trust, Mundadi, in Udupi, Karnataka. Apart from addressing the educational needs of the people, improving the livelihood opportunities, quality of environment and finding ways to effectively manage the natural resources in the area are some of the basic objectives of his mission. Prof. Somayaji has extensive work experience of over three decades in the areas of rural and social development especially in the hinter lands of more than 15 major states of India including his work for a decade as a Social Development Advisor to a Lok Sabha MP, Sirsa, Haryana.

Webinar Summary

Global Challenge: Sustainable development requires the integration of environmental, social, and economic concerns into all aspects of decision making. It is important to take into account the intergenerational equity by conserving resources for future generations. That means there are both common but differentiated responsibilities for different stake holders. Different contributions to environmental degradation have to pay for its improvement accordingly. Future needs of developing nations needs to be kept in mind.

Polluter Pays Principle: polluting entities to bear the costs of their pollution rather than impose those costs on others or on the environment. Strong sustainability principles need to be followed. Unique features of natural resources that cannot be replaced by manufactured capital must be preserved at any cost. Precautionary principles where there are threats of serious or irreversible damages and lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Problem: Currently, around 80% of global energy and 66% of electrical generation are supplied from fossil fuels, contributing approximately 60% of the greenhouse gas (GHG) emissions responsible for climate change.

Barriers and Crisis: A transition to cleaner forms of energy has already begun in many countries, but despite the recent fast rate of technological innovation and cost reduction, renewable energy and energy efficiency technologies must still compete with highly subsidized carbon-intensive energy technologies.

How to Close the Gap: Renewable energy technologies could be deployed more rapidly if energy policies addressed both the subsidies and impacts of fossil fuels while facilitating more finance for renewable energy projects. (UNEP, 2022)

Indian Scenario: As per the Nationally Determined Contribution (NDC) under the Paris Agreement, the government has already set a goal to achieve 500 gigawatts (GW) and 50 per cent non-fossil fuel energy share by 2030. This is backed up with a pledge to achieve net-zero emissions by 2070, implemented at the global climate meet in Glasgow last year.

Future Focus: Identify and focus on more and more sustainable-job-creating sector in clean energy. Choosing the right places to tap the gaps by reducing conflicts over land rights, migration and rehabilitation needs through policy decisions and practical programme.



Webinar on Waste Management - Challenges & Strategies

Mr. Sourabh Manuja
Technical Expert, GIZ India



Speaker Profile

Sourabh Manuja is a Technical Expert at GIZ India, supporting Cities Combating plastic from entering marine litter project in India. He has work experience in the field of research, education, and consulting in waste management domain. Having around 15 years of work experience, he is an international expert in waste management domain and well renowned for his contribution in the akin domain amongst the media. He was also awarded 'Gold Medal' by The Honorable President of India for his overall academic performance in post-graduation from a renowned institution Jamia Millia Islamia. He has published 38 research papers in various journals, seminars and conferences and has had written numerous newspapers and magazines articles. He has also authored chapters in five different books.

Webinar Summary

India is 2.4% of world's geographical area with home to 17% of the world's population. Thus, positioning India with its unique challenges on urban infrastructure and resource management. India generated nearly 60 million tonnes of municipal solid waste (MSW) in 2019. Around 92% of waste was collected and 37% of collected waste was treated. Urbanization levels are also expected to reach >50% by 2050. GDP of the country is also growing fast. Overall, growing population, urbanization and economic growth are impacting waste generation trends in the country. MSW generated by Indian cities is expected to increase to 165 MMTPA in 2031. The Solid waste disposal alone accounts for 15065 Gg CO₂ eq emissions from disposal sites. These are further expected to reach 39710 Gg CO₂ eq by 2051. Further, India was also 12th largest contributor to marine litter (0.09 – 024 million tonnes) in 2010. Plastic waste has its own challenges, due to its long-life span. Globally, packaging itself consumes nearly 146 million tonnes plastic per year or 359 million tonnes plastics consumed.

The continued growth of plastic production is a key environmental concern because of the long time it takes plastic products to break down in the environment. Approximately 80% of plastic waste is derived from land-based sources and 60% from urban centers. At global scale, Asia Pacific alone is responsible for 49% plastic production and 38% plastic consumption by volume. Approximately \$1.3 billion is lost every year from Asian economies. Ocean Conservancy in 2020 indicated, among the leakage that comes from land-based activities, about three-fourth comes from uncollected waste. Making it clear, to reduce plastics from entering marine environment, we need to target and help cities manage its waste appropriately. There are mainly single use plastics products made from LDPE, HDPE, PS, EPS, PET, and PP. There are many alternatives available to these items, but the question that remains is that whether the choice we made was for a sustainable alternative? Thus, role of policy and education comes in scene.

Paper bag production leads to deforestation, degradation of bioplastics in the guts of sea turtles is no different than plastic, compostable bags eventually lead to GHG emission and economic feasibility, and carbon footprints of these objects is also worth concerning. There is a need to undertake 3Rs' (reduce, reuse and recycle) into our daily life systems and come up with sustainable alternatives (based in LCA approaches) that can be replaced along with a range of interventions and measures, digitization will also play a key role to move materials back to circular economy.



Webinar on Air Pollution Mitigation through Smart Cities Program

Dr. Pratima Singh, Research Scientist, Domain Lead - Air Pollution
at Center for Study of Science, Technology and Policy (CSTEP)



Scan to Watch the Session on SCGJ YouTube Channel or [Click Here](#)



Speaker Profile

Dr. Pratima Singh is a Sr. Research Scientist and leads the Air Pollution domain at Center for Study of Science, Technology and Policy (CSTEP). She holds a PhD in Natural Resources (Energy and Environment) from TERI University, New Delhi. She completed her M.Sc. (Tech) in Geotechnology from Maharaja Sayajirao University (Vadodara), and B.Sc. in Chemistry from South Gujarat University. Her research areas include air pollution studies, source apportionment, emission inventory, measurement and monitoring of air pollution sources, renewable energy (solar PV), sustainable development policies, and the energy-water-carbon nexus of water and wastewater infrastructure.

Webinar Summary

Air Pollution has become an global concern impacting cities, states and nations. Air pollution considers no boundaries and impacts human health at multiple-levels. A smart city must work towards eradicating the grave challenge of air pollution and have sustainable management practice for better air quality.

Various sectors contribute to the city's pollution problem. Understanding and quantifying these polluting activities in crucial. However, to ensure that cities do not contribute to the total pollution load, specific sectoral measures need to be identified and adopted. Policy measures can only be implemented when the city has appropriate funds allocated for sectors. The identified smart cities have support for waste management and other activities. Sectors should be able to tap in the resources available under various schemes for implementation of sustainable solutions.

A city in a true manner can only become sustainable with coordinated efforts from various stakeholders and government bodies. Involving state and city government officials towards decision making to solve air pollution problem, will not only created a structured approach but also help in good governance practice, helping towards creating a smarter city and administration. Air pollution is a problem that concerns all the sectors and hence a robust and holistic approach must be adopted, taking support from various central and state schemes. This is lead towards a sustainable and smart city.



EDITOR OF THIS ISSUE

Sarvesh Pratap Mall

Senior Manager - Technical, SCGJ

sarvesh@sscgj.in



Follow us on:    