



## GREEN JOBS NEWS

January, 2020

## World Skills Kazan 2019 – Gold Medal in Water Technology SCGJ Felicitated by Hon'ble Minister of Skill Development and Entrepreneurship

INDIA creates history at the World Skills competition in Russia Skill Council for Green Jobs takes immense pride in congratulating young S Aswatha Narayana, a student of CV Raman college of Engineering, who represented INDIA in Water Technology Skill at the World Skills Competition 2019 in Russia and bagged the \*GOLD\* Medal for the country.











The India Pavilion at COP 25, Madrid displays India's climate action across a range of sectors, covering both activities for mitigation and adaptation. India has formulated ambitious contributions to combat climate change that have been nationally determined, keeping in view India's development imperatives and sustainable growth. India Pavilion provides an opportunity for the world to see India's policies and programmes for combating climate change, across sectors like industry, renewable energy, transportation, agriculture, forestry etc. Various reports indicate that India's climate actions are ambitious and the Country is on track to achieve its nationally determined contributions by 2030, under the Paris agreement.





Mr. K. Krishan, Chairman Skill Council for Green Jobs , Chair FICCI Climate Change Committee and Chairman , CVC India Infrastructure Pvt. Ltd at COP 25 Madrid, Spain



## Skilled manpower requirement in the Wind Energy Sector

Wind Energy development in India has always shown a new direction to renewable energy. At the turn of the century, the installed capacity of Wind power in India was just touching а thousand megawatt. At the end of 9th Plan (31.3.2003), the wind power installed capacity was 1628 MW, which was increased to 7,092 MW by the end of 10th Plan. The 11th Plan alone saw an addition of 10,260 MW, more than what was achieved till that period, taking the total installed capacity of wind power projects in India to 17, 352 MW. With the conductive policy environment provided at Central and State level, this segment has achieved highest growth amongst the other renewable energy technologies. The present wind power installed capacity in the country is 26,743 MW sharing around 9% of total power generating installed capacity of 2,92,614 MW

. Globally, India is at 4th position in term of wind power installed capacity after China, USA and Germany. The Government of India has set an ambitious target of achieving 60,000 MW capacity from Wind power by 2022.

The wind energy market in India is more mature than that of any other renewable energy market. It is worth noting that the wind energy market in India is fairly concentrated, with much of the capacity being deployed by large developers. The skilled manpower requirement for the wind sector has been traditionally meet through vocational training institutes followed by in-house training by the developers or manufacturers. Most of the developers have developed inhouse training facilities in view the technology proprietary, quality and safety associated with the project execution. This is also due to the absence of enough cost effective and relevant training programes.

It is realized that multi-fold scaling uр of renewable energy generation capacity requires commensurate development of skilled workforce for manufacturing, project work and asset maintenance. The renewable energy sector alone is likely to have two million green jobs in next 10 years. A strong urgent need of a broad based, industry-led skill development activity to up-skill and /or re-skill manpower is felt.

Ministry of Skill Development and Entrepreneurship jointly with Ministry of New and Renewable Energy has setup 'Skill Council for Green Job'. The main promoter of the council is the Confederation of Indian Industry (CII) and Ministry of New and Renewable Energy. The skill council for green jobs has started its operations from 1st October, 20015. In this short time, it has affiliated over 70 training partners across the country to impart quality training in its domain of activities. It has also developed National Occupational Standards and Qualification Packs in the solar domain. Simultaneously, it has identified Wind Energy and Waste water treatment as its priority area to meet skilled man power requirement.

A Green job is defined as the one that helps bring about and maintain transition to environmentally sustainable forms of production and consumption. It cut across all the sectors, be it energy, materials, water conservation, waste management, pollution control etc. The green skill can be divided in to two categories vis developing green skills to existing work force and skilling workforce for green jobs. While the 'Skill Council for Green Jobs' proposes to target both, the immediate focus would be to skilling workforce for green jobs for renewable energy, energy efficiency and waste treatment.

## Skill gap in the Wind Sector

With the increased mandate to take renewable energy to 175 GW including wind capacity to 60 GW by 2022, it is envisaged that there would be a large requirement of skilled and semi-skilled manpower. MNRE had carried out a study along with CII in 2010 to estimate manpower requirement in the sector. The Natural Resource Defense Council had independently carried out a study to estimate manpower

requirements in renewable energy sector during 2014. The extension of this study was again undertaken during 2015-16. The study has summarised the skilled man power requirement in following domains

**Business Development** Tracking market, policies and opportunities Site selection and leasing Government approvals, permits and drafting bids

Design and Pre Commissioning Project design and engineering Project management Geographical wind resource assessment **Construction and Commissioning** 

Project management Installation of nacelle, blade and **Operations and Maintenance** Performance data monitoring Technical management for grid integration Equipment maintenance

#### Manufacturing

Quality control

Research and product development Manufacturing engineering Quality control

Ministry of New and Renewable Energy has launched a scheme for setting up of 1000 MW Wind Project connected to Power transmission network of Central Transmission Utility (CTU) with an objective to facilitate supply of wind power to the non-windy states at price а discovered

through transparent bidding process. The Scheme will encourage competitiveness through scaling up of project sizes. It will also facilitate fulfilment of Non-Solar Renewable Purchase Obligation (RPO) requirement of non-windy states. This initiative of MNRE can prove to be an instrument to give new thrust to wind power development in India and open opportunities for wind industry. This also sets more requirements of the skilled man power in this domain overlapping with the electrical sector.

The wind sector as a whole is challenged by a shortage of skilled people. Additionally, the wind sector is also constrained by the lack of transferability of skills. The skills required in the wind industry are highly specialised and thus movement between industries is limited, making the total available skilled workforce to the wind sector limited. The shortage of skilled workforce could be attributed to existing trainings not meeting industry needs, the poor quality of training programmes, and the lack of enough suitable training institutes. This needs to be addressed to meet the Government target of 60 GW wind capacity by 2022.



Dr. P.Saxena, CEO,SCGJ

## One day training programs of DISCOM engineers

SKILL COUNCIL FOR GREEN JOBS, as an Implementation Partner of GIZ/RENAC for Discoms one day training programs on "Voltage and Reactive Power Control in Distribution Grids with Increasing Penetration of Rooftop PV Systems".

One day training program was organised at

- Rajkot,
- Vadodara,
- Ahmedabad,
- Surat,
- Daman,
- Silvassa,
- Dehradun,
- Dharamshala &
- Mandi

from 18 Nov 2019 to 06 Dec 2019.

184 Discoms staff benefitted during these 9 training programs. One day training program of DISCOM engineers at Surat on 25 Nov 2019





Today the role of women in our societies is increasingly becoming critical due to their contribution in social and economic development. However, despite their role and economic growing power, continue to face women greater risks and lack access to equal opportunities. Women also remain poorer and less educated, are paid less at work, and face discrimination at home and their workplace. Women spend at least twice as much time as men on unpaid domestic work, making their average paid and unpaid work hours longer than men's in every region. Women also lack access to and control over resources, which financial reduces their autonomy and increases their vulnerability.

Economic activity of majority of women currently is beyond the formal sector as they do not own the land they work on, they sell products at market without establishing a formal business, they work domestically in their home or someone else's home. The vast



majority of poor women are engaged in subsistence agriculture. In rural areas women and girls are the primary energy producers for the household. Further, they are dependent on small-scale agriculture and locally available resources to support their livelihoods and to fulfil their family commitments.

Women and girls are often responsible for collecting fuel and water for their families. As per the U.N.D.P. report (2013) in India, women gather firewood, crop waste and cattle dung to fulfill 92 percent of their energy needs. Thus, energy poverty leads to drudgery, greater health risks and a lack of time to focus on incomegenerating, educational or other self-nurturing leisure) (e.g. activities. Providing clean and affordable energy services will therefore directly benefit their health and well-being. This will also provide opportunities for taking up beneficial ventures like education, income generating enterprise and also plenty of time for rest and leisure.

In the renewable energy sector, the share of women in most workplaces is significantly less especially in the technical, managerial and policy making positions. Moving towards greater gender equality can be viewed as a tremendous opportunity to ensure that women's needs and perspective are taken into account for energy technologies, market design and community involvement to shape the socioeconomic benefits of the energy transition. In order to increase the percentage of women working in both formal and informal sector there is need to focus in four key areas which will enhance the opportunities.

## Access to Employment Opportunities

Women often lack access to decent and stable jobs due to low education and greater family needs absence of fair and transparent workplace practices .Because of its multidisciplinary nature, renewable offers a range unprecedented opportunities expanding employment in this young and dynamic sector . Supporting women to develop and manage greener technologies and renewable energy sources will provides new avenues for employment with economic empowerment.

#### **Education and Skills development,**

Women may not have access to proper education which may prevent them from securing higher-skilled jobs and limit their professional advancement. Skill development for promoting women entrepreneurship can help stimulate the economy, enhance the consumer base and provide new inputs or services.

#### **Gender Sensitive Policies**

Women in the developing world may require additional policies for making their places of employment or communities safe and incident free . Although women and girls affected inequitable by energy policies across various levels, they nonetheless play a key role in energy. production, utilization and conservation. Smart energy policies should therefore be developed with due consideration to their needs, concerns and unique contributions. There is also a need to mainstream gender in formulation of energy access policy so as to ensure women are a part of the solution and their role as energy users, community members and business owners is fully recognized.

#### Promoting access to finance

Many women lack access to bank accounts and also often have no



## 11th GRIHA Summit- Session on Women in Sustainability on 17th Dec 2019

financial independence, as they have in spending decisions. no sav Financial literacy training to women would help them manage household income and spending, as well sector as to increase understanding of and trust in formal banking systems. Improving access to finance is a big support for women engagement in the renewable energy . Linking dedicated financing women to schemes can facilitate an active role in the renewables value chain and tap into the range of opportunities created by modern energy services. In conclusion it may be mentioned that greater employment of women will draw additional talent and create workforce at all levels including senior positions. This will benefit the organization in terms of growth, culture and sustainability. A fair energy transition will bring more equity across all social and economic groups, but will also

benefit women and children the most in the context of energy access. Access to sustainable energy services will provide an impetus for economic and social development, for achieving the Millennium Development Goals and climate change adaptation and mitigation objectives. Transition to renewable energy will be faster if gender is established as a pillar of energy strategies both at the national and global levels leading to acceleration of attainment of multiple Sustainable Development Goals.

Dr. (Mrs.) Praveen Dhamija Advisor, SCGJ (Biomass & Sustainable Livelihood)



One day training program of DISCOM engineers at Silvassa on 28 Nov 2019



One day training program of DISCOM engineers at Dehradun on 2 Dec 2019



One day training program of DISCOM engineers at At Dharamshala on 4 Dec 2019



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# Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM) Opportunity and Challenge

Ministry of New and Renewable Energy (MNRE), Government of India has launched the Pradhan Mantri Kisan Urja Suraksha evem Utthan Mahabhiyan (PM KUSUM) farmers Scheme for for installation of solar pumps and grid connected solar and other renewable power plants in the country. The scheme aims to add solar and other renewable capacity of 25,750 MW by 2022 with total central financial support of Rs. 34,422 Crore including service charges to the implementing agencies.

PM KUSUM scheme is to economically empower farmers and reduce their over reliance on diesels based irrigation system. The benefit of this scheme is not only limited to farmers but in a broader perspective, its expected outcomes include promotion of decentralised solar power reduction production, of transmission losses as well as providing support to the financial health of DISCOMs by reducing the subsidy burden to the agriculture sector.



### **Scheme Components**

The Scheme consists of three components:

Component A: 10,000 MW of Decentralized Ground Mounted Grid Connected Renewable Power Plants of individual plant size up to 2 MW. Component B: Installation of 17.50 lakh standalone Solar Powered Agriculture Pumps of individual pump capacity up to 7.5 HP.

Component C: Solarisation of 10 Lakh Grid-connected Agriculture Pumps of individual pump capacity up to 7.5 HP.

## Present status of Installed capacity of Solar Water Pump in India:

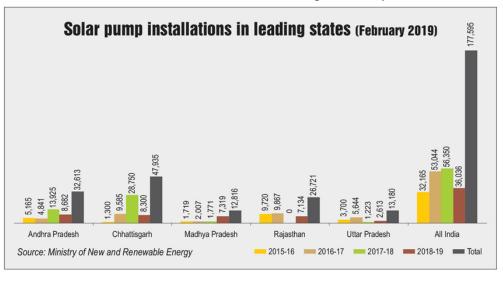
With continued impetus from the central and state governments, a total of 177,595 solar pumps were installed across the country between 2015-16 and 2018-19. The majority of these installations are being used for meeting irrigation requirements. Andhra Pradesh, Chhattisgarh, Madhva Pradesh, Rajasthan and Uttar Pradesh witnessed the maximum solar pump deployments during this period. These five states together account for 75 per cent of the total solar pump installations.

## Challenge and the way forward:

Massive subsidies on solar pumps reduce the upfront capital investment to as low as 10 per cent of the system. Even then the uptake of these systems has been lower than expected,. One of the major reasons for the low uptake is the lack of awareness among farmers.

## Need of Training and promotion

For farmers who are aware about government subsidies policies, securing financing for these pumps is a challenge. Many lenders consider solar pumps as bad investment, and are often unaware about the government schemes for these systems. Besides being important factors for economic viability, system quality and timely after-sales service are also crucial determinants of social acceptability. Availability of cheap but poor quality products can affect severely consumer perception about solar water pumps technology skilled manpower may not be available to operate and maintain such huge number of Installation throughout the year.



Thus, it is the need of the hour to train and sensitized the Stake holder and undertake capacity building, awareness programmes for farmers, NGOs working at the grassroots level as well as for lending communities (SME Bankers) working for rural livelihood.

Skill building for farmers and local electrician to make them self-reliant is another focus area for installation and maintenance of solar Pump.

Going forward, state agencies and local authorities should work on creating more awareness regarding the benefits of solar irrigation through demonstration and pilot projects. Innovative financing schemes need to be developed to increase the uptake of solar pumps among by small debt-ridden framers, who will benefit the most from these solar pumps.

### Role of SCGJ

Given the large employment generation potential to implement the scheme, SCGJ finds a good opportunity to skill the manpower required and make them ready for the new job opportunities. Equilly important is to undertake capacity building for the important stake holder

(DISCOM/BANKERS/SNA/NGO.) who would be key for the success of PM KUSUM Scheme.

Prem P Bharti Associate : Standard & Research, SCGJ



German Chancellor Angela Merkel is sitting in a PV port installed by Suryamitras, Dr. Damn explaining the characteristics of a PV Port to her.

PV Port & Store (the "System") is a standardized Plug-n-Play, portable and easy to install 2 kWp solar PV system with electrical storage for applications across residential and commercial places. It is specially designed by GIZ - Deutsche Gesellschaft für international Zusammenarbeit - on behalf of the Ministry of New and Renewable Energy, Delhi, India considering the need of Indian conditions. PV Port & Store is a product having Global Standards with Localized Service.

be installed The System can anywhere i.e. roofs, parks, malls, public places which takes a less space and can be quickly installed. It comes with a sprinkler system both manual/automatic modes for module cleaning. The System gives a good aesthetic look with two rotomoulded benches which are in two portions - a) to hold all the electronics and b) to hold about 1000 liters of water as counterweight and to keep the electronics cool.

The System contains intelligent controller for electrical flows. It is connected to 15 Amps socket (Plug-n-Play) and works at all time with the help of UPS.

#### **Benefits**

The PV Port & Store comes up with assured quality and reliability and will be distributed through DISCOMS. It doesn't require net metering mechanism as it is not feeding to the grid. The product is specifically targeted to increase the adoption of rooftop solar by the residential consumers to overcome the several hurdles - selection of a reliable installer, concerns over quality and price, lengthy processes for net metering (in several states), roof rights (tenant vs landlord), alternative usage of roofs, operation & maintenance and lack of access to finance / third party business models etc. The system can be consumer-based product which involves resale also.

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## Focus Group Discussion on "Skill Development and Training for Plastic waste recycling"

19 December, 2019

A focus group discussion was held in Skill Council for Green Jobs on Skill Development and Training for Plastic waste recycling on 19th December, 2019. The group discussed value chain of plastic waste management. It was opined that in the whole value chain plastic waste of from management, starting Plastic waste collection. segregation, compaction/ baling for transportation to recycling industry, the role of waste pickers/ collectors is the most important to collect and each segregate and every category of plastic waste so that they can be send to their respective recyclers. Therefore, building and capacity skill development is the key for successful recycling of plastic waste.

Following components need to be incorporated in the training of the waste pickers:

a. Information on different categories/commodities of plastics, including recyclable and non-recyclable



- b. The market value/price of each category/ commodity of the plastic
- c. They need to be trained on personal hygiene, sanitation and use of safety Gadgets (PPEs) for handling different types of waste
- d. They should be trained on efficient logistic mechanism of waste handling, which include collection, storage, baling and transportation so that they can save the cost.
- e. They should be trained for fire safety and their equipment to avoid any fire hazards on their waste segregation and storage points.
- f. The training on in and out quantity of plastic waste material/documentation need to be given to the waste collectors.
- g. Their should be aware about different government schemes (e.g. NSKFDC schemes for them and their dependents) and their rights (under PWM Rules 2016) for their social upliftment.
- h. They should be trained on having their personal bank accounts, ID cards to get the benefits of different schemes of government.
- I They should also be provided the information on waste aggregators and recyclers and should also be trained for plastic waste recycling industry specific works, where they can get the jobs.

- For scrap dealers following components are essential as part of their skill development and training for efficient recycling of plastic waste:
- a.Training on how to make their business more profitable by knowing the market value of each category of plastic waste
- b. training on stock keeping and maintenance of documentation
- c. Training on compliance for plastic waste management so that they can tie up with the compliant aggregators and recyclers only for selling the plastic wasted.
- d. Training on fire safety, operation and maintenance of their godowns Level

Plastic waste aggregators

- 1. Training on maintenance of their records
- 2. Training on compliance, their role and responsibilities under PWM Rules 2016
- 3. Educate them about difference between compliant and non-compliant recyclers

At top level (Recyclers)- the training is required to maintain the compliance, consent to establish and consent to operate and maintain





Expo and conference Intersolar India 2019 held at Bangalore International Expo Centre, Bangalore from the 27 – 29 November 2019.

New Business and Investment Opportunities in Solar Sector" &

Awards Ceremony – Skill Council for Green Jobs November 27, 2019

SCGJ and TERI jointly organised a panel discussion on session New Business and Investment Opportunities in Solar Sector at Inter solar Bangalore on 27<sup>th</sup> November, 2019. The panel

- -Shri A.B. Basavaraju, Managing Director, Karnataka Renewable Energy Development Limited (KREDL), Government of Karnataka Development & way forward of RE in Karnataka
- -Mr. Joerg Gaebler, Principal Advisor, GIZ New products & business opportunities
- -Dr. Praveen Saxena, Chief Executive Officer, Skill Council for Green Jobs (SCGJ) Skilling development needs and modules
- -Dr. O. S. Sastry, Senior Scientific Advisor, Maxop Research & Testing Institute Pvt. Ltd. Technical standards of solar products
- -Dr. Arun K. Tripathi, Director General, National Institute of Solar Energy (NISE) Technological innovations
- -Ms. Madhura Joshi, NRDC Case study of Solar Irrigation for Salt Farmers in Kutch region of Gujarat









Awards Ceremony – Skill Council for Green Jobs at Inter Solar November 27, 2019









## Advisor SCGJ addressing Clean Cooking Forum 2019



Training of Trainers of in Delhi for Sakaikaramcharies



Suryamitra Master Class Programme organized by SCGJ with GIZ & RENAC on 21-25th Oct 2019



## **Skill Council for Green Jobs through Numbers**

				Year w	ise Tra	ining St	atus a	s on 3	1-12-20	)19						
		2016-2017			2017-2018			2018-2019			2019-2020			Cumulative		
S.No.	Name of the Scheme	Trained	Assessed	Certified	Total Trained	Total Assessed	Total Certified									
1	PMKVY Short Term	0	0	0	11705	10951	10173	12434	11180	10292	5329	4883	4659	29468	27014	25124
2	PMKVY 1	383	366	161										383	366	161
3	PMKVY 2										2013	1850	1727	2013	1850	1727
3	PMKVY RPL 1,2&3	0	0	0	899	664	638	1254	840	839	6116	6077	6055	8269	7581	7532
4	PMKVY RPL 4	0	0	0	0	0	0	14222	10040	10031	165970	169979	169970	180192	180019	180001
5	PMKVY Special Project	0	0	0	0	0	0	523	371	357	512	494	483	1035	865	840
6	PMKVY CSSM - Centrally Sponsored State Managed Component	0	0	0	0	0	0	792	542	489	1616	1578	1485	2408	2120	1974
7	Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY)	0	0	0	0	0	0	1097	930	794	291	280	275	1388	1210	1069
8	Utkarsh Bangla- PMKVY PBSD (Pashchim Banga Society for Skill Development)	0	0	0	0	0	0	0	0	0	266	238	227	266	238	227
9	AICTE- PMKVY Techical Colleges	0	0	0	0	0	0	1154	1154	1154	807	171	171	1961	1325	1325
10	RPL- NSKFDC (Natioanal Safai karamchari Finance & Development Corporation)										834	787	787	834	787	787
10	Deendayal Antyodaya Yojana- National Urban Livelihoods Mission (DAY- NULM)	0	0	0	0	0	0	330	308	303	269	266	263	599	574	566
11	NSKFDC- National Safai Karamchari Finance & Development Corporation	0	0	0	1238	1204	1204	8490	7882	7882	2599	2540	2540	12327	11626	11626
12	NBCFDC- National Backward classes finance & Development Coporation	194	177	175	411	374	359	138	133	133	0	0	0	743	684	. 667
13	Andhra Pradesh Skill Mission	0	0	0	300	298	298	650	645	643	0	0	0	950	943	941
14	Uttrakhand Skill Mission	0	0	0	30	25	23	0	0	0	0	0	0	30	25	23
15	Gujarat Skill Development Mission	0	0	0	128	99	85	415	260	257	0	0	0	543	359	342
16	RSLDC - Rajasthan Skill & Livelihoods Development Corporation	0	0	0	0	0	0	386	349	310	349	340	329	735	689	639
17	Bihar Skill Mission	0	0	0	0	0	0	28	24	24	0	0	0	28	24	24
18	PMKVY 2.0 BSDM (Bihar Skill Development Mission)	0	0	0	0	0	0	25	25	25	0	0	0	25	25	25
19	Odhisha Skill Development Mission	0	0	0	0	0	0	493	460	419	0	0	0	493	460	419
20	Asaam Skill Development Mission- PMKVY ASDM	0	0	0	0	0	0	57	47	47	140	140	138	197	187	185
21	Market Mode Paid Programs	80			1658		1560	4985		4460		1072		7880		
22	MNRE Sponsored Suryamitra	2998	2789	2553	9783	9328	8908	11515	11112	10800	9322	8998	8676	33618	32227	30937
23	CB_Scheme- North-East Candidates	0	0	0	120		114	126		110				246		
24	CSR Projects  Jharkhand State Skill Mission	0	0	0	0	0	0	518	473	465		_		518		
25	PHAIRMAND STATE SKIII IVIISSION										765			765		
	Total:	3655	3412	2950	26272	24656	23362	59632	51432	49834	198355	200440	199503	287914	279940	275649

## The Editor of this edition

## **Sarvesh Pratap Mall** Technical Associate arvesh@sscgj.in

Sarvesh is working as Technical Associate in SCGJ and involved in R&D in Skill Development activities for six sectors viz Water Solid Waste Management, E-Waste Management, Management, Carbon Sinks, Green Construction and Clean Cooking along with the implementation of CSR sustainability project in villages of Haryana. Sarvesh is passionate about the circular economy advocating Bio-energy and efficient waste management.





## Green Jobs News

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