GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
STARRED QUESTION NO. 192
TO BE ANSWERED ON 10/03/2016

SKILLED WORKFORCE IN RENEWABLE ENERGY SECTOR

*192. SHRI DUSHYANT CHAUTALA:
SHRI DHARMENDRA YADAV:

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether there is shortage of skilled workforce and quality training programmes in the field of renewable energy generation in the country, if so, the details thereof;
(b) whether any assessment has been made with respect to skilled site engineers/technicians required to achieve the target of 100 GW of solar power by 2022, if so, the details thereof;
(c) the steps taken/proposed to be taken to ensure adequate supply of manpower/number of professionals in the field of renewable energy sector so as to achieve the said target; and
(d) whether the Wind Energy Sector is likely to create 1, 83,500 additional jobs by the year 2022, if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR POWER, COAL & NEW AND RENEWABLE ENERGY (INDEPENDENT CHARGE) (SHRI PIYUSH GOYAL)

(a),(b),(c)&(d): A statement is laid on the Table of the House.

*****

Statement

Statement referred to in reply to parts (a),(b),(c)&(d) of the lok sabha Starred Question No 192 to be answered on answer on 10.3.2016

(a): An estimated 79000 full time equivalent jobs in solar and wind energy projects existed in the country as of November 2015, as per an analysis brought out in the February 2016 issue brief entitled "Filling the Skill Gap in India's Clean Energy Market: Solar Energy Focus". However, there are skill gaps in renewable energy sector pertaining to research and development (R&D), project development, consultancy, manufacturing, construction and installation, operation and maintenance and marketing besides project management as brought out by a study conducted by the Confederation of Indian Industry (CII) for the Ministry of New & Renewable Energy (MNRE) in its Report "Human Resource Development Strategies for Indian Renewable Energy Sector".

(b): To achieve the projected target of 100 GW solar power generation capacities by 2022, the requirement of the estimated manpower is as follows [based on Natural Resources Defense Council (NRDC) and Council on Energy, Environment and Water (CEEW) Issue Brief of February 2016]:

Function	Educational skill and qualification level	Key skills	Total number of trained/qualified persons required (estimated)
Business Development	Highly skilled Master's degree or Diploma in Business Administration	Tracking the market, drafting bids, land selection and project finance	17,600
Design & pre construction	Engineering degree in civil, mechanical or electrical engineering	Plant design engineering	28,600
Construction and commissioning	Highly skilled, Engineering degree in civil, mechanical or electrical engineering	Site engineering	1,82,200
	Semi and low skilled	Electrical training and PV installing	6,24,600
Operation& maintenance	Highly skilled-Engineering in electrical system	Performance data monitoring	81,000
	Semi and low skill	Certificate	1,82,400
Total			11,16,400

(c): A comprehensive Human Resource Development Programme is developed for meeting the qualified and trained manpower in Renewable Energy area. The salient components of the programme are as follows:

(I) National Renewable Energy Fellowships - to encourage students to take courses of renewable energy at M.Tech, M.Sc. and Ph.D levels (140 PhD, 132 M.Tech and 29 M.Sc fellowships have been awarded since the year 2010).

(II) One time grant-in-aid support to higher educational institutions and Integrated Rural Energy Programme (IREP) training centres for lab and library upgradation for running courses on renewable energy to following institutions:

i) Indian Institute of Technology, Roorkee (Uttarakhand)
ii) Indian Institute of Technology, Delhi
iii) Indian Institute of Technology, Kharagpur, West Bengal
iv) National Institute of Technology, Hamirpur, Himachal Pradesh
v) Madan Mohan Malviya National Institute of Technology, Jaipur, Rajasthan
vi) Maulana Azad National Institute of Technology, Bhopal, Madhya Pradesh
vii) Lucknow University, Lucknow, Uttar Pradesh
viii) Pune University, Pune, Maharshtra
ix) Pondicherry University, Puducherry
x) Anna University, Chennai
xi) Mahatma Gandhi Institute of Rural Energy Planning and Development (MGIRED), Bangalore.
xii) The Deenbandhu Chhotu Ram University of Science and Technology (DCRUST), Murthal, Haryana.

(III) National Solar Science Fellowship- to encourage young Scientists to undertake independent research work in cutting edge area of solar energy (three fellowships have so far been given)

(IV) Support for short-term training programmes including creating 50000 Surya Mitra by 2019 - to support educational, training organizations and NGOs to undertake short-term training courses on various aspects of renewable energy, specifically to create trained manpower for system design, installation, operation and maintenance of renewable energy projects. 304 such programmes were conducted since the year 2012 with 8764 persons trained by 30th June 2015. In addition 112 programmes are run for Surya Mitra during 2015-16 to train about 3000 persons.

(V) Support for developing course material- to enable developing model course curriculum and course material. Course material for solar lighting systems, solar thermal systems and small hydro systems for incorporating in two year regular ITI course, Biomass power generation, have been developed. Model course curricula for M.Tech, Diploma and undergraduate courses in renewable energy developed and adopted by institutions.

(VI) Collaboration with Directorate General of Training and Employment for incorporating renewable energy in regular two-year certificate courses in ITI in seven trades: Electronics, Electrician, Machinist, Fitter, Plumber, Welder and Sheet metal works. Through National Council of Vocational Training (NCVT), five renewable energy courses have been developed under Modular Employable Skilling Scheme (MES).

(VII) Formation of Skill Council on Green Jobs and Power Sector Skill Council to develop National Occupational Standards (NOSs) and Qualification Packs (QPs) for different job roles- 125 job roles have been identified and QPs and NOSs for 8 job roles have been developed.

(d): The 1, 83,500 number of additional jobs creation by the year 2022 in wind energy sector is based on the analysis done by Natural Resources Defense Council (NRDC) and Council on Energy Environment and Water (CEEW), published in February, 2016 in the report entitled “Filling the skill gap in India’s Clean Energy Market”.

****