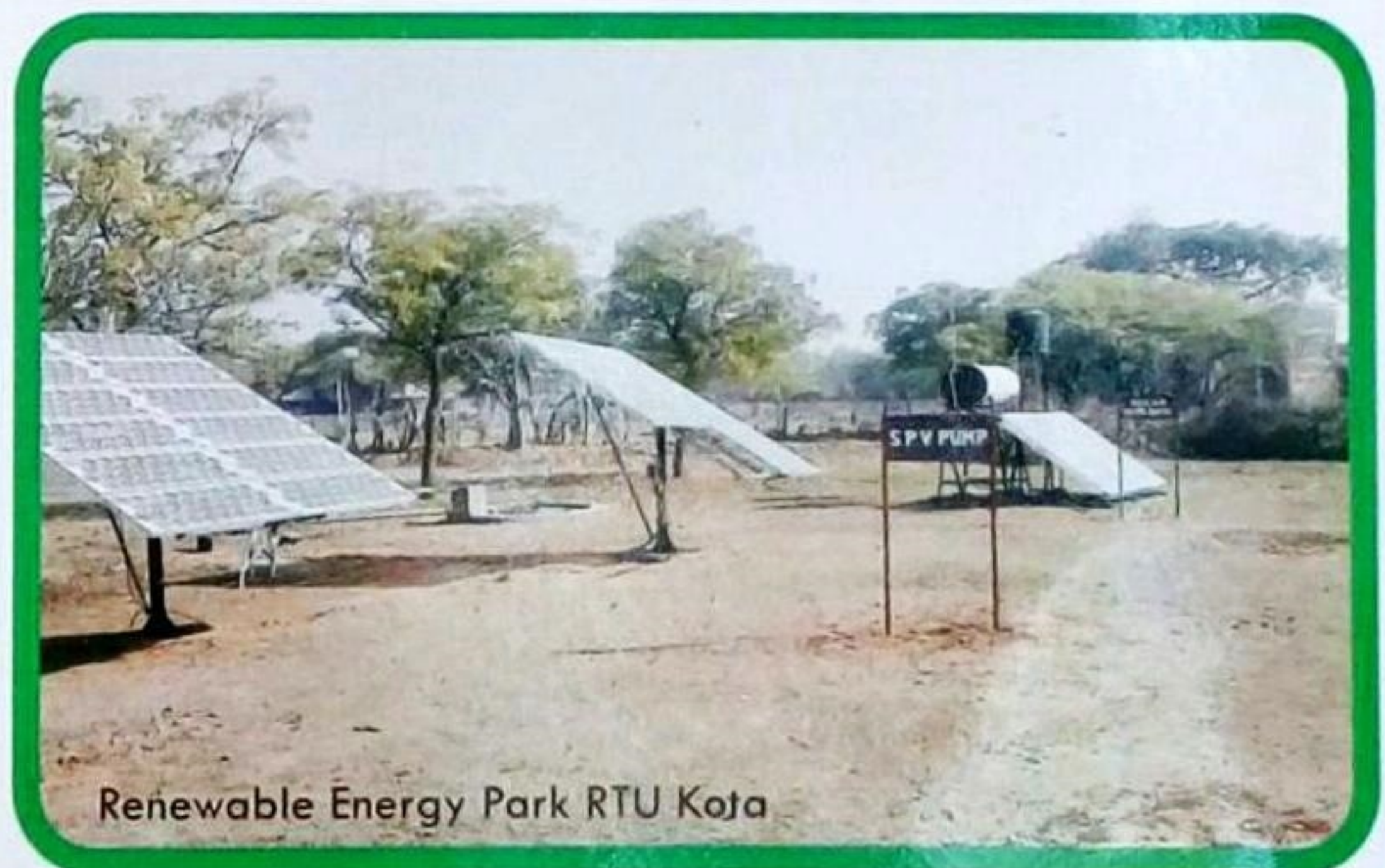




Rajasthan Technical University, Kota

Rawatbhata Road, Kota - 324010

Annual Report for the Year - 2013



I. Administrative activities during the year - 2013

1. On 19th February as per order No.RTU/VCS/F (1) 33/2013/14799-819 dated 18/2/2013 of Pro-VC, Prof. K.V.S. Rao appointed as Head of the Centre for Energy and Environment (CEE).
2. For day to day functioning of the centre, order was issued by the Registrar on 23rd March 2013 vide order No.RTU/CEE/Adm./2013/16407-48 dated 23/3/2013.
By this order, students of 2011 & 2012 batch admitted in M. Tech (RET) in Mechanical Engineering Department of UCE were transferred to CEE. From July 2013 all admissions of M. Tech (RET) and PhD (RET) shall be done by CEE.
3. Consequently Centre has been shifted to old RPET office along with three other rooms as per order issued by estate officer vide order No. RTU/estate/F (6) 2012/62-66 dated 18/4/2013.
4. Head CEE has been declared as DDO vide order of the Registrar No.RTU/CEE/Adm./2013/16407-48 dated 6/9/2013.
5. For the F.Y. 2013-14 a budget of Twenty Nine Lakh Rupees was allotted for CEE under five heads namely "Scholarship of the students, Payment of Guest Faculty, Computer & Equipment, Lab Equipment and Office Expenditure", vide order NO.RTU/F(3)/Budget CEE/2013/1410-13 dated 13/9/2013 issued by finance officer, RTU.



ICREESE 2013, COIMBATORE, T.N.



II. Academic Activities during the year -2013

1. Three students of the centre Mr. Shahid Ali Khan, Mr. Vishnu Meena, Mr. Burhanuddin Bohra have participated / co-authored a paper in International conference on "Global Scenario in Environment and Energy" (14th to 16th March 2013) held at MANIT Bhopal, (MP). The title of the paper was:
 - i. Hemant Kumar, Ruchika Jain, Shahid Ali Khan, Vishnu Meena, Burhanuddin Bohra and A.K.Sharma "solar photovoltaic- key towards restructuring power for India," presented at International conference on "Global Scenario in Environment and Energy, ICGSE2 2013, held on 14-16 March 2013 at Bhopal, Madhya Pradesh, India, paper
2. Mr. Ravi Acharya Participated in "workshop on patents and geographical Indiations " organized by DST govt. of Rajasthan at Vigyan Kendra Kota on 26th April 2013.
3. Following five students of the centre attended short term course on "optimization techniques for Engineering applications" under TEQUIP-II from 8th May to 12th May 2013 at RTU, Kota.
 - (i) Mr. Sachin Jain (ii) Mr. Mukesh Kumar Meena (iii) Mr. Anshul Gupta
 - (iv) Mr. Bharat Kumar Saxena (v) Miss Zainab Akhtar
4. The following students of M. Tech. (RET) 3rd Sem. presented their seminars in April 2013.

| S. No. | Univ.Roll No. of the Student | Name of the Student | Seminar topic | Seminar guide |
|--------|------------------------------|---------------------|--|--------------------|
| 1. | 11EUCRE600 | Anil Kumar | Active solar distillation-A detailed review | Mr.Rajan Karir |
| 2. | 11EUCRE601 | Anshul Gupta | Solar day lighting via optical fiber cable | Dr. Sanjeev Mishra |
| 3. | 11EUCRE602 | Bharat Kumar Saxena | Direct drive technology for wind turbine application | Dr.K.V.S. Rao |
| 4. | 11EUCRE603 | Deepesh Sharma | Thermal energy storage with phase change material | Mr.D.P. Sharma |
| 5. | 11EUCRE605 | Kumari Sanno | Role of tracking system on the performance of flat plate collector | Dr.K.V.S. Rao |
| 6. | 11EUCRE607 | Ravi Acharya | Solar wind hybrid system | Dr.K.V.S. Rao |
| 7. | 11EUCRE608 | Zainab Akhtar | Solar chimney | Dr.K.V.S. Rao |



5. "International conference on solar energy-City of Kota : the next solar destination" organized by Municipal Corporation Kota was held on 31st August and 1st September 2013, at hotel Meenal Residency, Bundi Road, Kota. Many high profile scientists, technologists, industrial experts, administrative experts, and chair persons of various Municipal Corporations across India have attended the conference. Some foreign delegates/experts also attended this conference.
 - i. This conference was co-sponsored by RTU, Kota. Prof. K.V.S. Rao, Head CEE along with about 35 students of M Tech. (RET) participated in the conference.
 - i. Prof. K.V.S. Rao presented a paper on "Solar Chimney Power Plant" in the conference which was co-authored by Zainab Akthar, student of the centre.
 - ii. Brochure of CEE, RTU, Kota was prepared and distributed to the delegates of conference, on 31st August 2013.
6. "Energy Meet" was held on 2nd December 2013 at University of Kota, Kota and was attended by 25 students of the centre.
7. Three students of final semester have presented their research papers at Karunya University, Coimbatore .The title of the papers were:
 - i. Zainab Akthar and Dr.K.V.S. Rao, "Levelised Electricity Cost of Solar Chimney Power Plant of Different Capacities," presented at IEEE conference, ICRESE 2013, held on 5-6 DEC, 2013 at Coimbatore, Tamil Nadu, India, paper ID: EE-RE074.
 - ii. Bharat Kumar Saxena and Dr.K.V.S. Rao "Wind Turbine Failure Analysis for Wind Farm at Devgarh in Rajasthan," presented at IEEE conference, ICRESE 2013, held on 5-6 DEC, 2013 at Coimbatore, Tamil Nadu, India, paper ID: EE-RE036.
 - iii. Kumari Sanno and Dr.K.V.S. Rao "Effect of Wind Density on Kite Power," presented at IEEE conference, ICRESE 2013, held on 5-6 DEC, 2013 at Coimbatore, Tamil Nadu, India, paper ID: EE-GN057.
8. Following seven students (Four students of 3rd semester and three students of final semester) along with Prof. K.V.S. Rao were on educational tour (including attending the above conference at Coimbatore) for 11 days from 2nd December after-noon to early hours of 13th December. These students have presented papers/attended the conference at Coimbatore on 5-6 Dec 2013, and went to Nagercoil, to visit wind farm near Nagercoil on 7th Dec 2013 and wind farm near Thiruvanthapuram on 8th Dec 2013.



- i. Bharat Kumar Saxena
 - ii. Kumari Sanno
 - iii. Zainab Akthar
 - iv. Vishnu Meena
 - v. Shahid Ali Khan
 - vi. Burhanuddin Bohra
 - vii. Seema Bai
9. All the above seven students along with Prof. K. V.S. Rao visited C-WET wind farm research station at Kayathar near Kovilpatti, Tamil Nadu, on 9th December. They reached Tirupati, Andhra Pradesh on 10th Dec 2013 where they had darshan of Lord Venkateswara on Tirumala Hills and visited one of the largest solar operated kitchens, in the world at Tirumala.
10. Above six students (Except Mr. B. K. Saxena) visited “Indira Gandhi Rashtriya Manav Sangrahalay, Shymala Hills, Bhopal, Madhya Pradesh” and “Regional Science Centre, North TT Nagar, Bhopal, Madhya Pradesh” on 12th Dec 2013, While they were on their way from Tirupati to Kota.
11. Mr. Rahul Khandelwal, student of 3rd semester M Tech. (RET) has participated in 6th science conclave, which was held at IIIT, Allahabad from 8th Dec to 14th 2013, where eight Nobel Prize winners graced the occasion and delivered keynote lectures.
12. From Tirupati, Prof. K.V.S. Rao and Mr. Bharat Kr. Saxena reached Chennai on 11th Dec to attend a three days International conference at R.M.D college, Kavaraipettai near Chennai. They presented a paper on 14th Dec 2013 in the conference. The title of the paper was:
- i. Bharat Kumar Saxena and Dr.K.V.S. Rao “Performance Analysis of Wind Power Plant at Devgrarh in Rajasthan” presented at IEEE confrence, ICGCE 2013, held on 12-14 DEC, 2013 at Kavaraipettai, Chennai, India, paper ID: 242.
13. Mr. Bharat Kumar Saxena and Miss Kumari Sanno M. Tech students, who attended three days training program held at C-WET Chennai in Dec 2012, were partially financed by CEE this year.
14. Due to the efforts of the CEE, RTU has been registered by India Meteorological Department, Govt. of India, Pune.



15. Three more research papers were accepted and due for presentation at IEEE conference on Renewable Energy to be held at Kalyani, near Kolkata on 16th-17th Jan 2014.

III. Summary

- i. Thus a total of five papers were presented /published by faculty and students of the centre . Also one more paper was co-authored by three students of the centre during the year 2013.
- ii. Three more papers of the centre were accepted for presentation at IEEE conference on Renewable Energy to be held at Kalyani, near Kolkata.
- iii. Six M. Tech. seminars were presented by the 3rd sem. students as part of their M. Tech. Programme.
- iv. Seven Students were on tour to the south India for 11 days in Dec. 2013. One student was selected for participating in " Science Conclave" at III T Allahabad in Dec 2013.
- v. Centre co-organized along with Municipal Corporation of Kota "International conference on solar energy-City of Kota, next solar destination" held on 31st August and 1st September 2013, at hotel Meenal Residency, Bundi Road, Kota.



6th science conclave, IIIT, Allahabad



CENTRE FOR ENERGY AND ENVIRONMENT



9.12.13

WIND TURBINE RESEARCH & TEST CENTRE, KAYATHER, T.N.



WITH MINRE DIRECTOR IN KAYATHAR

09.12.13



CENTRE FOR ENERGY AND ENVIRONMENT



ICCEE 2013, KAVARAIPETTAI, CHENNAI, T.N

14.12.13

10.12.13



10.12.13

CONCENTRATED DISH SOLAR COLLECTOR, TIRUMALA, TIRUPATI