Mahindra SANYO

SHASHWAT
RENEWABLE ENERGY

September,2016

MSSSPL RENEWABLE STORY...

Renewable Energy Team Members

Mr. S. B. Bhapkar : Mentor

Mr. V. Jain : Leader

Mr. U. Tayade : Co - Leader

Fossil fuels are non-renewable i. e they draw finite resources those will eventually dwindle, becoming too expensive or too environmentally damaging to retrieve. In contrast, many types of renewable energy resources-such as wind and solar energy are constantly replenished and will never run out. In this regard, our country is working ambitiously towards increasing its renewable mix. The Government of India has set targets which will take the total renewable power capacity to almost 175 GW by the end of 2022. This includes 60 GW from wind power, 100 GW from solar power, 10 GW from biomass power and 5 GW from small hydro power.

5.8% energy sourced from renewables with target to reach 20% by 2020

Our plant too relies heavily on electricity and oil for its energy which leads to a huge amount of emissions. Renewable Energy also helps us in achieving carbon neutrality and moving towards a greener planet. Last year we procured about 5.8% of our total Electrical Energy through Renewables. This was undertaken through support of top management and various initiatives like the following :

- Solar Power through rooftop solar – 20 kW
- Wind & Solar Power through power purchase agreements
- Renewable Energy Certificates for Solar and Non-Solar Units

We are also exploring options to further increase the renewable capacity mix through addition of Solar Panels on our rooftop and ground mounted modules by 2 MW in the first stage. The options for Waste Heat Recovery are also being studied. In the long term we aim towards achieving 20% of our power through renewables by 2020.

Mr. Shivaji Bhapkar
Renewable Energy : Mentor

Renewable Energy Team Members

Mr. V. Kapadi : Member

Mr. V. Kadam : Member

Mr. S. Gopinath : Member

INTRODUCTION TO RENEWABLE ENERGY

Today's modern world lifestyles & amenities are creating a lot of power demand. This in turn requires increased power generation 68% of which is coal based in the country. This is putting lot of stress on the limited natural reserves & resulting into higher pollution emissions at power generation. ***Hence RENEWABLE ENERGY is the need of the hour today***.

Renewable energies are inexhaustible, clean and they can be used in a decentralised way (they can be used in the same place as they are produced). Also, they have the additional advantage of being complimentary, the integration between them being favourable. For example, solar photovoltaic energy supplies electricity on sunny days (in general with low wind) while on cold and windy days, which are frequently cloudy, the wind generators are in position to supply more electric energy.

Recently in May 2016, Germany Paid its citizens to use Electricity as its renewable energy generation hit a new high as the country's solar plants and wind turbines, which were supplying about 55 GW which was 87% of the power consumption driving the electricity prices negative in the country for several hours. (http://qz.com/680661/germany-had-so-much-renewable-energy-on-sunday-that-it-had-to-pay-people-to-use-electricity/)

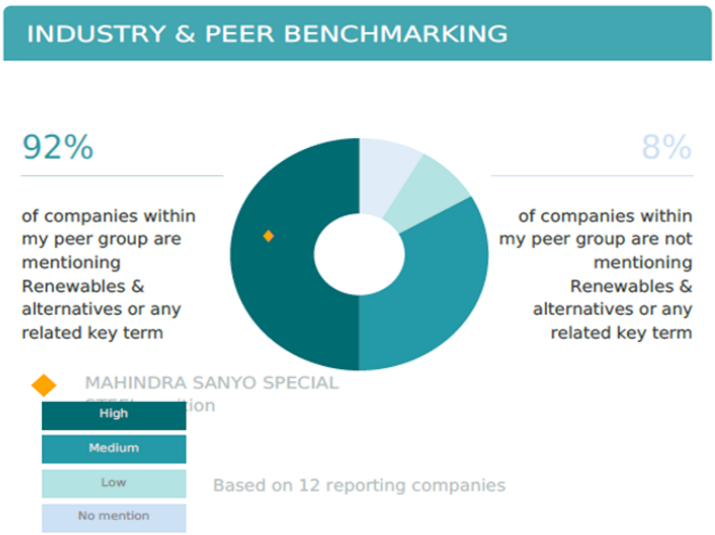
Following are the 2 major renewable energies that we are using at MSSSPL and intend to increase upon. We are also doing various projects wherein renewable energy source is used. We have 20KW solar installation in the main building. We are also procuring solar & wind energy power from the grid.

Mr. Vijay Prabhune
Mentor Waste to wealth

MSSSPL : Renewable Energy : Peer Benchmarking

In our journey towards setting smart targets for Renewable energy, we wanted to benchmark ourselves with our Industry peers. We took the help of a very sophisticated global software cum database called Datamaran. The chart on the side indicates the importance / priority given by various peer companies to Renewable Energy subject. ***It is one of the top 20 prioritised issues for the companies in the mines and metals category in India.***

Company	Level of importance given to Renewable Energy
Mahindra Sanyo Special Steel	High
Hindustan Zinc Ltd	High
Jindal Steel & Power Ltd	High
Vedanta Resources Plc	High
Sesa Sterlite Ltd	High
National Aluminium Co Ltd	High
Tata Steel Ltd	Medium
Steel Authority Of India	Low
Hindalco Industries Ltd	Low
JSW Steel Ltd	Low



Selected peer group criteria

Sector: Mines & Metals

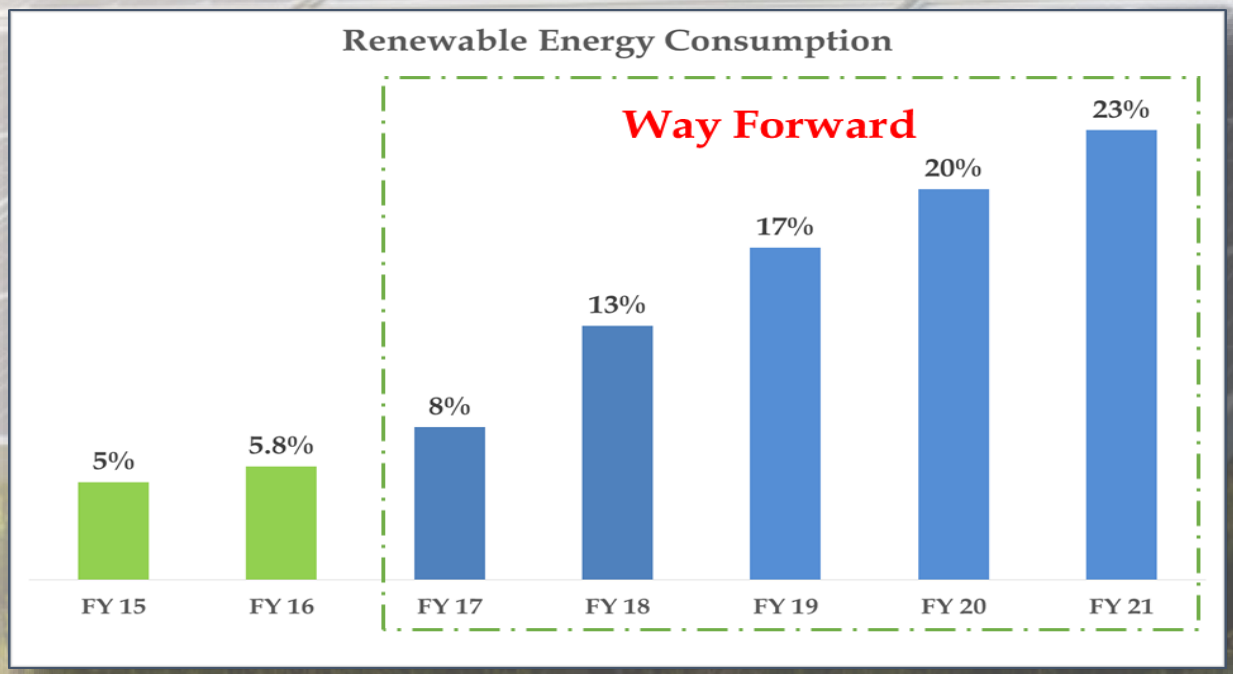
Countries: Asia: Afghanistan, Bangladesh, Bhutan, Cambodia, china, Hong Kong, India, Indonesia, Japan, Kazakhstan, Kyrgyzstan. Laos, Macau, Malaysia, Maldives, Magnolia, Myanmar, Nepal, North Korea, Pakistan, Philippines, Singapore, South Kora, Srilanka, Taiwan,Tajakistan, Thailand,, Timor-Leste, Turkmenistan, Uzbekistan,, Vietnam, Yemen

Source: Annual Sustainability reports 2016

All analyses are based from Datamaran as on September 28, 2016

Ms. Ambalika Gupta
Business Excellence Cell

A great accomplishment shouldn't be the end of the road, its just the starting point for the next leap forward...



Way Forward : Renewable Consumption @ MSSSPL

TMW Pillar : Employee Involvement & Development

The Mahindra Way is one of the major "workplace change" Agent, similarly **Employee involvement** is a vital aspect of The Mahindra Way and also in the success of any business.

Employee involvement is very important in any TMW initiative, as it is a system wherein our employees are encouraged to use their expertise and knowledge to suggest methods for improvements in their work areas. These suggestions could relate to improvements in the job, the product, the work atmosphere of the company as a whole. We have also ventured into a participation-style of management by involving employees in the problem solving and decision making processes.

We involve employees in decision making and continuous improvement activities through methods like suggestion schemes, QC stories, continuous improvement meetings & Kaizen .

This involvement increases the **Will** of the employees. They are motivated and ready to excel as part of ownership of the job that develops through engagement.

Will and Skill are the most important part in our Journey & we believe that the Journey has just started & there are many more milestone ahead…and as they say

"Where there is a Will there is a way"

Mr. C. N. Sonavane
Business Excellence Cell

Awards @ MSSSPL

CII "Confederation of Indian Industry" hosted this year's National Energy Management Competitions on August, 2016 at Hyderabad. **"MAHINDRA SANYO SPECIAL STEEL Pvt Ltd."** was certified as an ***"Excellent Energy Efficient Unit"*** in the ***Metals Sector.*** A total of 261 companies applied for it and 141 of them were shortlisted for the final rounds of presentation. ***Mr Manoj Hatankar & Mr. Utsav Tayade*** received the awards on behalf of the company. Also their presentation was awarded as the ***"Most Useful Presentation"*** which was an audience choice, sector specific award.

Mr. Utsav Tayade
Leader : Energy

Kaizen Zone

Addition in the OEM design of Electrical Circuit saving in Manpower, Cost & Safety

One of the most notable features of Kaizen is that sometime big results come from many small changes. In fact, kaizen means everyone involved in making improvements. Ensuring a safe working environment is a mandate at Mahindra Sanyo.

For Vacuum Degassing process at SMS, roof above vessel car needs to be closed & it depends on 3 limit switches. It was observed that there was a gap between roof and car and extra lowering was needed for which person has to hold the switch which has resulted in human exposure to hot metal along with possibility of hot water splash on body of person holding the switch. Water is being used in vessel ring for cooling the rubber 'O' ring. Besides this there were chances of reduction in metal temperature and loss of power in this manual activity.

In order to address this issue detailed study of original design has been conducted and one push button is provided for operation of roof down. ***This has lead to safety of operating person, Improvement of product quality, cost saving due to elimination of re-vacuum degassing & also effective use of manpower.***

Linkage to Rise Pillar

- Very less cost of fixture
- Safety for operating Person.
- Improvement of product quality.
- Cost saving due to elimination of re vacuum degassing.
- Effective utilization of manpower.

Team Members

1. Mr. V.D. Jadhav : Electrician
2. Mr. R.M. Shintre : Electrician
3. Mr. K.M. Kolhe : Electrician
4. Mr. Y.V. Mestry : Electrician

Before

Person holding switch near the hot vessel.

After

Single person can now operate easily. Full safety achieved

None of us can change our yesterday but all of us can change our tomorrow...

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KNOWLEDGE ZONE

New Standards for Ramping up Solar Skills in India

In a far-reaching move, the Indian Ministry of New & Renewable Energy recently published draft National Occupational Standards and Qualifications Packs on Solar Skill Development Courses. Effective implementation of these standards has the potential to ramp up the skills required to achieve India's renewable energy goals and help power its rapid economic growth while building a sustainable future.

NRDC and partner Council on Energy Environment and Water had highlighted the need for expanding occupational standards for clean energy jobs in our analysis, ***Filling the Skill Gap in India's Clean Energy Market,*** released earlier this year.

In addition to the standards, periodic inspection and certification of accredited training institutes is important for developing a robust and skilled solar workforce in India. As Council on Energy, Environment and Water (CEEW) and the Natural Resources Defense Council (NRDC) analysis found, the quality of training programs is perceived to be inadequate and below industry expectations. While the standards are being finalized, it will be useful to define a process of compliance and verification that the specifications are indeed been adhered to and assure the availability of skilled human resources. The government may also want to consider a shorter time frame for reviewing and updating the standards given that clean energy technologies, especially solar photo voltaic systems, are evolving rapidly.

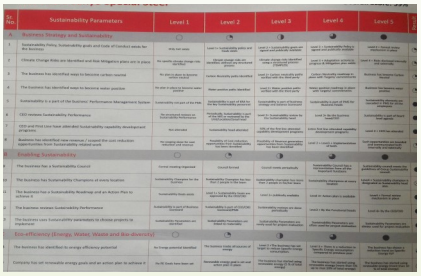
Availability of skilled personnel is critical to achieving India's clean energy goals. The proposed standards demonstrate India's firm commitment to creation of a robust and skilled workforce for renewable energy while providing clean energy access to all its citizens.

For reference please visit website : https://www.nrdc.org/experts/sameer-kwatra/new-standards-ramping-solar-skills-india

Sustainability Dashboard

Rapid changing global world and more aware consumers have changed the way in which the business was perceived and supposed to function.

The responsibility and accountability quotient associated with the businesses have increased many folds and so the competition. The new concepts that rule the business world and decides on the balance sheets are sustainability, ethics and governance.



At Mahindra Sanyo we have an incredible opportunity to drive positive change for all our stakeholders by making every aspect of the business sustainable. While our actions and projects to address the same are extremely important & equally important is to have an assessment of how synchronised these actions have been towards the sustainability objective of the group.

In order to assess various companies in the Mahindra Group, group sustainability office has come up with a Sustainability Dashboard. ***The dashboard is like a report card for the company assessing it on the various sustainability parameters and the different levels on which the company is currently operating.*** The combined score presents the sustainability score of the company as assessed by the group.

The Sustainability parameters are divided into following broad groups with many sub parameters: Business strategy, Engaging Sustainability, Eco – Efficiency (Energy, water, waste & bio- diversity), Products and Services, Social, Supply chain & employee safety.

The assessment is done on a mutual basis with each company ranking itself and the being cross verified by the group sustainability department accompanied needed documental verifications.

Hence forth in the subsequent issues of the flyer we would take you through these sustainability parameters, the sub-parameters and the different levels.

The MSSSPL's ranking for the year 2014- 2015 was 59% and for the year 2015- 2016 the results are expected soon. The dashboard does not just assesses the company's performance on the sustainability but it also plays a role as a guiding document for synchronizing your sustainability initiatives with that of the company, ensures an all-inclusive coverage in the actions for the sustainability .

Ms. Ambalika Gupta
Co - Leader: CSR

Quiz Time :

What percentage of sunlight can the best silicon solar cells convert into electricity ?

A. 88% B.2% C.43% D.25%

(Be the first one to SMS the answer with your name @ 7720091891 & get a prize for the same.)