Introduction to Law on Electricity
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Lecture 35
Renewable Energy

Greetings to all the learners. Till now, we have discussed the salient features of the Electricity Act. Now, let us look at how the Electricity Act deals with the issue of renewable energy. So, purposefully, the module has been designed in this course in such a way so, that we will not get into the debate of energy versus environment, and how renewable energy is talking about mitigating the issues of environmental degradation. We will just confine our discussion on the relevant provisions of the Electricity Act, and what are the institutions which are dealing with the promotion of renewables. And then, we will also try to understand that how within the given legal setup, the greener source of energy is being dealt. So, that is what we will be studying in this module.

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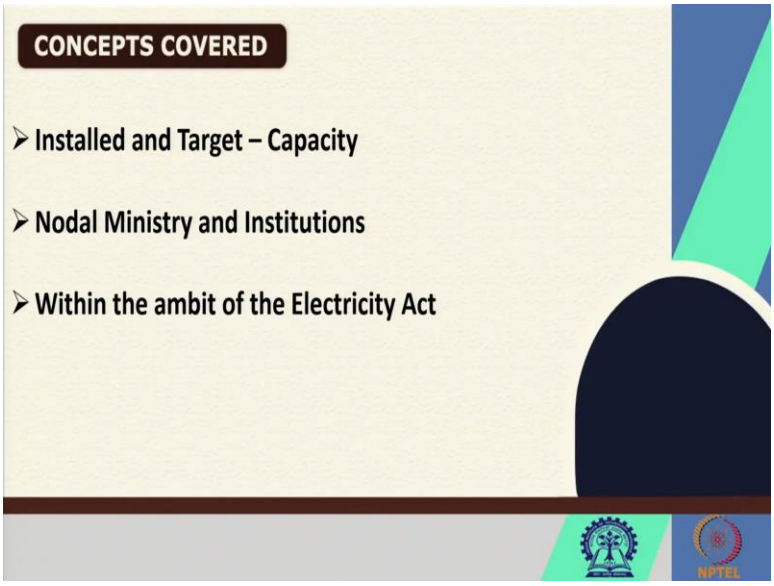

So, the concept which will be covering in this lecture is; we will just look at the statistics that what is the installed capacity, and we will look at the very institutional arrangement for promoting renewables. And also, we will give a cursory reading to the provisions of the Electricity Act 2003 that how the Electricity Act, which primarily deals with conventional sources of energy, covered the issues of non-conventional sources of energy.

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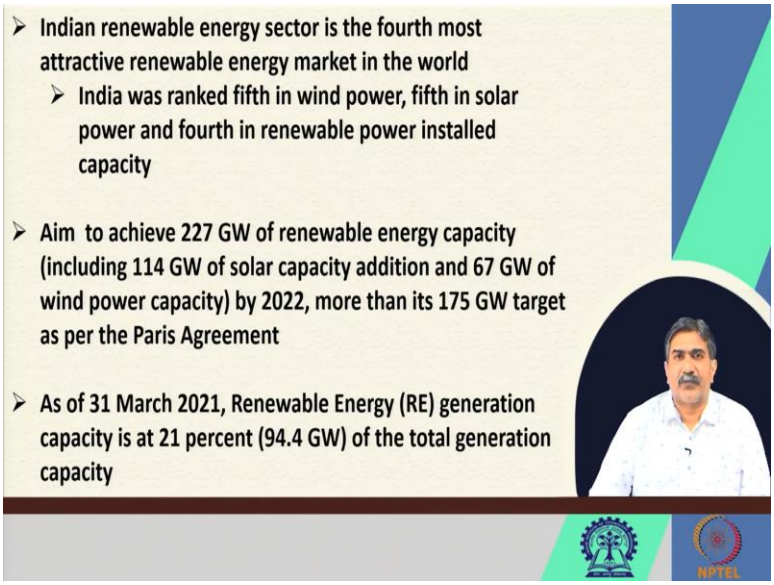

Now, when you look at the renewable energy market, India presents a very promising market to the world. It is the fourth largest market, and when you look at the specific standing of the non-conventional sources, you would find that India is fifth in wind power, fifth in solar power and fourth in renewable power installed an overall capacity.

So, that way, we are doing fair in the promotion of renewable in ensuring better energy mix. We have set the target of generating electricity up to 227 gigawatt, which shall be around 30 percent of the total installed capacity. Now, the target, when you look at, the target appears to be very ambitious and also in pursuant to the commitment made by the Government of India at the International Forum, that is, the Paris Agreement. There, the government has committed to pull in 175 gigawatt through renewables in the total energy mix of the country and out of that, 100 gigawatt was suggested from solar and 60 from the wind.

But when you look at the target, which has been said by the government is higher than what the Government of India has committed to the international body. When you look at the statistics as on present (i.e. the year of 2021), you find that the total contribution from renewable is around 21 percent which is 94.4 gigawatts.

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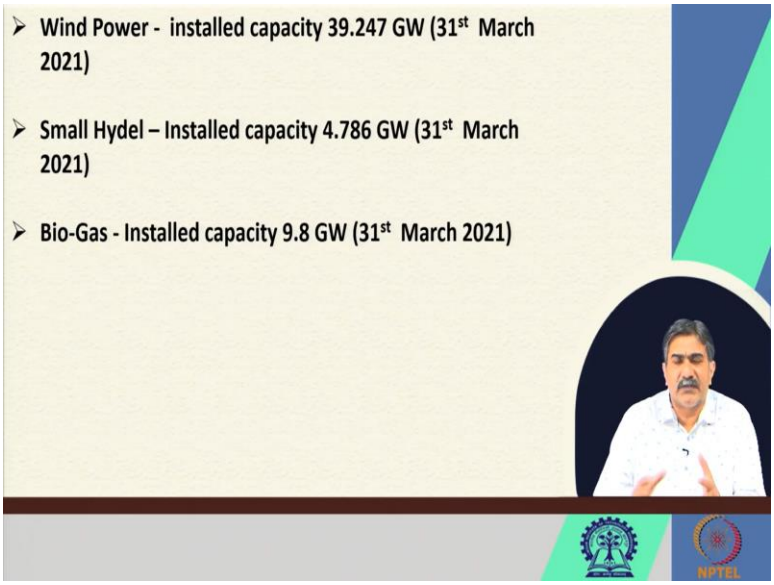

And that is what is in relation to the total generation capacity what we have in this country; in that, you would find wind, it is 39.247 gigawatt, then small Hydel is 4.786 gigawatt, and then biogas is 9.8 gigawatt. So, these statistics indicate that there has been a very constant and continuous thrust on the part of the government to minimize the dependence on fossil fuel-based power plant and to encourage the greener energy. So that we can overall contribute in the very challenge which the humanity is facing because of degradation of environment.

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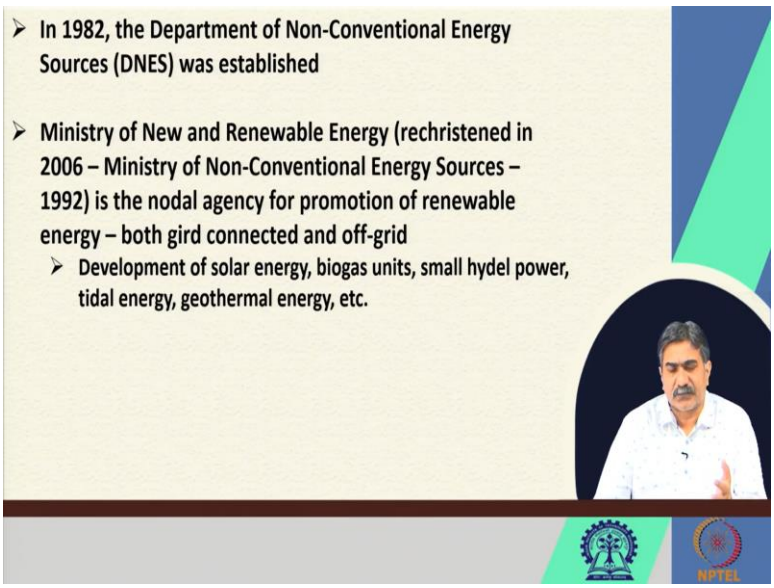

The initiative to bring renewable as one of the main sources for generating electricity started way back in 1982, when there was a department established as a department of Non-Conventional Energy under the Ministry of Power. But as time progressed, it was realized that the department would not be giving the necessary institutional support required to bring in reform and overhauling in the system to attract the investor. So, renewable can become equally competitive with all conventional sources, and that is why in 1992, a separate Ministry of Non- Conventional Energy Sources was established, a department was carved out, and a status of ministry was given, which in 2006 was renamed as Ministry of New and Renewable Energy.

It is not an exaggeration that if the ministry is there to advance the interest of renewables, then the stakeholders will have a larger confidence in coming forward and investing in the sector. Because ministry will bring in a very comprehensive perspective to promote this segment, to promote the sector. And that is how you find that this ministry is a nodal ministry for the promotion of renewable energy, be it off-grid or be it grid-connected one. So, this ministry has a responsibility of ensuring all out development of solar energy, biogas units, small hydel power, tidal energy, geothermal energy, and all other categories of renewables.

That is what is the prime responsibility of the ministry. Ministry comes up with the policy framework, ministry suggests that what all majors are to be taken. So, that certainly would be there for the investors to come forward and commit the investment in this sector. And at the same time, ministry would also ensure fair play and transparency in the process. That is what is the benefit of having a full-fledged ministry.

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What ministry has done considering the significance of technology in promoting renewables, considering the requirement of a dedicated agency to install renewable energy power plant, it has established certain institutions. It has established institutions to implement the schemes which are being formulated from time to time.

Solar Energy Corporation is one such important institution which has a responsibility of implementing the projects on a mission mode. Because please do take note of this fact that promotion of renewable is possible from both the routes, grid-connected and off-grid. So, in off-grid mode, there is a need to infuse necessary capital so that the developer would be interested and private parties would be coming forward. And at the same time, there would be a possibility of end consumer minimizing dependence on thermal based electricity. And that is why you have this Indian Renewable Energy Development Agency, which is a non-banking financial institution which has a responsibility to provide financial assistance for renewable sector.

This kind of institutions play a very impactful role in anchoring the growth of renewables. It also makes the access to energy realizable because it is not possible that there will be grid-connected electricity in every part of the country. Though, we know that the government has taken necessary initiative to ensure the same. And there is a good success is very evident; there is a success in that drive. But then still, even with grid-connected electricity, perhaps, the individuals

may not have the capacity to bear the cost, and they may go for the standalone system to get the electricity or to charge the appliances.

For example, we see these days the smaller solar panel being used in the village areas for charging mobile phone is becoming very popular. And as I said that the promotion of renewable also requires research, research, in order to make the sector competitive, in order to give longevity to the power plant, in order to make it efficient. And that is why these institutes are being established. National Institute of Solar Energy, National Institute of Wind Energy, National Institute of Bioenergy. These institutes are there for carrying out research and developmental activities.

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For promoting renewable, the Government of India, in the year 2010, launched a solar mission known as Jawaharlal Nehru National Solar Mission. This mission was launched as one of the objectives to fulfill under the national action plan for climate change. Government of India adopted more than half a dozen action plans and in which there are different missions which were identified. National solar mission was identified under the action plan of climate change. The action plan was primarily brought into effect to contribute in minimizing the degradation of environment, and one aspect of the effort to minimize would certainly be to promote renewable.

And that is why this mission was launched with an aim to promote and develop solar energy for grid-connected and off-grid generation of power. We know very well that India is a tropical

country, and sunlight is in abundance. Therefore, solar energy can really be a game changer in not only improving the contribution of renewable energy mix, but also reducing the dependence on the imported fuel. The objective set under the mission was to make the solar power competitive. So, that the consumer would get encouraged to get the electricity also from solar power plant and not to depend upon only the conventional sources.

And for ensuring the success under the mission, it was suggested to rule out incentives on the financial side. And therefore, relaxation was issued in custom duties, in excise duties. Exemptions were made available on getting the equipments from abroad. These are concessions given by the government for a long-term benefit of the society. In a shorter duration, it appears to be causing loss to the public exchequer. But if you assess the strength of this kind of policies, you will find that it brings in necessary dividends in the long term.

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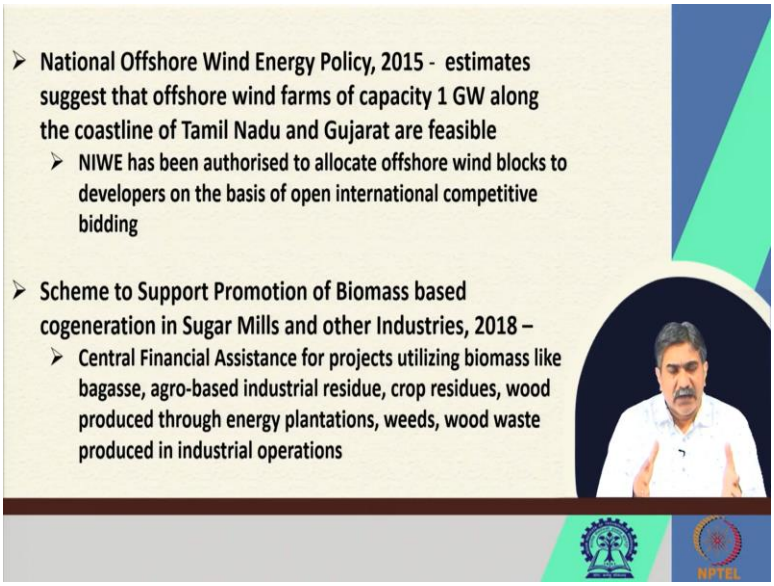

Apart from solar mission, in 2015, a policy was adopted to augment the generating capacity from offshore wind, where it was being estimated that the capacity could be up to one gigawatt. And for this, Wind Energy Institute was being authorized to allocate of offshore wind blocks to developers. So, we have a very long coastal zone also. And therefore, it is needed to take the advantage of coastal zone and augment the generation through wind energy. Similarly, a scheme was being made in the year 2018 for the promotion of biomass-based cogeneration in sugar mills.

We know very well that certain pockets of Uttar Pradesh, and certain pockets of Maharashtra, they are well known for the sugar industry. And therefore, it has been suggested that let the government come up with the financial scheme. So, that other source of energy can be generated from those sugar mills with the utilization of biomass. That is what was the scheme which was initiated in 2018.

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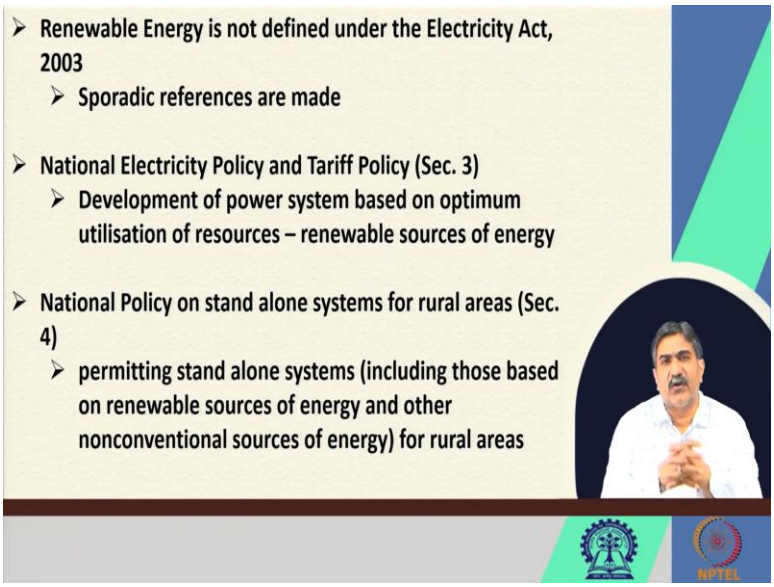

When you look at the 2003 Act, as we have studied in earlier modules, that 2003 Act primarily addresses the conventional sources of energy, it primarily consolidates the law which was prevailing to deal with conventional energy prior to 2003. And therefore, it is not very surprising that you have a very scant reference of renewable energy under the 2003 Act. References are very scarce. Renewable energy, you would not find defined under the Electricity Act because that has not been the focus. And just to establish a case that whether we need a sector specific law, I will be briefly touching upon the salient features of the Act, which was drafted in 2015.

It has not become the law, but then there was a draft which was being made. Just to highlight that how the sector specific law was attempted to be addressing the issue of renewable energy. So, as I said, there is a scant reference; there is sporadic reference, section 3, which talks about the formulation of electricity policy and tariff policy. It refers to the development of power system in this country considering the renewable sources also. So, the central government has been given

this task that in the policy document, you must lay down the necessary framework so, that renewables will also get integrated in the planning.

Because optimal utilization considering renewable appears to be mandate of section 3 of the Act. And then, section 4 which entrust the responsibility to make a policy primarily for electrification in rural areas. And considering the challenges related to electrification in that area, it has been suggested that a standalone system can also be approved. And a standalone system, you would find works, performs in a better way with the support of renewables. Be it solar light, solar street, solar lantern, solar cooker, or solar pump; all these are a true game changer for rural areas. And section 4 very well legitimizes such approaches for bringing in the electricity in rural areas.

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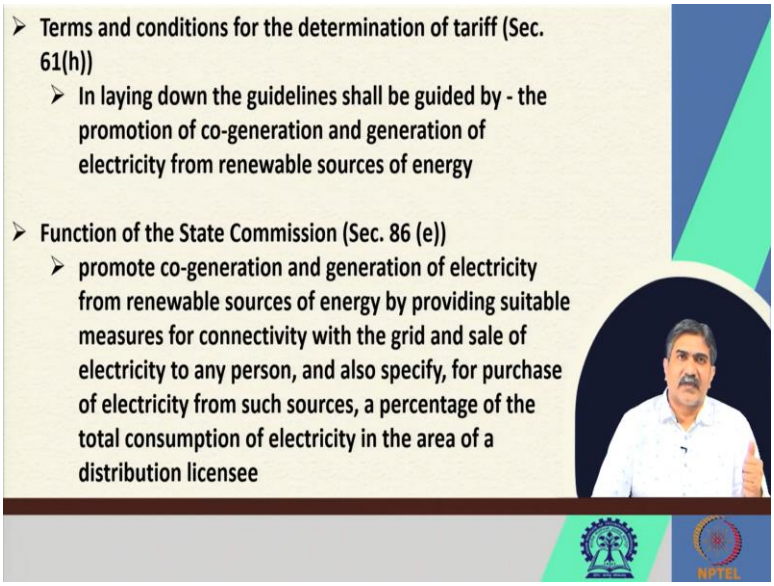

Section 61, which authorizes the appropriate commission to lay down the terms and condition for tariff determination, you have a clause h which says that when the guidelines are being laid down for tariff determination, the appropriate commission shall keep this promotion of cogeneration and generation of electricity from renewable energy in mind. This provision becomes very significant and prominent because of the very fact that when renewable is getting connected with the grid, and in a position to compete with conventional one, the responsibility lies on the appropriate commission to give fair share to renewable energy.

And that responsibility is a statutory one when you look at section 61 clause h. And in the larger interest of environment, it is not again exaggeration that preferential tariff will get an acceptance

or should get an acceptance. For promoting renewable, section 86, again, presents a very viable and sustainable platform, wherein it says that state commission has a responsibility to promote cogeneration and generation of electricity from renewable. And then, it says that state commission shall promoted by providing suitable measures for connectivity with grid.

So, not only no discrimination, even if certain preferences are given that can very well be validated when you look at the language of section 86. And section 86 goes a step ahead, and it says that state commission can very well specify a certain percentage to be procured from renewable energy in order to communicate to the investor that your investment is not completely subjected to the market.

The state commission can impose an obligation and ask the distribution licensee to procure a certain percentage from renewable. If you look at this provision carefully, you would agree that very meaningful power has been entrusted. And state commission can really make a change in promoting renewable if the power has been exercised with all sincerity and in earnest. And in fact, it is this power which has given legal status to renewable purchase obligation, which we will be discussing in the next session.

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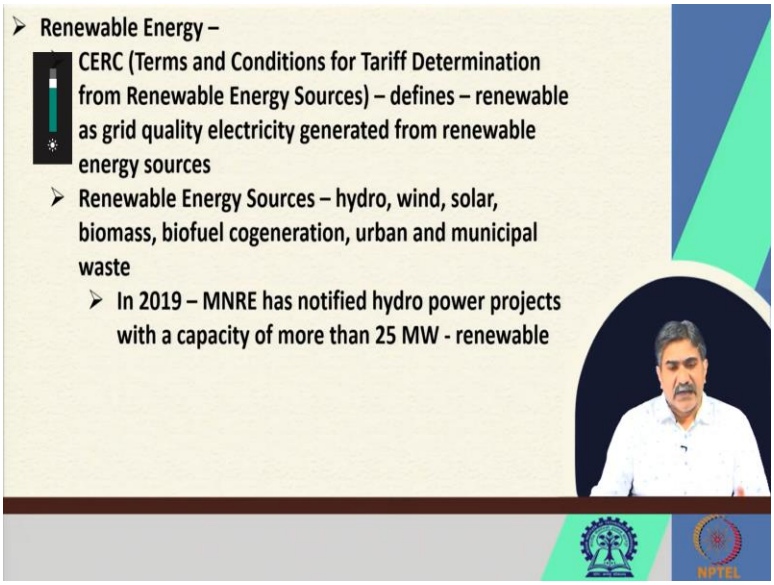

Considering the growth of renewable Central Electricity Regulatory Commission has come up with the regulation of tariff determination. And there, you would find that the regulatory commission has defined renewable energy. So, if you are looking for the statutory definition, it is

not given in the Electricity Act, but then this regulation defines it. And how it defines, it says renewable as a grid quality electricity generated from renewable energy sources. This is how this regulation defines. And what is renewable energy sources, it says hydro, wind, solar, biomass, biofuel, cogeneration, urban and municipal waste is renewable energy sources. And in 2019, Ministry of New and Renewable Energy has come up with a notification and said that even bigger hydro power plant is under the ambit of renewable.

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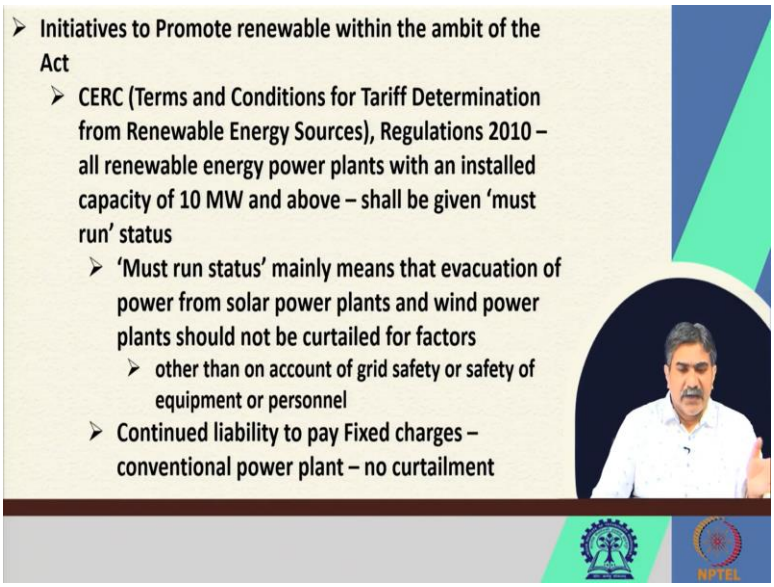

Now, what are the initiatives taken under the Electricity Act to promote renewable? Now, this 2010 regulation which is again made by Central Electricity Regulatory Commission, it has given the status of "must run" to renewable power plant. Now, what is "must run" status, and how do we understand it? You can very well visualize that, unlike conventional power plant, renewable power plant may not have consistency in terms of generation because it is dependent upon factors such as sunlight, such as wind. So, it may not have very consistent regular generation of electricity.

But at the same time, when you consider the viability of the renewable sector, what is needed is the freedom of the power plant to inject electricity in the grid. And that is why "must run" status; what does it mean that evacuation of power from solar plants and wind power plants should not be curtailed for factors other than what has been given. What is that given, that only when grid

safety would be a concern, only when the safety of equipment is concern then only the injection can be curtailed otherwise, it should not be curtailed.

Why? Because if it has been curtailed on the whims and fancies of the distribution licensee, then you can very well imagine the distribution licensee would not be paying the tariff to the generators. And in case of thermal, because they have a "must run" status even if distribution licensees are not drawing electricity, they are bound to pay fixed charges; which is not the case in renewable. Because renewable is a single tariff system, not two-part tariff system, which is there in conventional which we have studied. So, this very recognition of "must run" status promises the flow of revenue to the generators, obligates the licensee and give certainty to the developers.

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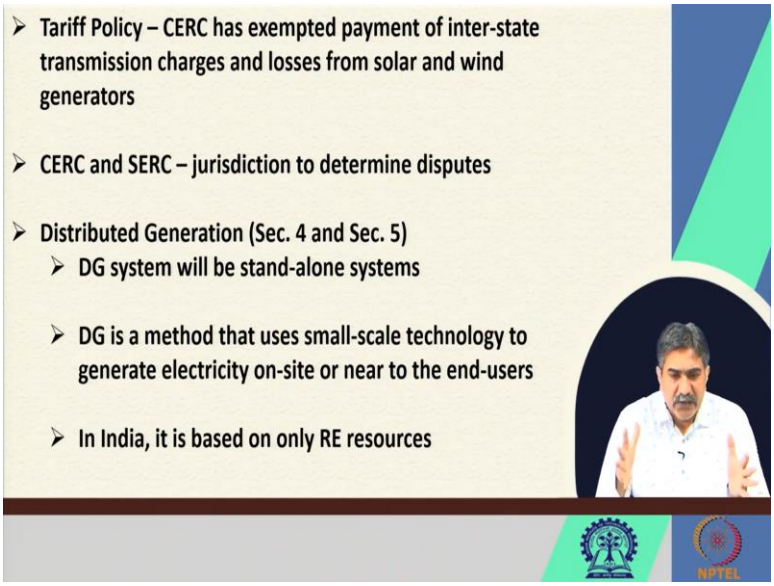

In order to promote renewable, CERC has also exempted the payment of inter-state transmission charges and losses from solar and wind generated. This kind of initiative, this kind of measures are needed, needed until they become competitive with the conventional sources. And because there is no sector specific law to deal with renewable and, regulations are being made by the regulatory commission. It is well settled that the regulatory commission shall have all necessary jurisdictions to determine the disputes.

In addition to that, you would find that distributed generation is also getting a legal sanction; it is also getting an approval. Distributed generation is all about generation and distribution in a very

smaller space, a smaller location. There is no transmission network involved, and there is a no elaborative distribution network involved. So, it is a standalone system which thrives on the basis of small scale, e.g. technology. solar lantern, solar streets and in India, it is based on RE (RE means Renewable Energy) resources.

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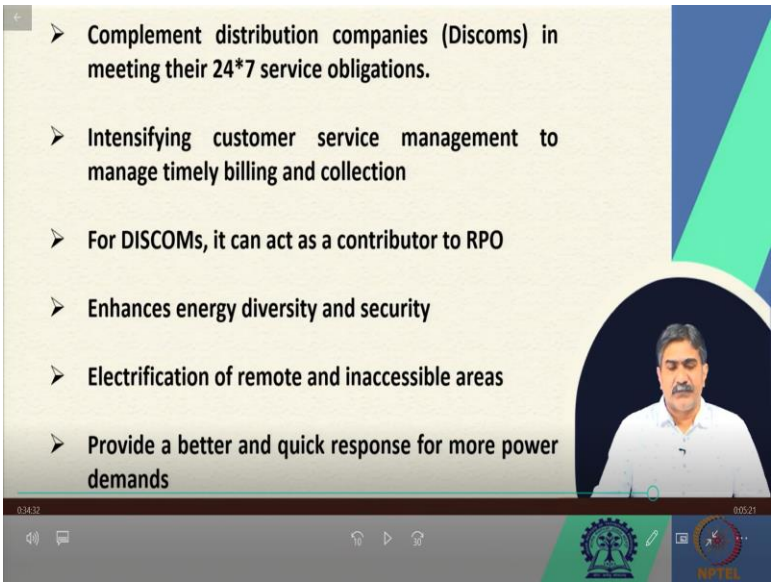

Distributed generation system (DG system) contributes phenomenally in access to energy. And as I said, the approval of section 4 and section 5 of the Electricity Act. Because, in a way, it supports the distribution licensees to ensure supply of electricity 24 into 7. Because the distribution licensee is not in a position to supply electricity 24 into 7 when there is a power cut, then distribution generation can very well lead the house. It can help in running the appliances, and therefore, it can also, in a way, make the customer more comfortable in terms of billing.

And if DISCOMS are establishing distributed generation system, then they can also comply with renewable purchase obligation. With the acknowledgement, with acceptance of the distributed generation system, impliedly we understand that there is a significant contribution in the improvement of the environment through clean energy. And distributed generation system also facilitates in providing access to electricity in remote and inaccessible areas. And it also provides a better and quicker response for more power demands. If there is no supply coming from licensee, distributed generation system can fill that gap and cater to the demand.

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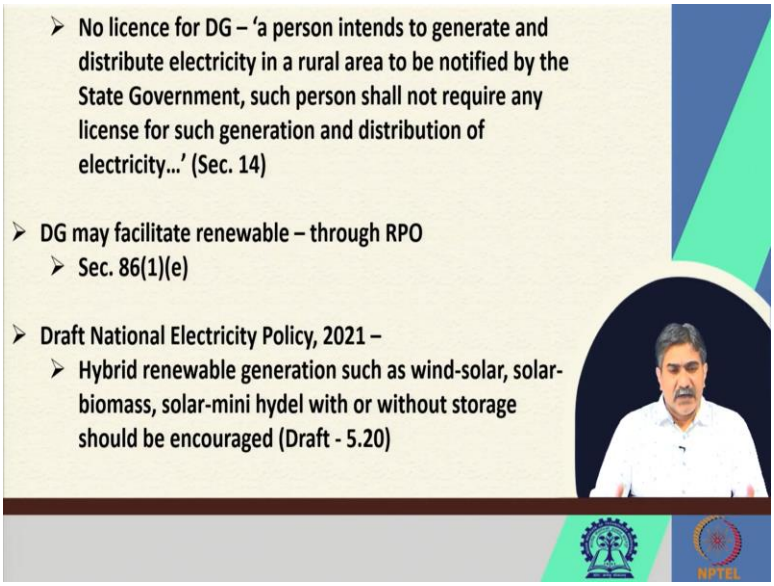

Section 14 also says that no license is required for distributed generations. So, you can very well make out that the Electricity Act, in a way, has provided for necessary provisions to promote renewable. And then, as I said that it also helps in fulfilling the obligation which is there for procuring electricity from renewable sources. In the draft National Electricity Policy 2021, you would find that hybrid renewable energy generation is being promoted, e.g., wind with solar, solar biomass, and solar mini hydel. What will be the benefit of this hybrid that certainly would be better? If there is no adequate wind available, then solar would help in running the turbine. And then the supply would be ensured. So, the draft policy says that let us also encourage this so that renewables can become a viable alternative to conventional sources.

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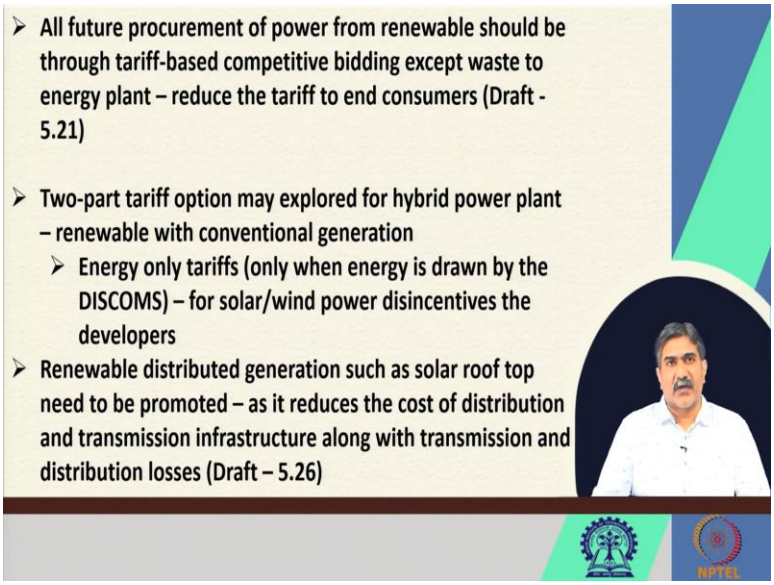

The draft also says that let the procurement of power from renewable be based on competitive bidding. In competitive bidding, there is a possibility of consumer getting economic rate. And it would serve the interest of the consumer. And for that, it was being also suggested that let there be a two part tariff. So that some fixed charges can be given as it is in the case of conventional sources.

Further, the policy also says that let there be renewable distributed generation such as solar rooftop, which is to be promoted. Because when you have a solar rooftop, it will not only reduce the dependence on conventional, but it will also address the issue of technical and commerce loss, which is visible in supplying of electricity through any conventional manner. So, you would find universities going for a rooftop and big residential areas going for a rooftop. All these are very promising for the growth of the renewable sector. Thank you very much.