

**Episode-48**  
**Energy & SDG**  
**Energy for the Future**

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[It's a local train, suburban bound. Commuters are mainly office employees who are returning home after a hard day's work. Asim aged around 55 and Najim, aged 40, starts a discussion.]

**Asim:** Please move a little to that side. I can't sit properly.

**Co-passenger1:** So can't I. Could you see any space left?

**Asim:** There is enough space but you are not willing to budge.

**Co-pass2:** You should have taken a taxi mister! Trains are not for you.

**Asim:** I need not take any advice from a fellow like you. Keep your mouth shut.

**Co-pass2:** You better shut your mouth you stupid!

**Asim:** What did you say? Repeat that gain and I shall eject all your teeth with a tight slap!

(Crowd joins and there are verbal abuses flying around. "He doesn't know who I am", "Let me get him out of this train", "Such an idiot"... Suddenly the voice of Najim is heard.)

**Najim:** Hey Asim dada! Here, this way, yes...come over here. Let them fight. I have a better set right under the fan.

(Asim notices Najim and leaves his seat in a huff. The two co-passengers jeer, 'Finally we have some peace here', 'Happy to get rid of you'. Asim moves through the crowd and occupies a seat with Najim standing in front.)

**Asim:** We would share this seat, ok Najim?

**Najim:** Don't be bothered dada. I have to sit through the whole day at the cash counter. Standing for some minutes will do me a lot of good.

**Asim:** I haven't seen you for a long time Najim!

**Najim:** Three years to be exact dada. I was posted at a remote place in northern Uttar Pradesh.

**Asim:** I see. No one could inform me where you had gone. Someone said that you were transferred but nothing beyond that. So you are back to the city now?

**Najim:** (Laughing) Yes, for some time I suppose. Unless of course the management feels that this fellow can be made to suffer again!

**Asim:** No-no, why should they think like that? You are known as an honest and hardworking employee. You are like an asset to the organization.

**Najim:** You love me and that is why you think like that. Anyway, what is Barsha doing these days?

**Asim:** She is pursuing her masters in English. She keeps asking about you. You impressed us all with your flute performance. Remember? At the picnic five years back?

**Najim:** (Najim blushes) Oh you still remember that? These days I do not get much time to practice. Stress at workplace is growing.

**Asim:** I understand. How is your mother?

**Najim:** She passed away when I was away, at my office. I returned to see her mortal remains only.

**Asim:** Oh I feel so sorry! Hope you will be able to generate strength from within to withstand this shock.

(An hawker shouting 'Magic light for only rupees twenty' is pushing his way in and the discussion between Asim and Najim is interrupted. Asim calls the hawker.)

**Asim:** Show me your product please.

**Hawker:** Here it is sir. Only for rupees twenty.

**Asim:** Okay I understand that it is very cheap but what speciality does it have? Why are you calling this 'magic light'?

**Hawker:** Have a good look at it sir! You have three sources of power here!

**Najim:** Not one but three! Really sounds extraordinary.

**Hawker:** That is what I am saying. Look here. In this small space here you have a battery. This is now keeping the light on.

**Najim:** This much I guessed. What are the other two sources of power?

**Hawker:** Solar sir, solar! Don't you see advertisements on television? Unless you switch over to solar power you are not with the times.

**Asim:** How will solar power be collected by this device? Further how will that be stored here?

**Hawker:** Look again. Here on the top you have a tiny solar panel. You just have to put it in the sun for some hours and solar power will be captured. As for your question about storage, I am not a scientist sir! I get some commission from selling this item. That much is my relation with the product.

**Asim:** Okay I understand that you are not supposed to answer all questions But you must give us way by which we can gather information about this storage.

**Hawker:** A phone number is printed at the bottom. If you are too curious then you can call this fellow.

**Asim:** We can do that certainly. But what about the third source of power? What is that source actually?

**Hawker:** I believe that you have noticed a small wheel attached to the device. Here...

**Asim:** Oh yes. But I thought that it is ornamental.

**Hawker:** Not at all sir! If you turn this wheel then a coil would be wound up and when it decoils, it will provide energy to the bulb to shine properly.

**Najim:** Wow! The device can switch over from one type of energy to another. Seamlessly!

**Asim:** That means we have chemical, solar and mechanical energy to power the device. What do you think Najim? Shall I purchase one for home?

(The hawker tries to attract other passengers by moving away from Najim and Asim and raises his voice so that he is heard even amidst the din in the compartment of the train.)

**Najim:** I shall certainly recommend purchasing one. Twenty rupees is nothing. In return you are getting a, what he says, a 'magic' combination!

**Asim:** Okay then, I shall go with your advice. Hey come here magic light...give me one.

**Hawker:** You are taking home something that you will find nowhere else sir! Remember this.

(The hawker collects the money and moves away to the other end of the compartment.)

**Asim:** Whatever the engineering of the device, you have to admit tht this fellow is selling this with a sort of belief that he is handing over an Aladin's lamp to each of his customer.

**Najim:** I wish I had one such lamp at the place where I was posted.

**Asim:** It has no electricity you mean?

**Najim:** You cannot say that Asim da. The administration will feel offended. They had put up poles and connected then with wires to the households.

**Asim:** I do not get your point. What is the problem then?

**Najim:** It is one of those large numbers of villages that are connected to the grid on paper but which hardly knows the comfort that electricity can provide.

**Asim:** That means you went through a lot of suffering all these years.

**Najim:** You can say that. We had to purchase a good amount of kerosene every week to light up our households. Even then it was difficult to work late into the night.

**Asim:** It means you had no way to entertain yourself. To watch television you need electricity.

**Najim:** All this time my friend was the small transistor set. I used to listen to all the programmes that were aired. Songs, plays, children's programmes and even science programmes.

**Asim:** Interesting! Those of us living in or near the metro are almost cut off from radio. I mean this has happened due to the coming of other media.

**Najim:** You know Asim da, I distinctly remember a science talk on our energy scenario.

(Flash back. Noise of surfing through radio stations. Then a radio talk in a female voice is heard.)

'Sustainable energy is energy that we will never use up or deplete. It is inexhaustible. Several forms of energy can be considered sustainable. In addition to the most commonly considered sources—wind, solar, and water—there's also bioenergy and geothermal energy. Bioenergy is the process of creating energy from biological masses such as straw, manure and other agricultural by products. Geothermal energy is energy from Earth's internal energy sources, like geysers.' (The talk fades out returning the listener to the ambience of the compartment of a local train.)

**Najim:** I sometimes look at the dazzle of street lights of the city and think whether we at all know the meaning of the word 'sustainable'!

**Asim:** Your transfer posting has changed you. I can see that clearly. I love the change but my station is approaching. I shall have to get down. I would like hear more of your experiences from that village,

**Najim:** Of course Asim da. I shall call you some day and reach your residence for the breakfast.

**Asim:** All of us would be delighted. (Both of them laugh loudly.)

*(The scene changes to a chat between Najim and his bank manager.)*

**Najim:** Rabi told me that the manager wants to see you. Anything wrong with my work madam?

**Rita:** Come on Najim, don't pretend. You know how good an employee you are! It's something different. I want to entrust you with some responsibility that I know only you can handle.

**Najim:** I feel flattered but I am afraid at the same time. What is it that you are talking about?

**Rita:** A couple of entrepreneurs have approached us for loans. Their declaration says that they are going to some business in the area of alternative energy. Now as you know, it is our policy to approve loans wherever possible. But I am in a dilemma in these two cases.

**Najim:** I see. Any problem with their credentials?

**Rita:** Not exactly. I am satisfied with the papers that they have submitted. But I am not sure whether they will be able to run their business successfully.

**Najim:** I see. So what do you ask me to do?

**Rita:** Not much. You just meet them in the pretext that our bank is eager to know about the nature of this business. It's quite novel as far as we are concerned and we understand that more such applications will come to us in the future asking for loans.

**Najim:** My first break as a financial sleuth! (Both breaks out in laughter.)

**Rita:** I admit that you will be in an uncomfortable situation but you know, I don't want to increase the burden of bad debt of our bank. So...

**Najim:** So I am to enquire about the prospects.

**Rita:** Exactly. I shall issue the order today but that would only say Najim is being sent on tour to the Head Office for studying some new banking methods.

**Najim:** I understand. I shall have to prepare myself for this energy mission.

**Rita:** My best wishes are with you.

**Najim:** Thanks madam.

(Najim leaves the manager's chambers. The listener finds him in an island of the Sunderbans chatting with an entrepreneur as they move along an open space surrounded by trees.)

**Najim:** You seem to have gone through a lot of unsuccessful ventures Sanjib.

**Sanjib:** I would not call them 'unsuccessful'. See, this is a learning process. If you are to survive in this non-conventional energy business you will have to learn a lot. Those ventures that I just talked about were educators for me.

**Najim:** Our bank understands that more and more entrepreneurs are likely to venture into this area and we will receive more application for loans.

**Sanjib:** That is not unlikely. Non-conventional energy is the only answer to worsening climate conditions and the ever growing demand for energy.

**Najim:** Any informed individual can understand that but my question is why you moved to the villages when you had greater potential in the urban and suburban areas.

**Sanjib:** Let me explain the situation first. As per the report of the United Nations Environment Programme..

**Najim:** Don't you think we could have a more effective discussion if we sat down at that tea stall and sipped a cup of tea each?

**Sanjib:** Yeah of course. You will be happy to know that this stall owner is an ardent supporter of my business plans in the Sunderbans.

**Najim:** I see. In that case it is obligatory to become his guest. Please order tea for us.

**Sanjib:** Tea for us Belal da. The special type. Less sugar for me.

**Najim:** Now the setting is perfect. The clouds have ensured that we would not be disturbed by the sun and we can jolly well go along our information trail.

**Sanjib:** You have a nice way of speaking. I like that.

**Najim:** Thanks for the compliment. Now tell me about your concepts. I want to learn.

**Sanjib:** Learn? You are joking.

**Najim:** Not at all. I have been sent here to learn about the investment prospects in this field.

**Sanjib:** See, India is predominantly a rural country with approximately 70 percent of the total population living in villages. Thus, India's economic and social development is inherently linked to growth in the rural sector.

**Najim:** I cannot agree more Sanjib.

**Sanjib:** But despite efforts by the central and state governments in India to improve electricity access and services during the last five decades, household electrification levels and electricity availability continues to lag behind the global average.

**Najim:** I do not see much space for disagreement.

**Sanjib:** See, our method of assessment has some loopholes. The lower household electrification level reflects that historically the electrification rate has been measured as a percentage of electrified villages with grid extensions to any point within village revenue boundaries.

**Najim:** What is wrong with that?

**Sanjib:** I shall tell you the problem. This measurement was irrespective of whether any household was actually connected, and thus did not provide a true percentage of connected households.

**Najim:** Now I get your point.

**Sanjib:** Grid-based electrification has been the predominant form for electrification in India, covering almost 94.5 percent of the inhabited area.

**Najim:** But you yourself have seen off grid method being used.

**Sanjib:** Of course. Renewable energy-based off-grid and decentralised technologies have also been disseminated in areas that are either inaccessible for grid connectivity or are part of hamlets that are not recognised as villages as per the national census record.

**Najim:** I appreciate what you are saying but how much change has been brought about by common renewable energy-based technologies like solar photovoltaics, biomass gasifier and mini hydro?

**Sanjib:** Our Ministry of New and Renewable Energy has helped a lot to implement these initiatives. The state agencies are also working under the ministry to fulfil targets.

**Najim:** That is all so ok but...

**Sanjib:** But Belal da has brought tea. Where is my favourite biscuits Belal da?

**Belal:** Eh..I mean...I thought this babu might not like those biscuits. That is why...

**Najim:** My brother, I don't mind being called a 'babu' but I would certainly dislike to be left out from the biscuit brotherhood!

*(Everyone laughs)*

**Belal:** Here I go to fetch biscuits. Two for each I suppose!

**Sanjib:** You are never wrong with numbers Belal da. Go fast.

*(Belal returns quickly)*

**Belal:** Biscuits babu.

**Najim:** Thank you so much brother. (Belal departs.)

**Sanjib:** Belal da's home is about one and a half kilometres from here. Very recently his house has been connected to a grid.

**Najim:** Nice to hear that.

**Sanjib:** The nice part is that the grid is a mini one and it is powered by renewable sources. There is a NGO that has taken this initiative.

**Najim:** But don't you think we need expression of interest from corporate agencies for taking such initiatives further?

**Sanjib:** No doubt about that. Recent trends also indicate that the off-grid energy sector is increasingly emerging as a focus for private investors in starting new business ventures.

**Najim:** Wow! That sounds promising.

**Sanjib:** Two states actually stand out as pioneers in starting mini grids.

**Najim:** Let me guess. One state must be West Bengal.

**Sanjib:** You are right. The other is Chhattisgarh. The concept of solar photovoltaic mini-grids in India was pioneered in the 1990s in the Sunderban delta region, here in the state of West Bengal and in the forested region of Chhattisgarh state. Then of course it was part of Madhya Pradesh state.

**Najim:** But these are government agencies. What about the private sector? I know, I am repeating the same question but that is what I want to know.

**Sanjib:** There are good examples. The private sector has also been implementing variants of mini-grids in many states. The private companies operate mainly in villages where there are supply-constraints from the grid due to inadequate generation. One company based in Bihar called the Husk Power Systems, has electrified around 300 villages and hamlets since 2007 through establishing 80 plants, benefitting nearly 200,000 people.

**Najim:** Exciting!

**Sanjib:** This is not the only one. Take a case from the southern part of the country. SELCO India has been working in the solar energy space in Karnataka for more than a decade. They have been extending the energy service mainly through customised design of solar home systems.

**Najim:** So do you think that these ventures are likely to increase in number?

**Sanjib:** At least I do not have a doubt. My company plans to build five mini grids depending on multiple renewable energy sources in the Sunderbans.

**Najim:** Why multiple? Doesn't that increase the costs?

**Sanjib:** Initially yes but if you go on to depend on a single source like say solar or only wind then you might suffer due to the inherent variations of energy outputs of these sources. Cloudy sky may deactivate your photovoltaic panels or lack of wind might make your turbines idle.

**Najim:** I can understand Sanjib.

**Sanjib:** I can promise you something very exciting tonight.

**Najim:** What? Some gala function?

**Sanjib:** Not at all. A very simple rural function. There will be some songs by a local troop and the villagers will stage a one act play.

**Najim:** That is good but what is so exciting about this?

**Sanjib:** All the lighting there will be from renewable sources of energy. No fossil fuel will be burnt and so no emission.

**Najim:** I am listening.

**Sanjib:** The play is based on a particular story from local folklore but they have cleverly inserted the message of using renewable energy for a sustainable future.

**Najim:** I cannot miss this. I am informing the guest house that I shall be returning late.  
*(Scene change. Some sound effects of a rural cultural function. It ends with loud applause.)*

**Najim:** I really enjoyed the show Sanjib. The girl who played the role of Prerana is really talented.

**Sanjib:** Yes. She has been selected by state drama academy for a prestigious workshop.

**Najim:** Oh I see! She deserves it.

**Sanjib:** And the way the whole team brought out the message of opting for renewable energy is really praiseworthy.

**Najim:** Look up Sanjib, look there in the sky....the blue dots covering the whole sky. I do not get to see such a starlit sky in the city. You know, standing under such a sky I feel tempted to become an optimist. I feel like saying just as the central character in the play did – our earth will be clean and our lives will be brighter.

**Sanjib:** You are sounding very emotional! That is not the way a banker behaves.

**Najim:** I know my responsibilities Sanjib. I know that returning from here I am just supposed to file a report. My job ends there. But I am a human being. I love to dream about a cleaner future, a sustainable future. Will that be possible Sanjib?

**Sanjib:** It would have been wonderful if I could just say ‘yes’ but you know very well that a few projects and mini grids in the villages here in Sunderbans are not going to change the face of the earth.

**Najim:** I would still like to remain hopeful. Haven’t you heard of that European school girl who started a campaign to stop global warming?

**Sanjib:** Yes I have read about her. But unless the world wakes up to her call nothing is going to change.

**Najim:** We can make investments in leapfrog technologies so that we can avoid pollution. In other

**words,** we can build our cities on public transport; our energy security on local and distributed systems based on biofuels to renewables; our industries using the most energy efficient technologies.

**Sanjib:** You confuse me. Did you really come here to collect data or you are a seasoned environmental campaigner under some garb?

(Najim suddenly laughs out loudly. Sanjib is startled.)

**Sanjib:** Are you ok sir?

**Najim:** (Does not pay heed to Sanjib) you know Sanjib, my parental village is in North Bengal. It has experienced severe floods for two successive years. This year news came to me that my childhood friend Sankar has lost his five year old son in the floods.

**Sanjib:** That is really tragic sir.

**Najim:** When I read articles saying that incessant rains and sudden floods are the result of our indiscriminate use of fossil fuels, you know Sanjib, I really feel guilty. I ask myself, could I have done anything better to save Sankar's son?

**Sanjib:** (Sighs) Let your question haunt us all sir. But it's getting late. You have to return to the guest house.

**Najim:** You are right. Let us go, but Sanjib, please convey my regards to the actors and the playwright of that group. They have aroused a human soul in a banker.

**Sanjib:** I shall convey your appreciation. Let us move now.

*(A flute plays in the background as they move to their destination. The episode concludes.)*