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Four Ways to Save the World

An Interview with Professor Jatin Nathwani
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How can we overcome the global energy crisis?

How do we make energy available to two billion people in the world who have no access to electricity?

How big is the world energy problem?

We will see nine odd billion people in this world by 2050. 85% of the world's global energy consumption today is fossil fuels; 15% is the other non-carbon sources of energy. If you look at the desire to try and improve, in some way, the mass of humanity that does not have access to energy and some shift in the income profile of this global energy consumption, we will see a doubling or tripling of the energy requirement on the global scale by the year 2050, but this is an 85 year challenge; it's an inter-generational challenge to shift the vast infrastructure of the global energy system to something that is a lower carbon-emitting infrastructure.

What are some possible solutions?

So this is a mixture of large scale solar and wind, but there are major issues with that form of energy because it is variable, it is intermittent. Another aspect is advanced nuclear. So we are looking at advanced nuclear generation technologies that can close the fuel cycle, that can deal with the waste question, and that can provide a level of energy service at scale. Enhanced geothermal power - this is the heat of the rocks - this is a ubiquitous energy source. No country has a monopoly on it. So smart urbanization, mobility of transport, transition to the electric mobilities is another pathway, and then looking at the question of off-grid access. So these are the sort of building blocks, if you wish, of the range of technologies that will need to come into play, to be able to address the type of challenge that I've tried to articulate for you.