



We presented our "Top Ten Themes for Energy in the 2020s" to an audience at Yale SOM, in February-2020. The audio recording is available below. The slides are available to TSE clients, in order to follow along with the presentation.



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Thunder Said Energy is a research firm focused on energy technologies and energy transition. We publish research reports, data, economic models and patent screens into opportunities that can meet the energy needs of the world, while removing all of the net CO2. Key focus areas include wind, sola
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The Energy Transition. Our work points to an economic decarbonization of the entire energy industry by 2050, with a CO2 price that averages \$40/ton. The Ascent of Renewables will deliver an enormous 30,000 TWH of energy by 2050, but this also requires overcoming vast bottlenecks, in metals, materials and power grids.



Christmas Island: Many of us want an overview of how much energy our country consumes, where it comes from, and if we're making progress on decarbonizing our energy mix. This page provides the data for your chosen country across all of the key metrics on this topic.

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We are delighted to have with us Rob West, analyst and CEO of Thunder Said Energy. I must say, Thunder Said, if you don't know it, is a must-read website because the depth of analysis and the incredible context it provides for anyone studying energy transition is, as I said, it's must-read.



The issue that arises for energy systems with high penetrations of inverter-based resources ??? wind, solar and batteries ??? is that grids become unstable once grid-following inverters start providing around 60-70% of the instantaneous power, as described on pages 5-6.



The federal Morrison government has unveiled plans to underwrite the construction of a 1MW solar farm on Christmas Island, an external territory in the Indian Ocean with a population hovering