

00:15:05 Osman Mohamed: Hi everyone, here is Osman from Kuala Lumpur

00:15:09 Sienna Parrott: Hi all - Sienna from The Australia Institute here. Thanks for joining us today. Looking forward to a great webinar!

A little reminder, the chat has options for 'all panellists' or 'all panellists and attendees'. Choose the latter option to participate in the chat with everyone.

Also, use the Q&A function to submit questions for the panel to answer live!

00:15:21 Hunter Murray: Giddy all from Central Australia

00:15:30 Greg ("Darwin", Larrakia country, Australia): howdy

00:15:42 Richard Griffiths: Hello from Brisbane

00:15:53 gerard borg: Hello from Canberra

00:16:04 Marjorie Henzell: Greetings from Anawain Country (Armidale NSW) looking forward to this webinar and have just purchased his book.

00:16:05 Bryce Tonkin: Hi to everyone from Bryce at Sunified!

00:16:21 Eliza Tree: Hi from Dja Dja Wurrung Country, Central Victoria.

00:16:28 Sienna Parrott: Link to buy a copy of Saul Griffith's book The Big Switch from Black Inc. Books <https://www.blackincbooks.com.au/books/big-switch>

00:16:29 Georgina Binns: Hello from Wallumedegal Land, Sydney!

00:16:35 Bronwyn Johnson: Hi from Bronwyn Johnson on Wurrundjeri Lands, Melbourne

00:16:36 Peter Todd: Greetz from Sunny Perth

00:16:40 Gabrielle Clappison: Hi Everyone, I am sitting on Awabakal Country, Newcastle/Lake Macquarie NSW

00:16:48 Simon Campbell: G'day from Melbourne/Naarm

00:16:49 Richard Jansen: Greetings from Awabakal land / Newcastle

00:16:53 Michael Taurakoto: Warm greetings from Port Vila, Vanuatu

00:16:55 John Haberecht: Hi from Albury in Wiradjuri Country!

00:17:07 Greg ("Darwin", Larrakia country, Australia): Hey! We're busy planning for massive retrenchments of our coal workers in 5 or 10 years, thank you very much.

00:17:15 Anthony Miller: Don't about you but this is the warmest summer in my 30 plus years in Northern Tassie.

00:17:18 Gayle Partridge: Also tuning in from Awsbskal Country, Newcastle

00:17:19 Frank Forster: Hi from Dja Dja Wurrung country

00:17:24 Claire Bettington: Greetings from Gadigal Country - Maroubra in soggy Sydney!

00:17:32 Matt Rowan: Hello from Hawkesbury NSW!

00:17:35 Kerry Silcock: Greetings from Ngunnawal country!

00:17:36 Mel Booth: Good morning from Whadjuk Nyoongar country (Perth)

00:17:37 Nicky Page: hi from Kurna country / Adelaide

00:17:39 Fran Lee: Hello from very sunny South Fremantle

00:17:41 Dragana Zivancevic: Greetings from Meanjin (Brisbane)

00:17:49 Roman Orszanski: Hello from Kurna land

00:17:53 Jo Norman: Hello from Dharawal Country. Very soggy here at the moment!

00:17:57 Peter Horan: Hello from Geelong - Wathaurong country. Planning to get off gas.

00:18:00 Kelly Williamson: Hi from Dharawal Country

00:18:04 Carol Fountain: Hello from Wurunderjeri country (Mentone)

00:18:05 Joanne and Warren Fraser: Hi from Logan - Yugambah country

00:18:07 Jamnes Danenberg: Hello from Kauna Country

00:18:50 Greg ("Darwin", Larrakia country, Australia): We have a long way to go to catch up with China.

00:18:57 Matt Jansch: Yo all,, from Yuin Nation

00:19:07 Eric Pozza: Gee it sounds optimistic , esp given our political experiences

00:19:43 Jan Davis: Hi from the heart of coal country on Wonarua land

00:19:48 John Gwyther: Hello from GurnaiKurnai country - Lake Glenmaggie, Vic

00:20:12 Narelle Hahn-Smith: Hi From Latje Latje lands NW Vic

00:20:15 Andrea Charlton: Morning from Canberra, Ngunawal country

00:20:16 Barbary Clarke: Hello from Barbary in Naarm

00:20:39 Hrisanthi Dokos: Hello from nipaluna (Hobart, Tasmania)

00:20:43 Bron Dahlstrom: Hello from Boon Wurrung Country

00:20:49 Andrea McMillan: Hi from underneath a shady gumtree in Gingelic, where I am sitting beside the Murray River looking across to Victoria :)

00:20:55 Nicole Adler: Hi from Gadigal (Dee Why)

00:20:58 Derek White: Afternoon from WinZero in Gundungurra and Tharawal country

00:21:02 Trevor Hoare: Trevor here at Mirboo - GunaiKurnai country

00:21:04 Gerry Butler: Hello from Kurna country in Adelaide. Gerry

- 00:21:10 Kathleen Davies: The abundance agenda = critical reframing
- 00:21:15 Lorraine Bull: Hi from another coal hermit on Gunaikurnai country in Latrobe Valley
- 00:21:17 Craig Peters: Abundance indeed. We need to shift from cost to OPPORTUNITY. It is IMMENSE.
- 00:21:20 Manuel Espinosa: Hello, from Santa Clara, California!
- 00:21:34 Sophia MacRae: Hi from the land of Bunurong people, Kulin nation
- 00:21:34 Jay Wilson: g'day from San Francisco!
- 00:21:49 Jo Whitehead: Hello from Gimuy (Cairns)
- 00:22:14 Arabella Daniel: Arabella from Clean Air Communities from land of the Boonwurrung/Bunurong and Wurrundjeri Woi Wurrung peoples of the Eastern Kulin Nation
- 00:22:20 Greg ("Darwin", Larrakia country, Australia): Hm. Maybe we indigenous British should become a little bit Australian.
- 00:22:31 Glen Ryan: Hi All Glen Ryan from Sunovate in Sunny Perth from Wadjuk country
- 00:22:39 robert butterfield: Hi from Kendenup WA in noongar country.
- 00:22:49 Lou Coles: The abundance agenda - I like that! 🙌
- 00:23:05 jannene kyytsonen: The smart power solutions need smart communications systems, and the government has dropped the ball on that technological transition as well. They are drowning in false economy arguments
- 00:23:50 Craig Peters: "Hydrogen is not an energy source, it is a battery" - great reframing and puts it in context
- 00:23:54 Eric Pozza: Isn't hydrogen just for trucks and ships - larger things that move, rather than our car at home or our barbie?
- 00:24:04 Melinda Crozier: This year we had house reno'd we had solar panels installed, transferred over to electricity for appliances and got rid of gas meter. Our house is now nearly as carbon neutral as possible without at battery
- 00:24:28 Eric Pozza: Hydrogen is for moving things that require batteries that are too big to be practical
- 00:24:31 Ben Foley: isn't the issue that energy density is necessary for vehicles like aircraft?
- 00:24:32 Jon Knight: hydrogen is the gas industries 'clean coal'
- 00:25:17 Michael McKeon: For me the MAMMOTH in the room is over-population of we humans, especially those of us in this consuming, wasteful, throwaway capitalist society along with the aggressive war mongering we are being softened up for.
- 00:26:03 Greg ("Darwin", Larrakia country, Australia): Hydrogen probably good to export with non-lucky (energy-wise) countries.

00:26:09 Michael Gunter: Hydrogen is also easy to spin and bamboozle the public into looking good while being brown instead of green

00:26:20 Huyen Nguyen: apart from hydrogen, what other options do we have for seasonal storage or long dunkelflaute?

00:26:33 Joy Pegler: Hydrogen can ignite without a spark setting it off.. so it is a serious hazard.

00:26:38 Lena Puglisi: historically we've always had an energy mix, that's not going to change

00:26:48 Andrew Pam: Note that people who complain about "overpopulation" always seem to mean OTHER people, in OTHER countries, especially the poorer ones. If you're seriously suggesting that we have too many wealthy white people, that's another angle but good luck suggesting we cut back the population.

00:26:52 Mike Young: Steel is looking like getting away from hydrogen too. Developments in electric furnaces/electrolytic processes are looking to replace coke and hydrogen in the foreseeable future.

00:26:54 Jamnes Danenberg: Now that bi-directional chargers have been given the green light from regulators what other things need to be done to incentivise V2G or V2H capabilities in electric vehicles?

00:27:42 David Beary: Toyota appear to be on the hydrogen bandwagon for future vehicles. Saul, do you have an idea why Toyota is heavily investing in this technology, as apposed to other vehicle manufacturers? I thought the horse had bolted with electric/battery vehicles.

00:28:04 Andrew Pam: The issue with V2G and V2H isn't really the vehicles - it's the rest of the system. The way the grid system is designed, and therefore the regulations.

00:28:54 Andrew Pam: It's been said that Toyota is an engine company that happens to also sell vehicles wrapped around them.

00:29:01 Eric Pozza: The pM is looking to the future - May 2022

00:29:53 Andrea Charlton: 😊

00:30:02 Graeme McLeay: Hip pocket and health—fossil fuels kill

00:30:07 Greg ("Darwin", Larrakia country, Australia): Electrify everything!

In the absence of actual, real-time democracy. vote Independent!

00:30:17 Andrew McMahon: Toyota = "self-charging" !

00:30:20 Bruce Prior: bigswitch

00:30:38 gerard borg: But how can we gain access to low cost electric vehicles?

00:30:45 Eileen Whitehead: Saul for PM!

00:30:47 Peter Kriesner: Countries like Japan, Korea, Italy and many other European countries are now experiencing negative population growth. They're all doing fine. We need to stop relying on population growth driven by low skill immigration as pretty much our only driver of economic growth.

00:30:48 William Watt: Toyota has announced they are shifting to Battery Electric (announced in December) with 30 BEV models by 2030. They must have realised they can either do that or go bankrupt trying to make hydrogen work.

00:30:57 Robert Goodwill: Greens have had a zero emission policy for 20 or more years

00:31:25 Di Wykes: I am not a passive consumer. We generate 10K kWh/pa.

00:32:06 Murray SAYLE: LNP are agents of the fossil fuel lobby and not in the public's interest

00:32:16 robert butterfield: Can't we harness the energy of hot air because the Coalition have heaps of it.

00:32:20 Steve Blume: Russia has started attack on Ukraine. Kiev explosions reported. CNN live. Trump supporting Putin! ASX and other markets in trouble. Not a good day.

00:32:24 Andrew McMahon: Price reduction for electric vehicles instantly by exempting them from the "luxury" car import tax (or abolishing it)

00:32:27 Di Wykes: Democratising electricity to the people.

00:32:39 Cindy Ferguson: Hydrogen IP, See page 24. Toyota has a lead in H IP filings.

00:32:40 Eric Pozza: Yes, that is key. What is in the interest of business?

00:32:42 Cindy Ferguson:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1031174/Low-carbon-hydrogen.pdf

00:32:43 Di Wykes: Agree @Andrew

00:33:00 Sharee McCammon: state capture by the fossil fuel lobby is the main thing stopping this bright new future. Until we tackle state capture, this will be a battle

00:33:08 Dragana Zivancevic: Nikola Tesla harnessed electricity in 1890's, but we are still struggling to provide it cheaply to everyone.

00:33:42 Mel Booth: Labor state govt in WA shut down the world leading Solar Energy Research Institute of WA in the mid 80s. The coal lobby and union won.

00:33:49 Robert Goodwill: The film showing the all electric retrofit of my project home will be on the Zero Emissions Byron website by the end of March 2022

00:33:55 Peter Horan: Comparing before and after: I installed 3kW solar PV and purchased a hybrid EV. I reduced my annual petrol consumption by 1000L and saved about \$1,300. See <https://anzasca.net/wp-content/uploads/2016/12/76-1139-745-754.pdf>

00:34:02 Fran Lee: This is so about the grid. I don't think WA has the ability to do that. Am I right?

- 00:34:11 Monty Lang: The take away for me so far is the idea that Australia could and should lead the world in this field because of our natural advantages.
- 00:34:19 jannene kyytsonen: We should attack the system by creating local government area power/telecoms enterprises (co-ops), and shake up the business models
- 00:34:46 Mel Booth: Yes WA is not on the national grid. Too far away. Too much lost in transmission etc.
- 00:34:50 Wendy Cox: I have a gas free house, don't you ?
- 00:35:39 David Bell: I rely on gas for cooking and hot water.
- 00:35:47 Melinda Crozier: can we please ban above
- 00:35:48 onika maraj: my pussy burns
- 00:35:51 Huyen Nguyen: can someone block onika
- 00:36:06 Eric Pozza: Onika, very silly...
- 00:36:23 jannene kyytsonen: Russian hack, thought they would be too busy in ukraine
- 00:36:23 Andrew Pam: I'm almost at electricity only - already have electric heating, cooking and transport. Have ordered electric heat pump hot water, just delayed due to COVID.
- 00:37:06 Greg ("Darwin", Larrakia country, Australia): Jeez. We've still got a few years of exporting coal to the other suckers. Lucky the troposphere respects our arbitrary national boundaries!
- 00:37:33 Di Wykes: Wow Saul that's amazing 800B\$ exports
- 00:37:39 Eric Pozza: But are we clever enough? I have some doubts. We might even releact Morrison soon. Not certain despite his hige failures
- 00:37:42 Glen Ryan: We have already electrified everything daily avg 20 - 25kWhr/day include EV
- 00:37:51 Meg & Peter Nielsen: If you then take into account what we pay in fossil fuel subsidies surely our \$80 B export profit is far less impressive.
- 00:38:45 Georgina Binns: This company does interest-free loans for solar panels <https://brighte.com.au/> but I'm a renter, how do I get access to solar power? If you're a landlord, consider installing panels on your properties!
- 00:38:57 Matt Jansch: Total rationale in value adding
- 00:39:09 Gannon Middleton: Going through the building process recently with a volume builder, absolutely nothing was suggested re future proofing. Had to specifically know and ask for no gas connection, heat pump hot water, solar provisions, etc. Terrible when it pushes the knowledge expectation to the end user who are likely to build once.
- 00:39:16 Robert Goodwill: Are any Lib/Nats pollies learning from this ?
- 00:39:17 Sienna Parrott: Link to buy a copy of Saul Griffith's The Big Switch from Black Inc. Books <https://www.blackincbooks.com.au/books/big-switch>

- 00:39:35 Peter Kriesner: The energy return on investment from PV solar is very significantly positive. What is to stop us making more and more PV panels almost indefinitely given the main raw material (silicon) is essentially unlimited?
- 00:39:36 Wayne McMillan: Hi. Everyone, Wayne from Whalan here on Dharug land.
- 00:40:01 Mel Booth: Political will is a major barrier at all 3 govt levels.
- 00:40:39 Sienna Parrott: Thank you for all the Q&A questions, a reminder you can also up vote/like questions so they are more likely to get asked!
- 00:40:55 Barbara Bryan: Solar panels should have been, and now should be MANDATORY on all new houses which are being built in increasing numbers the outer suburbs right now! Their cost is a minor part of
- 00:41:32 Barbara Bryan: total building costs.
- 00:41:32 Robert Goodwill: National Construction Code is under review now and under heavy pressure from the project home industry to weaken it
- 00:41:40 Mel Booth: Agree Barbara Bryan
- 00:42:10 Judith Leslie: The single biggest impediment to all of this is political donations from fossil fuel companies and their allies.
- 00:42:27 John Knox: @Georgina Binns - the Victorian Gov't provides subsidies for landlords to install solar on their rental properties. If not in Vic, suggest to your local member that they match Vic's scheme
- 00:42:44 jannene kyytsonen: Friend of mine near Wagga is renting his land to Brazilian solar farm. We perhaps need to be careful of using arable land for power generation going forward, because of sites being adjacent to current grid. Review of transmission systems now seems appropriate.
- 00:43:14 Georgina Binns: @John great idea! NSW should get on this..
- 00:43:18 Andrea Charlton: Sheep and cattle can also graze under well designed solar PV
- 00:43:21 Murray SAYLE: Heat pump hot water electric cooking, heat pump air conditioning and heating, 32 solar panels 8.8kw, battery mower, battery blower, battery brush-cutter and a Battery Car, I will never buy another fossil fuel product ever again. Starve the fossil fuel industry.
- 00:43:30 Peter Kriesner: Electrification has the potential to solve a large part of the greenhouse emissions problem, possibly the majority of it, but what about methane and nitrous oxide emissions from agriculture? And how do we effectively remove the CO2 that is already in the atmosphere - 400ppm is already way too high?
- 00:43:46 Cate Cooper: like low flush toilets Barbara
- 00:44:08 Andrea Charlton: Methane in agriculture - partly addressed by Asparagopsis supplement feeding.
- 00:44:12 Dean Argoon: Voltage rise on distribution networks is a real issue, a lot of rooftop solar is already idle during the day (wasted energy) Loads are needed locally to drop the voltage. i.e.

grid connected batteries. Are our privatised electrical distribution network operators up to the task of transitioning?

00:44:24 Barbara Bryan: ALL 'Landlords/Landladies' should consider installing solar on their rental investments and ALL body corporates should be subsidised to provide solar panels on their blocks! Otherwise we are only helping part of the wider community to participate and benefit!

00:44:40 Michael McKeon: We also need uniform rules on a universal plug/socket type agreed by all manufacturers for the charging of elec vehicles.

00:44:50 Georgina Binns: Totally agree, Barbara!!

00:45:01 James Alexander: For people down about political will at the federal level, state and local gov are more receptive to people's voices, get less fossil fuel donations. You could take Saul's ideas for regulation changes and campaign at that level of gov

00:45:09 CELIA SEXTON: Solar farm can co-exist with agricultural use Animals better with shade, plants that are usually grown in cooler areas etc

00:45:15 Di Wykes: Good on you @Murray! 😊 I am well on that road too.

00:45:40 Peter Horan: <https://www.mdpi.com/1996-1073/14/9/2666>

00:45:49 Wendy Cox: blokey culture ? I don't want a V8

00:46:08 Nicole Adler: Great academic integrity giving credit where credit is due!

00:46:13 Murray SAYLE: Methane comes from Natural Gas leaks and coal mines venting to the Atmosphere

00:46:18 Kathleen Davies: Jacko sounds like a dude - maybe no longer representative of Aust tho!

00:46:22 Andrea Charlton: CWA rocks!

00:46:23 Robert Goodwill: My Kona EV will outrun a V8

00:46:39 Barbara Bryan: My mother's local council (in Melbourne), subsidised her to install solar panels (and she was in a small body corporate situation) then just added periodic charges to her quarterly rate bills. She was aged 87 when this was done!

00:46:43 Peter Kriesner: If you look into it I'd suggest seaweed supplements for livestock has very limited potential. Where would we harvest it all from and how do we get grass-fed livestock to eat it?

00:47:05 Peter Horan: Another paper on Solar Energy in the home:
<https://www.mdpi.com/1996-1073/14/9/2666>

00:47:19 Melinda Crozier: CWA rocks and if notice women becoming independent candidates and deciding to fix the mess created

00:47:31 Wayne McMillan: Saul deserves nothing but accolades.

00:47:44 Andrea Charlton: the cows seem to like seaweed, PK. The necessary seaweed grows around our coast. Aquaculture! It's being trialled off southern Victoria

- 00:48:02 Nicole Adler: My Nan, OAM runs her town from her CWA status.
- 00:48:24 Wendy Cox: Would not it be a standard VTG
- 00:48:27 Rob Googe: Is this the way, driving this from the ground up? Local households making this their thing and driving the politics and making this the way.
- 00:48:27 Jo Norman: Peter, check out Sea Forest and their work scaling seaweed aquaculture.
- 00:48:32 Cheryl Fitzpatrick: Our Mayor in Dubbo NSW just self-funded an E.V. for use as the mayoral vehicle.
- 00:48:38 Ben Curnow: Is single phase enough, or should households upgrade to three phase?
- 00:48:56 Gayle Partridge: Is part of the solution about marketing the required changes to "ordinary folk" so they are confident to make the right voting choices?
- 00:49:19 Robert Goodwill: single phase EVSE can charge up to 7.5kw
- 00:49:22 Lorraine Bull: DIT Ag Tech is trialling seaweed supplements in water supply
- 00:49:32 Barbara Bryan: There is still a BIG issue with upgrading our energy grid infrastructure involving much software programming in order to integrate renewable energy INTO the ageing grid! Up till recently, the BIG private energy companies and governments have NOT wanted to do this essential work! Can you UPDATE US on this?
- 00:49:46 Mel Booth: makes total sense to generate electricity and use on site. Almost no loss in transmission poles and wires etc, estimated at about 10% loss.
- 00:50:01 Anthony Horwood: will this session be on podcast. it's terrific
- 00:50:04 jannene kyytsonen: looks like hack was same as Putin declared war on Ukraine and began invasion
- 00:50:12 Joanne Barkworth: Timers on appliances really help!
- 00:50:21 David Bell: Ultimate solution: everyone off grid and self reliant
- 00:50:33 Graeme McLeay: Graeme McLeay to Saul: The AFR reports today that Rod Sims of the ACCC may block Mike Cannon-Brooks/Brookfield takeover of AGL-Is this the case of a regulator standing in the way of a public good?
- 00:50:36 Di Wykes: @Anthony - it will be on AI website
- 00:50:48 John Robert: How do we overcome the 'dig it up and ship it out' approach that has prevailed here since the gold rush? We need more value adding processing!
- 00:50:54 Wendy Cox: double glazing so expensive
- 00:50:57 Caleb Lee: What would local architecture look like in this EV world? What do you imagine local service stations to look like. Interested to here your thoughts :)
- 00:51:02 Greg ("Darwin", Larrakia country, Australia): Yes. Ubiquity trumps efficiency.
- 00:51:05 Anthony Horwood: thank you

- 00:51:05 Fran Lee: I think the grid system is the problem in WA. To integrate solar panels into the mix
- 00:52:47 ian ogilvy: @caleb service stations are only for road trips, not for local as people charge at home- with the car connected to the grid as back up
- 00:53:01 Peter Newman: A fortune has been spent on "gold plating" the grid. For what purpose?
- 00:53:20 Geoff Dyce: <https://www.repositpower.com/>
- 00:53:29 Andrea Charlton: Thank you for an excellent presentation and discussion. Sorry I have to drop out but will read the book.
- 00:53:30 Di Wykes: I have wondered that @Peter
- 00:53:46 John Gwyther: @Peter Newman: providing fire resilience for starters - big issue down here
- 00:53:47 Barbara Bryan: My son was (until recently), a software engineer for a small company working hard to introduce the best software programming for integrating renewable energy into the existing (old) grids but I wish to know if this is now becoming much more widespread and working as yet?
- 00:54:17 Eileen Whitehead: I haven't paid for my electricity for 3 years since installing solar on my roof.
- 00:54:24 Paul Loring: Fran Lee, in WA it is the legislation that enables Synergy to remain a monopoly, not the network itself. Eg unlike other states, in WA local authorities can't build their own windmill and share the savings with their community.
- 00:54:38 Javier Vidal: Also check <https://evergen.energy/intelligent-control/>
- 00:54:43 David Bell: Russia has started bombing Klev, Kharkiv and other cities
- 00:54:59 Eddie OTTO: Electric mower! I have had a line powered one for 20 years.. Still going.. Really light... Really powerfully.
- 00:55:11 Di Wykes: Me too @Eileen
- 00:55:17 Fran Lee: I didn't know that. Thank you. I can go from here!!
- 00:55:45 Andrew Pam: Single phase is generally fine for homes because you typically charge your EV overnight. 4 hours is usually enough. The only reason I could see a use case for 3 phase is if you need to use the EV a lot in the morning, then come home and charge it again quickly to use it more later in the day. And usually people just get an EV with a bigger battery instead of paying for 3 phase.
- 00:56:50 Andrew Pam: Yeah we paid \$17K to replace all our terrible 1970s single glazed windows with double glazing. Might take quite a while to pay it back but the house is so much more comfortable now!
- 00:57:39 jannene kyytsonen: See everyone at the Smart Energy Conference at ICC 4th May?

00:57:49 Craig Peters: Current spike in Wholesale electricity prices is driven by COAL costs. Coal.

Current cost of coal has been rising as the world emerges from Covid.

THIS is what is driving prices higher RIGHT NOW. Not renewables.

00:58:02 Gordon McAllister: 3 phase is useful if you have a big PV system and want to export electricity to the grid as it allows you to export a higher amount.

00:58:45 Lena Puglisi: what's really disturbing about all the discussion we have about the future no seems to be talking about lowering consumption\

00:59:19 Marjorie Henzell: "Vote Angus Out"

00:59:37 Lena Puglisi: noone seems to be prepared to use less, to consume less, to travel less, to change their lifestyle in any way

00:59:46 Murray SAYLE: Angus is a fossil fool puppet of the Mineral Council of Australia.

00:59:47 Matt Jansch: New member for Hume!

01:00:12 Rudolf (Rudy) Blums: Start with the whole lot, not just Angus O U T

01:00:21 Kathleen Davies: Consumption itself would not be a problem if it was connected to REGENERATION.

01:00:28 Monty Lang: Its an unfortunate practical reality that a message of consumption reduction just will not fly with the broad populace. There is nothing stopping us acting as individuals to do this though.

01:00:33 Bron Dahlstrom: My concern is what happens to all the used solar panels, batteries, wind turbines etc

01:00:42 Eric Pozza: Lena, not sure why we want to live a poorer life if it's not required for reasons of climate.

01:01:04 Barbara Bryan: YES! All new homes should also be double-glazed as a MANDATORY energy saver and increases quality of life for occupants whilst reducing energy use for heating and cooling!

01:01:09 Andrew Pam: Used batteries, solar panels, wind turbines etc can be recycled. We just need to set up the systems to do it.

01:01:12 Robert Goodwill: they can all be recycled.

01:01:14 Mel Booth: Still not sure why massive 4 wheel drives are now the standard. Especially around cities

01:01:15 Matt Jansch: Waste management and repurpose is a major issue I agree

01:01:38 Richard Bouwmeester: the only downside, the issue of concern is what do we do with all the exhausted batteries

- 01:01:44 Murray SAYLE: <https://www.climatelevels.org/?pid=2degreesinstitute&theme=grid-light>
- 01:02:07 Gerry Butler: Thanks and looking forward to reading my copy of The Big Switch!
Cheers Gerry
- 01:02:15 Andrew Pam: Richard: We recycle the batteries,.
- 01:02:15 Wendy Cox: got it
- 01:02:31 Nicole Adler: love ❤️ the "shameless plug"
- 01:02:35 Lachlan: My copy of the book just arrived 😊
- 01:02:39 Paul Hill: hydrogen is part of the solution but isn't the primary tool in the box
- 01:02:52 Di Wykes: @Thanks Murray
- 01:02:53 Kathleen Davies: If we can get with the abundance agenda, and make sure consumption is part of a circular, regenerative, redistributive economy, then many of these problems may be solved
- 01:03:14 jannene kyytsonen: Forget double glazing, I had triple when living in Finland (for cold), and think that should apply here too(for heat) given increasing number of days 40 +!!!
- 01:03:26 Lena Puglisi: maybe we have to redefine the meaning of abundance
- 01:03:40 Wendy Cox: can we hit on the head blended hydrogen with gas for houses - !
- 01:03:45 karen organ: Saul's book is very positive and easy to read. I recommend it highly.
- 01:03:54 Kathleen Davies: Nature is abundant, only humans push scarcity
- 01:04:18 Dean Argoon: thermal mass anyone
- 01:04:20 Bron Dahlstrom: What has happened with salt batteries? I heard about these years ago but nothing much seems to have happened
- 01:04:29 Lena Puglisi: so true Kathleen
- 01:04:29 Murray SAYLE: Efficiency Compared: Battery-Electric 73%, Hydrogen 22%, ICE 13%
- 01:04:31 Andrew Pam: I looked at triple glazing but I think it's hard to justify economically in Australia. Double is already pretty good. We just don't see the low temps that northern Europe does.
- 01:04:41 Udo Sarnow: It's not just the triple glaze. The whole door and window structure must be improved. I have double glazed but the cold comes in through the frame.
- 01:05:19 Udo Sarnow: It also helps to save energy in summer. keyword A/C
- 01:05:27 Matt Jansch: Good question Bron, am curious myself. A UOW initiative I believe
- 01:05:41 jannene kyytsonen: @Andrew Pam its not about 40 -minus, its about increasing 40+ plus dilemma.
- 01:05:55 Richard Bouwmeester: and of course old and no longer functional solar panels??

- 01:06:08 Andrew Pam: Yes, the door and window frames are vital - if you don't do those first you're throwing money away on triple glazing
- 01:06:27 Andrew Pam: Richard: You can also recycle solar panels
- 01:07:02 Richard Bouwmeester: are we recycling batteries now or are we talking new technology??
- 01:07:24 Gillian Blair: The Chinese are causing huge and potent pollution and destruction in Tibet by mining for the minerals required for electric cars, batteries, etc etc. How can we obtain these minerals without turfing people off agricultural land in places such as Tibet and causing huge environmental destruction? We need ethical extraction and manufacturing policies - and there is precious little at the moment.
- 01:07:53 Monty Lang: The changes required by the general population will be enormous. Have you got any thoughts on how best to help the general population come to terms with the scale of change? A book is a good start but how do we get society comfortable with change?
- 01:07:54 Kathleen Davies: We need to align the Laws of Man with the Laws of Physics.... physics will win every time!
- 01:08:29 Robert Goodwill: its called a Green New Deal
- 01:09:19 Kathleen Davies: Just don't do what we did to the people of Latrobe Valley
- 01:09:27 Di Wykes: We can support workers to diversify if we have the will to support everyone who needs it.
- 01:09:30 Megan Bartley: pisses me off no end that coal workers are treated like holy cows while the rest of us get the bums rush when we lose our jobs
- 01:09:30 Andrew Pam: Richard: Yes there are companies recycling batteries now, but of course it's only small scale because most batteries are still in good condition. We don't have enough batteries that need to be recycled yet to make it a big business at this early srage
- 01:09:31 Judith O'BYRNE:Nobody asked how the 30,000-40,000 university employees who lost their jobs during the pandemic could be reassured about getting new jobs.
- 01:09:57 Di Wykes: Yes @Judith can't agree more.
- 01:10:05 Peter Dickson: @Gillian Blair: and in Africa where they utilise almost free labour to mine cobalt. Another colonial power in Africa.
- 01:10:10 Andrew Pam: Or everyone in the arts, entertainment and retail sectors
- 01:10:13 Judith Leslie: its hard to see how this can happen with a PM that holds coal in his hand, Taylor does everything he can to prevent renewables, Pitt says batteries are rubbish
- 01:10:15 Eric Pozza: Judith yes I htinnk our pollies shoose which workers they are worried about
- 01:10:37 Anthony Miller: Came to Tassie in the early 90s. Forestry and Paper Mills were big. Tassie has changed and now those who moved to Queensland and moving back.
- 01:10:37 Di Wykes: Agree too @Andrew

- 01:10:43 Mel Booth: Agree Judith, and every other job in car industry, public services etc that has been unilaterally chopped to bits
- 01:10:52 Nic Mavrogiannis: couldn't be said better saul
- 01:10:59 Barbara Bryan: Megan: Fossil Fuel LOBBY IS ALL POWERFUL - and donates heaps to government coffers!
- 01:11:54 Wendy Cox: screenshots of the graphs hard from the book
- 01:12:03 Eddie OTTO: Saul. Try and sell that great philosophy to the Liberal party and for profit corporations.
- 01:12:31 John Gwyther: Graphs also not super readable in the hardcopy book either
- 01:12:37 Sienna Parrott: Link to buy a copy of Saul Griffith's *The Big Switch* from Black Inc. Books <https://www.blackincbooks.com.au/books/big-switch>
- 01:12:44 Dean Argoon: We can do it #ElectrifyEverything
- 01:12:57 Claire Bettington: Have it already, can't wait to read it and implement the advice!!
- 01:12:57 jannene kyytsonen: @Udo , yes, my Finn home had walls and roof with multiple insulation layers, built on foam insulation to ground, and, with in-floor heating, and foyer to insulate temp impacts on entry and egress from building. Design here still needs review and help to legacy structures
- 01:13:07 Narelle Hahn-Smith: Just include links to the graphs for audio book
- 01:13:27 Barbara Bryan: I read that Cannon-Brookes has supplied a copy of your book to EVERY state & Federal Politician!
- 01:13:36 Anthony Miller: It is on ebook :-)
- 01:13:37 Robert Goodwill: planet needs zero emissions by 2030
- 01:13:45 Gillian Blair: We moved into a home with gas 3 yrs ago. Went solar and electric and have not had a bill since.
- 01:14:15 Sophie Wright: Please narrate *Big Switch* yourself Saul, as you speak so well! I don't love the Electrify narrator on Audible....
- 01:14:24 Matt Jansch: Run for Cunningham Saul. Even as an independent you should be appointed Energy Minister regardless
- 01:14:29 Marjorie Henzell: Tony Abbott has a lot to answer for.
- 01:14:40 Jay Wilson: Huge thanks to Saul, Dan and Eb!
- 01:14:40 Rick Walters: we could be the Norway of the south!
- 01:14:41 Sienna Parrott: Thanks to all for joining us today and for participating in a fascinating discussion! For details about upcoming webinars and to register head to <https://australiainstitute.org.au/events/webinars/>

At the bottom of the page you can view our previous webinars in full if you missed any – including this one when it is uploaded soon.

Thanks again for joining us – and enjoy the rest of your day!

- 01:14:46 Marjorie Henzell: Great webinar!
- 01:14:50 jannene kyytsonen: Thx great panel
- 01:14:53 Matt Jansch: Lets set an example for the world to follow
- 01:14:56 Judith O'BYRNE: Maybe take the CWA more seriously, Sail, without the putdowns involving sandwiches, etc? Every chauvinist who heard you would have immediately sniggered at their contribution.
- 01:14:56 robert butterfield: Great discussion, as always on The Australia Institute
- 01:14:57 Georgina Binns: This was so great, thanks everyone!!
- 01:15:01 Kath Shelper: Thank you!
- 01:15:01 Jo Norman: Thanks speakers!
- 01:15:03 Greg ("Darwin", Larrakia country, Australia): cheers
- 01:15:05 Nic Mavrogiannis: great webinar
- 01:15:06 Michael McCarthy: Excellent, thank you.
- 01:15:08 Robert Goodwill: well done AI
- 01:15:08 Kathleen Davies: Very good points, thank you.
- 01:15:09 Gillian Blair: Thanks to Saul and everyone!
- 01:15:10 Annabel Sides: Thanks!
- 01:15:11 Beth Phillips: wonderful, thank you Saul !
- 01:15:13 Eric Pozza: great discussion, thanks Saul, Dan, Ebony
- 01:15:13 Jessica Williamson: Thank you great discussion
- 01:15:16 Melinda Crozier: Thanks
- 01:15:18 Craig Roberts: Love your work Saul - man crush
- 01:15:18 David Beary: great webinar... many thanks to all involved :-)
- 01:15:18 Leanne Masters: Thanks so much. Off to buy the book now.
- 01:15:18 Claire Bettington:

- 01:15:19 Christine Buschmann: thanks heaps, great discussion

01:15:20 John Knox: What happens to the chat and question board?

01:15:22 Graeme McLeay: A great book thank you- let's do it!

01:15:22 Judith Leslie: Excellent thanks !

01:15:23 John Haberecht: Brilliant!!

01:15:26 Barbara Bryan: Pity it could not be longer for such a major issue!

01:15:28 Bernard Shanahan: Thanks!

01:15:29 Bronwyn Johnson: Thank you so much

01:15:30 Vanessa Palmer: thank you this has been really interesting .

01:15:30 Murray MacDonald: Inspiring Saul and Dan. Many thanks.

01:15:30 Vicki Pearce: Thank you excellent

01:15:33 Nicole Adler: thank you Dan Cass and Saul