

Climate Resilience and Energy

July 17, 2020

Participants: 36

Moderator: Ulalia

Facilitators: ‘Aulani & Celeste

General Notes

- Ho‘olauna
- ‘Āina Aloha initiative purpose
- How can we think about the resilience of Hawaii? As an economy? Within our community?
- Engage community in a dialogue to envision a sustainable economy for Hawai‘i
- Guiding principles: ‘Āina Aloha, ‘Ōpū Ali‘i, ‘Imi ‘oi Kelakela & Ho‘okipa
- Step 3: Agenda for Action
 - What are some ideas/actions we want to dialogue as a community?
 - Patent/ICP proposals this might not be the platform
 - Proposals are going to be made public
- Outcomes
 - Sharing proposal sketches
 - Comment/share mana‘o
 - Use of online tools
- Timeline:
 - Submit proposal sketches: July 26, 2020
 - Offer comments by: Aug. 9, 2020
- What does climate resilience mean to you? (Chat responses)
 - being prepared to deal w the inevitable crises linked to warming planet
 - climate resilience = natural resources able to rebound from climate events
 - Successful adaptation.
 - being able to respond to changing environments, innovation, nimbleness
 - global society's survival!!
 - A way of life that steps lightly on earth.

- communities taking care of each other when faced with climate change impacts
- getting stronger as a community in parallel to a stormier climate
- ability to adapt to extreme changes while providing suitable environment for all to thrive in
- Maximum decentralized local renewable energy independence at minimum possible non-profit cost.
- The ability to recover quickly from natural disasters
- Everyone in the community is lifted up and equally prepared for climate challenges
- CO2 drawdown inevitably needed now too....
- Climate resilience means embracing the Office of Climate Change and supporting efforts to reduce our carbon footprint and dependence on fossil fuels.
- Making decisions that climate proof our society
- Aina aloha valued based decision makin
- a community characterized by equity, that thrives during climate change.
- How nature adapts naturally to be able to thrive in the face of challenges
- Resilience is demonstrated in our ability to adapt and manage our built environment.
- Our kids and our grandkids being able to be safe and secure here in Hawaii and able to thrive, no matter what the future brings
- It means being prepared and tough but I think
- Adapt, Organize and Evolve to maintain our social and ecological systems.
- Hana Hou! Maximum decentralized local renewable energy independence at minimum possible non-profit cost.
- Getting rid of the \$5trillion in annual fossil fuel subsidies and put it into renewables!~
- What are some of those challenges to achieving them? (Chat responses)
 - Our willingness to examine and change our values.
 - Getting rid of the \$5trillion in annual fossil fuel subsidies and put it into renewables!~
 - stove-piped agencies

- HECO
- reliance on non-renewable energy
- Systemic racism
- Dept of Planning
- Social inequity, fossil fuels, what's in it for me mentality
- Understanding the magnitude of the challenge
- Conflicting government policies and priorities.... short term thinking and planning
- It will be expensive and needs to be an effort from all of us.
- We have to overturn Citizens United and get the corporate lobbyists out of the decision-making process.
- limited food and energy choices
- Status quo. Further on that thought, equity is never part of the conversation.
- applying clean, green tech and environmental practices
- inequity, not understanding the roles of all stakeholders in this
- Entrenched structures, social inequity, difficulty in steering a large ship
- sometimes I think it's as simple as the task before us is so daunting that people don't know where to start and it makes it a non starter
- a feeling that we, as individuals, are powerless in the face of a global problem.
- Political will.
- not a specific sector based solution (in our highly specialized society)
- Sandcrabs in the bucket
- leadership that "gets" the house on fire and has the backbone to make the right choices.
- I also think climate resilience is almost always White centric visions of renewable energy.
- courageous leadership
- privileged apathy
- Long term plans based on short term profit
- but the good news - a majority of us knows it's time to act and so maybe just need to coordinate our voices better?
-

Proposals (3)

- Test Proposal to use consider.it tool:
 - Should we support a proposal to engage in a community-driven clean energy planning process?
 - create policy requiring power companies to purchase back power from individuals and communities. no more keeping people from tying into the grid
 - First proposal in list is mine, so details can be found in the proposal. But I will also post more detail and sources in "considerations" under my proposal asap. There are already nearly 2000 nonprofit utilities in the US, including Kauai Island Utility Coop
 - Carbon tax is being studied on state level, and may be reconsidered by legislature next session.
 - On fed level in recent years, carbon tax has been proposed to fund universal basic income--by Republicans! ;)
 -
- [Should we support a proposal to broaden the sustainable building industry while expanding employment options for kamaaina? \(Author: Lauren Esaki-Kua\)](#)
 - Buildings and their construction together account for 36 percent of global energy use and 39 percent of energy-related carbon dioxide emissions annually, according to the United Nations Environment Program. (UNEP)
 - Construction industry may be unrecognizable soon, due to tech advances in construction techniques, such as 3D printing--which will require less labor, but can VASTLY reduce local housing costs. I will share links asap, and they can also be found in comments in the Affordable Housing section of considerate.
 - It's a great proposal, but I believe this will also require some activities to influence the Planning and Building depts, that currently make green building difficult. I have had recent experience in trying to do so, here in Hawai'i County.
 - Energy efficiency needs to be boosted way more in focus from policy and action. So much more can be done. Efficiency in building makes a lot of sense.
 - Efficiency is the low hanging fruit and coordination
 - resistance has been from building industry as much as gov't...like anything we

need more public dialog & support to move forward

- More public awareness and education; perpetual expensive construction mode
- <https://living-future.org/lbc/>
- Proposal addressing jobs pipeline and working with UH system/CC
- Seattle built one building like this:
 - <https://bullittcenter.org/>
- Carbon Lighthouse won an EE grant on this recently
- there was a good amount of LEED training offered during ARRA if I am not mistaken
- Carbon Lighthouse has what sounds like a great business model - but they were started on the mainland and not necessarily hiring many kama'āina but bringing in people from the mainland (not entirely)
- Yeah, they also focus on commercial buildings from what I understand (carbon lighthouse)
- 4 counties and thers were supporting a benchmarking bill before leg got disrupted :)
- Re more highly automated 3D printed housing construction: Should this be the future of truly affordable housing and manufacturing in Hawaii? "3D Printing Everything: Ultra-Cheap, Zero-Waste Products Are Coming",_- "The construction industry will be unrecognizable in just a few years."
- Excerpt: "In 2014, the Chinese company WinSun successfully 3D-printed 10 single-family homes in under 24 hours, each costing less than \$5000.
- "A few months later, WinSun printed a 5-story apartment complex in one weekend. In 2017, a different Chinese company combined 3D printing with modular construction to erect a 57-story skyscraper in 19 days.
- "This year (2019), New Story is starting construction of the world's first 3D-printed community—100 homes to be given or sold (using no interest, micro-repayment loans available to anyone) to people who are currently homeless."
- <https://singularityhub.com/2019/10/04/3d-printing-everything-ultra-cheap-zero-waste-products-are-coming>
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- Should we support a proposal to build self-sufficiency, sustainability and climate resilience through support to women farmers and entrepreneurs? (Author: Jeanette Gurung)
 - Climate resilience strategy
 - Ag can sequester also!
 - Regenerative Agriculture
 - While regen ag can help sequester carbon, even if HI reached zero carbon emissions, I think It would be drop in global bucket. So cost-effective local ag self reliance should be our highest local priority IMO.
 - Agriculture also contributes a significant share of the greenhouse gas emissions that cause climate change – 17% directly through agricultural activities and an additional 7-14% through land use changes. ... The changing climate is also adding to resource problems, such as water scarcity, pollution and soil degradation. (OECD)
 - A communities resilience; social equity
 - @ Tom But we can be a demonstration site for success that could be replicated elsewhere
 - Sorry also agree with your point about self-reliance
 - Biochar!
 - If every acre of Ag pushed their C-content from the 1% avg. today back to 3% carbon as a natural soil, we could pull out the CO2 we have released within 50 yrs.
 - I think the global analysis on big ag (efficient/scale) as lower energy than local ag (less efficient in energy due to scale) undersells local ag in terms of resilience benefits, especially for islands.
 - cover crops, no-till, no pesticides or fertilizers.
 - Supporting local Ag, and climate ready Ag practices benefits our community nutritional food security, local economy, increase C sequestration, and reduce GHG emissions from imports
 - While that is noble, and perhaps helpful in motivating local efforts, it should not be primary motivator, IMO.
 - Then there are food choices. most of the habitat destruction that has led to the rise of infectious zoonotic disease (COVID) is to grow soy and corn to feed pork,

beef, and poultry

- awesome win/win/win - community resilience and equity so important
- I would agree in general with Tom's sentiments.
- Most energy and water efficient form of local food production could be soil-free "vertical" agriculture IMO.
- Multiple benefits of the proposal economic, job creation, community resilience
- Issue coming up more frequently as we pursue 100% renewable energy is that large scale renewables encroaching more and more on ag land. Ag sector rightly concerned about threats to prime ag land...need to harmonize policy. renewable energy needs to maximize rooftops but will still have large scale renewables. vertical ag could be attractive
- warehouse Ag - Dutch model
- Agroforestry efforts may be a viable option. Noa Lincoln I think has more knowledge on this field.
- There is exciting new sanitation technology that can use pyrolysis to turn human waste into biochar, which is a great carbon sink and soil amendment.
- re AG land for renewables we should use existing buildings instead - like all those DOE school buildings!
- Crushed basalt spread on fields pulls carbon out of the air and into the soil.
- The communities often (always?) being asked to sacrifice ag or other land for renewable energy projects are often ones who have contributed very little to the problem in the first place. We need other communities to sacrifice
- I agree, optimal mix likely to be traditional indigenous hunting, gathering, and fish ponds--if can be protected from sea level rise--as well as organic regenerative permaculture, and various forms and scales of vertical ag, ranging from for profit to community based non profit and neighborhood and household DIY local subsistence/self reliance.
- In which areas could there be incentives when moving these initiatives forward? Land owners? Job markets?
- No GET on local food.
- Worked with SBA - 10% Federal grants targeted for Women
- There is more profit in farming exportable crops than food.
- I think this weaves with the previous proposal. Incentives for local companies,

startups, farmers to hit our energy and agricultural goals. Build capacity internally. Speed up our targets with local/women/kanaka owned business.

- I used to run a biz incentive program for DBEDT, and local ag producers for local markets have to pay GET whereas local ag producers who export do not pay GET. So need to level the GET playing field.
- Identify lands ag producing lands - what are the needs? Farmers, ranchers, etc.
 - How can we create products/incentives ?
 - Synergy to create a team in the AG system
- As a prospective woman farmer, incentives would be great! In theory HI supports Agroforestry, but it is very difficult to discern allowable agroforestry land usage from the Hawaii land classifications listed online.
- Recent papers identify large regions of tropics on the continents becoming unlivable over next 50 yrs... and it has already begun. each 1C additional warming displaces 1b people. This will disrupt global security and global trade.... Hawaii must be able to feed itself to thrive thru this period.
- CARES Federal monies available that needs to be spent by December
- Purchasing solar for DOE schools would be a great start Scott!!
- Use RCUH
- Appreciate Scott's candor on the challenges of CARES. Spent - and done so within procurement :)
- Ag - Net emissions in Hawaii; communities build a consensus
- Provide govt incentives for soil C carbon content
- We will start our project with a baseline study,
- Chip, I agree that at present local food producers for local markets need to be subsidized, either by local consumers and/or local taxpayers, to compete with ARTIFICIALLY (subsidized) imported food. But I think there are current and emerging ways to level that playing field as well.

○

- [Should we support a proposal to build a community-owned electric grid in the form of a 63-mi solar gathering pedestrian bikeway from Kapaau-Kailua Kona?](#)
 - All in favor of cost-effective community-based non profit microgrids and even peer to peer electricity sharing without the need for HECO as middleman or grid provider.

- In fact, I think we should subsidize all electricity customers who cannot afford to go off-grid to go off-grid asap.
- I like the idea of integrating solar roads -- the specific tech would need to be further investigated. I think Wattway is extremely expensive.
- The grid is an amazing way to provide access to electricity to all in an equitable way. Off grid is very intensive and would be very difficult for 1/2 of the population to pay for
- Solar roads aren't working out so well.
<https://www.greentechmedia.com/articles/read/solar-roadways-are-expensive-and-inefficient>
- my understanding of current and emerging decentralized gen cap, T&D, and storage, I think a centralized "grid-free" future is both tech feasible and desirable, IMO.
- Raised equity issues in this proposal especially in regards to mass transportation
- Building co-working spaces in rural locations. CV-19 has proven we don't all need to be in an office every day. But, rural and lower socio-economic communities are on the outside looking in
- Micro-grids and decentralization could become increasingly valuable for community resilience at the more local level, especially if there are more disruptions from climate induced weather events?
- Biden wants to put \$1 billion a year into a grant program to help cities transition to automated vehicles.
- Oh and even though it is only a small part - e-bikes could be a HUGE and very equitable, and FUN solution
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-
- Should we support a proposal to create a Pongamia Farm/Cattle Ranch to remediate old sugar plantation soil, produce local beef, and a bio fuel jet fuel? (Daniel Ito)
 - Energy classifications - No biofuel
 - Global examples ie. India - "kukui" nut is squeezed for biofuel
 - Create a pongamia farm, ranch; remediate old sugar soil
 - Pongamia is a legume, likes to grow in distress soil ie. plantation lands
 - Grow trees, ranch in between, by-product is the oil, finish cattle, 8-12 years you

rotate the crop

- Create a closed loop system/model to be replicated in other places
- Non-compete federal contracts, 51% NH owned of the company
- Cool ideas. But instead of biofuel, prefer to see jet fuel made by direct air capture of CO2 from the atmosphere using Climeworks or CarbonEng plant powered by wave or geothermal.
- seems like invasiveness risk is mitigatable
- <https://www.hnei.hawaii.edu/sites/www.hnei.hawaii.edu/files/Observational%20Field%20Assessment%20of%20Invasiveness%20of%20Pongamia.pdf>
- Does that mean the pongamia stands would eventually be phased out once soil is remediated?
- Can existing jet engines burn biofuel without modification? Also like the idea of majority local ownership.
- Scott Seu: are you familiar with pumped mass storage, similar to pumped hydro?
- Truly sustainable biofuel would be hugely valuable. Many past biofuel ventures have not proven to be a net benefit for the environment, with the exception perhaps of Pacific Biodiesel turning waste cooking fats into fuel.
- Lanzatech funded by NZer Stephen Tindall has done successful run on biofuel w both Virgin and united
- UH has done the research on Pongamia and does not classify it as an invasive
- how does the nitrogen fixing nature of pongamia interplay with the effects of cattle on soil physical and chemical properties?
- really think carbon pricing is a hugely important policy and would be a great one to focus on here and elsewhere. Tough to implement at a State level but not impossible. We will need a LOT of money for resilience efforts of all types and carbon \$ is a great tool to consider. County of Kauai supports this via our General Plan
- "Mountain Gravity Energy Storage (or MGES) employs cranes on the edge of a steep mountain to move sand (or gravel) from the bottom to a site at the top, storing potential energy. Electricity is generated when the sand is lowered back from the upper site.
- Where would be the ideal places to install such a system? The scientists use Molokai Island in Hawaii as an example, outlining how all of the island's energy

needs can be met with wind, solar, batteries and their MGES setup.

-
- The researchers are thinking of locations with high mountains, like the Himalayas, Alps, and Rocky Mountains or islands like Hawaii, Cape Verde, Madeira, and the Pacific Islands that have mountainous terrains.
-
- How much energy is created? The system takes advantage of gravity, with the energy output being proportional to the sand's mass, gravity and the height of the mountain. Some energy would be lost due in the loading and unloading process. Hydropower can also be employed from any kind of mountainous water source, like river streams.
- ocean focused solutions perhaps. we have little land but we have a looooot of ocean
- Scott: source for summary of pumped mass storage above:
<https://bigthink.com/surprising-science/scientists-use-mountains-gravity-store-energy>
- Iron Fertilization - despite a fair amount of research, there are significant questions needing modeling and field trials.
- Forest - CEO, Native Hawaiian Fund?
 - 2.5 megawatt, electric water heaters into energy storage devices
 - Deploy 3K water heaters, able to deploy 900
 - Not enough utility programs
 - 15% are off-line; people turning off breaker to save \$
 - Keep at the forefront the situations/struggles of the kama'aina
 - Really powerful to hear this Forest. We have to stop designing for the generic customers and realize certain of our customers need special support.
 - forest@shiftedenergy.com
- <http://www.shiftedenergy.com/hawaii/>
- Agree completely with decentralized network of micro, pico and nanogrids and decent gen and storage
-
-

Resources/Links

- [Declaration](#)
- [Huliau Action Agenda](#)
- [Online Sessions and Proposal Sketch Submission](#)
- [‘Āina Aloha Living Library](#)
- Follow along with PPT Slides
 - <https://bit.ly/AAEF-CRE>
- Commenting tool:
 - <http://ainaalohafutures.consider.it/>
- [Network Survey Green Growth Projects](#)

Open Forum

- Emails:
 - jeannettegurung@wocan.org
 - cartercollins@imagineinc.org at Solar Matters
- There's been a lot of people that's been working on this for a long time
- Want to use this opportunity to accelerate this action
- This kind of conversation to help build resilience for our community
- Hawai'i has a lot of mana'o to share that experience with the world; if we can be the model, food security and clean energy, the rest of the world could follow
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Questions and Answers from Chat and Discussions

Question	Answer
Where are the chats saved? (John Barlow)	https://www.ainaalohafutures.com/proposals
What can HI do to solve the problem on the global stage?	
Is there access to funding?	That is what is coming out of Step 4.

Follow-up activities (if needed):

Chat from online session

Aloha Everyone, We will get started around 6:05p to let people log on. You can follow along with the slideshow at:
<https://bit.ly/AAEF-CRE>
 From Celeste Connors to Everyone: 06:03 PM
<https://docs.google.com/spreadsheets/d/1qjPBKzzuhRPQroxP8l2giZNLZybWOBZqm5UatGfleeQ/edit#gid=1325410757>
 From Me to Everyone: 06:06 PM
 Aloha Everyone, We will get started around 6:05p to let people log on. You can follow along with the slideshow at:
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 From Celeste Connors to Everyone: 06:06 PM
https://drive.google.com/file/d/1GfP0i9Bm_WNJQ6vc0mgGRcUl-3FoVXO0/view
 From Me to Everyone: 06:06 PM
 Aloha Everyone, We will get started around 6:05p to let people log on. You can follow along with the slideshow at:
<https://bit.ly/AAEF-CRE>

 From Sheila Buyukacar to Everyone: 06:08 PM

Aloha...excited to be here!

repost in chat please.

From Matthew Uiagalelei to Everyone: 06:09 PM

Thank you, Ulalia.

From Me to Everyone: 06:09 PM

Aloha Everyone, We will get started around 6:05p to let people log on. You can follow along with the slideshow at:

<https://bit.ly/AAEF-CRE>

From jbarlow to Everyone: 06:10 PM

Aloha again- Jon Barlow from Kailua-Kona

From Me to Everyone: 06:11 PM

Aloha John. Mahalo for joining another evening of sessions.

Aloha Everyone, We will get started around 6:05p to let people log on. You can follow along with the slideshow at:

<https://bit.ly/AAEF-CRE>

From Thomas (Tom) Brandt to Everyone: 06:11 PM

Aloha! I just submitted a formal proposal for an idea that has already been discussed in other AAEF conversations this week, and will share in chat box later if this is OK with you. Mahalo!

From Me to Everyone: 06:12 PM

Aloha Everyone, We will get started around 6:05p to let people log on. You can follow along with the slideshow at:

<https://bit.ly/AAEF-CRE>

From kdesilva to Everyone: 06:12 PM

My security shields won't allow access to the slideshow. Is there another way to access the links?

From Me to Everyone: 06:14 PM

<https://docs.google.com/presentation/d/1gWmsljpuUgwSYOdN5AYtI9rkpiuAAC3ExyFpDxjEWHg/edit#slide=id.p>

<https://www.ainaalohafutures.com/proposals>

From Matthew Uiagalelei to Everyone: 06:14 PM

If you go to the proposals page on the website, the "session notes and chat" are next to the Launch Zoom link for the session

From Me to Everyone: 06:14 PM

Aloha Everyone, We will get started around 6:05p to let people log on. You can follow along with the slideshow at:

<https://bit.ly/AAEF-CRE>

From Celeste Connors to Everyone: 06:15 PM

Aloha Everyone!

From Me to Everyone: 06:25 PM

<https://www.ainaalohafutures.com/declaration>

<https://www.ainaalohafutures.com/action-agenda>

Link to follow along with the slide show:

<https://bit.ly/AAEF-CRE>

Proposal Sketch Submission Form

[https://docs.google.com/forms/d/e/1FAIpQLSe5FcXSCMxdomnBu2ESP3stWnrFjt88QbhhzfkZ-vhH6uDAPA/vi
ewform](https://docs.google.com/forms/d/e/1FAIpQLSe5FcXSCMxdomnBu2ESP3stWnrFjt88QbhhzfkZ-vhH6uDAPA/vi
ewform)

Commenting tool:

<http://ainaalohafutures.consider.it/>

From Amanda Ellis to Everyone: 06:26 PM

Wonderful initiative mahalo!

From Gregory Chun to Everyone: 06:28 PM

Greg Chun, UH Hilo

From roger to Everyone: 06:28 PM

Roger Jellinek, Kahalu'u, gin & tonic

From scoleman34 to Everyone: 06:28 PM

Stuart Coleman, Honolulu, Dark 'N Stormy

From Daniel Ito to Me: (Privately) 06:28 PM

Daniel Ikaika Ito calling from Kaimuki and Maui Brew Bikini Blonde

From Austin Barnes (he/him/his) to Everyone: 06:28 PM

Austin Barnes, calling from 'Āiea, currently drinking a juicy hazy IPA

From Forest to Everyone: 06:28 PM

Forest Frizzell, Waimanalo Oahu, Old Fashioned

From Elizabeth Benyshek to Everyone: 06:28 PM

Elizabeth calling in from Kaimuki with red wine

From Amanda Ellis to Everyone: 06:28 PM

Amanda from Aotearoa NZ, now Manoa. Pina colada!

From Jeannette Gurung to Everyone: 06:28 PM

Aloha, Jeannette Gurung from Kona. Lilikoi and vodka

From Thomas (Tom) Brandt to Everyone: 06:28 PM

Thomas Brandt, Honolulu, Amaretto and soda

From Ikaika Hussey to Everyone: 06:28 PM

Ikaika Hussey, Kalihi Valley, cold awa!

From Celeste Connors to Everyone: 06:28 PM

Celeste, Maunawili, cosmo

From Scott Glenn to Everyone: 06:28 PM

Scott Glenn, Chinatown, Fresh Squeezed!
From Me to Everyone: 06:28 PM
Ulalia Woodside. Waimanalo. On a hot evening I'll take a nice cider
From Noe Noe Wong-Wilson to Everyone: 06:28 PM
Noe Noe from Kaiwiki, Hilo
From tawnkeeney to Everyone: 06:28 PM
Tawn Keeney from Honokaa OJ will do
From Carter Collins to Everyone: 06:28 PM
Carter Collins here in Hawi.double ice water
From Lauren Esaki-Kua to Everyone: 06:28 PM
Lauren Esaki-Kua, Menlo Park, old fashioned
From Gregory Chun to Everyone: 06:28 PM
Greg Chun, UH Hilo. Calling from, Kailua O'ahu. Pinot Noir.
From Kalani's iPhone to Everyone: 06:29 PM
Kalani Kaanaana, Keolu, O'ahu, a whiskey neat!
From Matthew Uiagalelei to Everyone: 06:29 PM
Matthew, Honolulu, bourbon
From brideynewman to Everyone: 06:29 PM
Aloha. I'm Bridey Newman, San Francisco assistant to Carter Collins of Solar Matters. Nothing like a good Sauvignon Blanc on a summer night.
From scott seu to Everyone: 06:29 PM
Scott Seu, with Hawaiian Electric, calling from my yellow home office, whiskey on a single big ice cube...but drinking water right now :(
From kdesilva to Everyone: 06:29 PM
Ka'iulani de Silva, Manoa, O'ahu, pure water!
From Johanie Rivera-Zayas to Everyone: 06:29 PM
Johanie Rivera-Zayas, UH Manoa
From Ben Sullivan to Everyone: 06:29 PM
Ben Sullivan Lihue Kauai coconut porter
From Kanoe Wilson to Everyone: 06:29 PM
Kanoe Wilson, Waikahekahe, Puna, Long Board :-)
From Daniel Ito to Everyone: 06:29 PM
Daniel Ikaika Ito calling from Kaimuki and Maui Brew Bikini Blonde
From Mira to Everyone: 06:29 PM
Soo Sun (screen says Mira), back of Palolo, boricha (iced barley tea)
From jbarlow to Everyone: 06:29 PM
Jon Barlow dba Power Alternative, from Kailua-Kona kina took liking to Skrewball a peanutbutter whiskry
From awilhelm to Everyone: 06:30 PM
Aulani, Maunalua, tequila straight up when talking climate

From Noe Noe Wong-Wilson to Everyone: 06:30 PM

Noe Noe - Scotch

From Chip Fletcher to Everyone: 06:30 PM

chip, kailua, "Dark 'n Stormy"

From bcrabbe to Everyone: 06:30 PM

Brandi Crabbe, Waipahu, anything cold!

From Me to Everyone: 06:31 PM

Aloha Brandi! So nice to have you join us tonight

From Amanda Ellis to Everyone: 06:32 PM

being prepared to deal w the inevitable crises linked to warming planet

From Me to Everyone: 06:32 PM

climate resilience = natural resources able to rebound from climate events

From roger to Everyone: 06:33 PM

Successful adaptation.

From Jeannette Gurung to Everyone: 06:33 PM

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From jbarlow to Everyone: 06:33 PM

global society's survival!!

From brideynewman to Everyone: 06:33 PM

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From Me to Everyone: 06:33 PM

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From bcrabbe to Everyone: 06:33 PM

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From tawnkeeney to Everyone: 06:33 PM

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Getting rid of the \$5trillion in annual fossil fuel subsidies and put it into renewables!~

From scoleman34 to Everyone: 06:35 PM

Amen, Amanda! This is the year to do it!

From Amanda Ellis to Everyone: 06:35 PM

YES! but the US just gave 0.7 trillion to fossil fuel bail outs.....eeek!

From Gregory Chun to Everyone: 06:36 PM

Our willingness to examine and change our values.

From Amanda Ellis to Everyone: 06:36 PM

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From bcrabbe to Me: (Privately) 06:36 PM

Aloha Ulalia! Just got home and am multi-tasking but excited to see where this discussion goes. :)

From Chip Fletcher to Everyone: 06:36 PM

stove-piped agencies

From Thomas (Tom) Brandt to Everyone: 06:36 PM

HECO

From Lauren Esaki-Kua to Everyone: 06:36 PM

reliance on non-renewable energy

From Austin Barnes (he/him/his) to Everyone: 06:36 PM

Systemic racism

From Jeannette Gurung to Everyone: 06:36 PM

Dept of Planning

From scott seu to Everyone: 06:36 PM

Social inequity, fossil fuels, what's in it for me mentality

From tawnkeeney to Everyone: 06:37 PM

Understanding the magnitude of the challenge

From kdesilva to Everyone: 06:37 PM

Conflicting government policies and priorities.... short term thinking and planning

From Carter Collins to Everyone: 06:37 PM

It will be expensive and needs to be an effort from all of us.

From scoleman34 to Everyone: 06:37 PM

We have to overturn Citizens United and get the corporate lobbyists out of the decision-making process.

From Chip Fletcher to Everyone: 06:37 PM

limited food and energy choices

From Forest to Everyone: 06:37 PM

Status quo. Further on that thought, equity is never part of the conversation.

From jbarlow to Everyone: 06:37 PM

applying clean, green tech and environmental practices

From Jeannette Gurung to Everyone: 06:37 PM

inequity, not understanding the roles of all stakeholders in this

From brideynewman to Everyone: 06:37 PM

Entrenched structures, social inequity, difficulty in steering a large ship

From Kalani's iPhone to Everyone: 06:37 PM

sometimes I think it's as simple as the task before us is so daunting that people don't know where to start and it makes it a non starter

From Chip Fletcher to Everyone: 06:37 PM

a feeling that we, as individuals, are powerless in the face of a global problem.

From roger to Everyone: 06:38 PM

Political will.

From Ben Sullivan to Everyone: 06:38 PM

not a specific sector based solution (in our highly specialized society)

From Kalani's iPhone to Everyone: 06:38 PM

@Chip ditto!

From scott seu to Everyone: 06:38 PM

Sandcrabs in the bucket

From bcrabbe to Everyone: 06:38 PM

agreed, celeste!

From Chip Fletcher to Everyone: 06:38 PM

leadership that "gets" the house on fire and has the backbone to make the right choices.

From Forest to Everyone: 06:38 PM

I also think climate resilience is almost always White centric visions of renewable energy.

From Amanda Ellis to Everyone: 06:39 PM

Amen Chip!

From Chip Fletcher to Everyone: 06:39 PM

courageous leadership

From Austin Barnes (he/him/his) to Everyone: 06:39 PM

privileged apathy

From brideynewman to Everyone: 06:39 PM

Long term plans based on short term profit

From Ben Sullivan to Everyone: 06:39 PM

but the good news - a majority of us knows it's time to act and so maybe just need to coordinate our voices better?

From Chip Fletcher to Everyone: 06:40 PM

@Austin Word!

From Me to Everyone: 06:43 PM

Here is the Consider It link:

<http://ainaalohafutures.consider.it>

From Noelani Kalipi to Everyone: 06:44 PM

Got it

From Lauren Esaki-Kua to Everyone: 06:44 PM

got it

From brideynewman to Everyone: 06:44 PM

Got it

From Amanda Ellis to Everyone: 06:44 PM

got it

From Johanie Rivera-Zayas to Everyone: 06:44 PM

Got it

From tawnkeeney to Everyone: 06:44 PM

Got it

From Ben Sullivan to Everyone: 06:44 PM

all good

From Elizabeth Benyshek to Everyone: 06:44 PM

Got it

From Daniel Ito to Everyone: 06:44 PM

On

From Me to Everyone: 06:45 PM

Link again if needed:

<http://ainaalohafutures.consider.it>

From jbarlow to Everyone: 06:45 PM

got but won't let me put opinion!?

From Me to jbarlow: (Privately) 06:46 PM

Hi John. Maybe you need to try log out and in again? Or it might be a little lag time

From Dr. Kamanamaikalani Beamer to Everyone: 06:46 PM

awesome work Aulani & Ulalia mā!

From Chip Fletcher to Everyone: 06:46 PM

these are all great - someone run on these as a platform!

From Me to Everyone: 06:48 PM

Proposal link for community based clean energy process

<http://ainaalohafutures.consider.it>

From Dr. Kamanamaikalani Beamer to Everyone: 06:49 PM

create policy requiring power companies to purchase back power from individuals and communities. no more keeping people from tying into the grid

From Thomas (Tom) Brandt to Everyone: 06:50 PM

First proposal in list is mine, so details can be found in the proposal. But I will also post more detail and sources in "considerations" under my proposal asap. There are already nearly 2000 nonprofit utilities in the US, including Kauai Island Utility Coop

From Ben Sullivan to Everyone: 06:50 PM

which one are you on now? Cannot see the question

From Thomas (Tom) Brandt to Everyone: 06:50 PM

Carbon tax is being studied on state level, and may be reconsidered by legislature next session.

From jbarlow to Everyone: 06:50 PM

Been at this for 35 yrs

From Lauren Esaki-Kua to Everyone: 06:52 PM

I can speak to this more if needed

From Thomas (Tom) Brandt to Everyone: 06:52 PM

On fed level in recent years, carbon tax has been proposed to fund universal basic income--by Republicans! ;)

From Me to Everyone: 06:53 PM

<https://ainaalohafutures.consider.it/should-we-support-a-proposal-to-broaden-the-sustainable-building-industry-while-expanding-employment-options-for-kamaaina-climate-resilience-and-energy?results=true>

Long link to the Consider it: Should we support a proposal to broaden the sustainable building industry while expanding employment options for kamaaina?

From Celeste Connors to Everyone: 06:53 PM

Buildings and their construction together account for 36 percent of global energy use and 39 percent of energy-related carbon dioxide emissions annually, according to the United Nations Environment Program. (UNEP)

From Me to Everyone: 06:54 PM

<https://ainaahafutures.consider.it/should-we-support-a-proposal-to-broaden-the-sustainable-building-in-dustry-while-expanding-employment-options-for-kamaaina-climate-resilience-and-energy?results=true>

From Thomas (Tom) Brandt to Everyone: 06:55 PM

Construction industry may be unrecognizable soon, due to tech advances in construction techniques, such as 3D printing--which will require less labor, but can VASTLY reduce local housing costs. I will share links asap, and they can also be found in comments in the Affordable Housing section of considerate.

From Jeannette Gurung to Everyone: 06:56 PM

It's a great proposal, but I believe this will also require some activities to influence the Planning and Building depts, that currently make green building difficult. I have had recent experience in trying to do so, here in Hawai'i County.

From scott seu to Everyone: 06:56 PM

Energy efficiency needs to be boosted way more in focus from policy and action. So much more can be done. Efficiency in building makes a lot of sense.

From Ben Sullivan to Everyone: 06:57 PM

resistance has been from building industry as much as gov't...like anything we need more public dialog & support to move forward

From Scott Glenn to Everyone: 06:57 PM

Seattle built one building like this:

<https://bullittcenter.org/>

From Amanda Ellis to Everyone: 06:57 PM

Carbon Lighthouse won an EE grant on this recently

From Scott Glenn to Everyone: 06:57 PM

<https://living-future.org/lbc/>

From Me to awilhelm: (Privately) 06:59 PM

Hi Aulani, let's put up the Consider It so people can see the voting and pros and cons

From Ben Sullivan to Everyone: 07:00 PM

there was a good amount of LEED training offered during ARRA if I am not mistaken

Agree with Scott's point that we need good examples in Hawaii - I volunteer :)

From Austin Barnes (he/him/his) to Everyone: 07:00 PM

Carbon Lighthouse has what sounds like a great business model - but they were started on the mainland and not necessarily hiring many kama'āina but bringing in people from the mainland (not entirely)

From Lauren Esaki-Kua to Everyone: 07:01 PM

Yeah, they also focus on commercial buildings from what I understand (carbon lighthouse)

From Scott Glenn to Everyone: 07:01 PM

Yes, Amanda, that building is a beautiful example too

From Ben Sullivan to Everyone: 07:03 PM

4 counties and thers were supporting a benchmarking bill before leg got disrupted :)

From Lauren Esaki-Kua to Everyone: 07:03 PM

@Ben that's encouraging!

From Austin Barnes (he/him/his) to Everyone: 07:04 PM

You might have to refresh to see all the new pros/cons

From Thomas (Tom) Brandt to Everyone: 07:06 PM

Re more highly automated 3D printed housing construction: Should this be the future of truly affordable housing and manufacturing in Hawaii? "3D Printing Everything: Ultra-Cheap, Zero-Waste Products Are Coming",_- "The construction industry will be unrecognizable in just a few years."

Excerpt: "In 2014, the Chinese company WinSun successfully 3D-printed 10 single-family homes in under 24 hours, each costing less than \$5000.

"A few months later, WinSun printed a 5-story apartment complex in one weekend. In 2017, a different Chinese company combined 3D printing with modular construction to erect a 57-story skyscraper in 19 days. "This year (2019), New Story is starting construction of the world's first 3D-printed community—100 homes to be given or sold (using no interest, micro-repayment loans available to anyone) to people who are currently homeless."

<https://singularityhub.com/2019/10/04/3d-printing-everything-ultra-cheap-zero-waste-products-are-coming>

From Me to Everyone: 07:08 PM

Next proposal for review:

<https://ainaahafutures.consider.it/should-we-support-a-proposal-to-broaden-the-sustainable-building-industry-while-expanding-employment-options-for-kamaaina-climate-resilience-and-energy?results=true>

Should we support a proposal to build self-sufficiency, sustainability and climate resilience through support to women farmers and entrepreneurs?

<https://ainaahafutures.consider.it/should-we-support-a-proposal-to-broaden-the-sustainable-building-industry-while-expanding-employment-options-for-kamaaina-climate-resilience-and-energy?results=true>

<https://drive.google.com/file/d/1Xbj2bWSjPoo-uVSFWHHFLSIQTxgoQwSC/view>

Read the Proposal Here:

<https://drive.google.com/file/d/1Xbj2bWSjPoo-uVSFWHHFLSIQTxgoQwSC/view>

From Chip Fletcher to Everyone: 07:09 PM

Ag can sequester also!

Regenerative Agriculture

From Thomas (Tom) Brandt to Everyone: 07:09 PM

While regen ag can help sequester carbon, even if HI reached zero carbon emissions, I think it would be drop in global bucket. So cost-effective local ag self reliance should be our highest local priority IMO.

From Celeste Connors to Everyone: 07:10 PM

Agriculture also contributes a significant share of the greenhouse gas emissions that cause climate change – 17% directly through agricultural activities and an additional 7-14% through land use changes. ... The changing climate is also adding to resource problems, such as water scarcity, pollution and soil degradation. (OECD)

From Austin Barnes (he/him/his) to Everyone: 07:11 PM

@ Tom But we can be a demonstration site for success that could be replicated elsewhere

Sorry also agree with your point about self-reliance

From Chip Fletcher to Everyone: 07:11 PM

If every acre of Ag pushed their C-content from the 1% avg. today back to 3% carbon as a natural soil, we could pull out the CO2 we have released within 50 yrs.

From Thomas (Tom) Brandt to Everyone: 07:11 PM

I agree with your intent Austin, but even Henry Curtis thinks too many people focus on setting an example for rest of world.

From Elizabeth Benyshek to Everyone: 07:11 PM

Biochar!

From Ben Sullivan to Everyone: 07:11 PM

I think the global analysis on big ag (efficient/scale) as lower energy than local ag (less efficient in energy due to scale) undersells local ag in terms of resilience benefits, especially for islands.

From Chip Fletcher to Everyone: 07:11 PM

cover crops, no-till, no pesticides or fertilizers.

From Johanie Rivera-Zayas to Everyone: 07:11 PM

Supporting local Ag, and climate ready Ag practices benefits our community nutritional food security, local economy, increase C sequestration, and reduce GHG emissions from imports

From Thomas (Tom) Brandt to Everyone: 07:11 PM

While that is noble, and perhaps helpful in motivating local efforts, it should not be primary motivator, IMO.

From Chip Fletcher to Everyone: 07:12 PM

Then there are food choices. most of the habitat destruction that has led to the rise of infectious zoonotic disease (COVID) is to grow soy and corn to feed pork, beef, and poultry

From Amanda Ellis to Everyone: 07:12 PM

awesome win/win/win - community resilience and equity so important

From Lauren Esaki-Kua to Everyone: 07:13 PM

I would agree in general with Tom's sentiments.

From Thomas (Tom) Brandt to Everyone: 07:13 PM

Most energy and water efficient form of local food production could be soil-free "vertical" agriculture IMO.

From scott seu to Everyone: 07:14 PM

Issue coming up more frequently as we pursue 100% renewable energy is that large scale renewables encroaching more and more on ag land. Ag sector rightly concerned about threats to prime ag land...need to harmonize policy. renewable energy needs to maximize rooftops but will still have large scale renewables. vertical ag could be attractive

From Chip Fletcher to Everyone: 07:15 PM

warehouse Ag - Dutch model

From Lauren Esaki-Kua to Everyone: 07:15 PM

Agroforestry efforts may be a viable option. Noa Lincoln I think has more knowledge on this field.

From Daniel Ito to Everyone: 07:16 PM

Noa Lincoln is the MAN!

From Lauren Esaki-Kua to Everyone: 07:16 PM

No, just a name I've associated with agroforestry

From scoleman34 to Everyone: 07:16 PM

There is exciting new sanitation technology that can use pyrolysis to turn human waste into biochar, which is a great carbon sink and soil amendment.

From Daniel Ito to Everyone: 07:16 PM

Class of '99 Kamehameha!

From scott seu to Everyone: 07:17 PM

I mua!

From Amanda Ellis to Everyone: 07:17 PM

re AG land for renewables we should use existing buildings instead - like all those DOE school buildings!

From Chip Fletcher to Everyone: 07:17 PM

Crushed basalt spread on fields pulls carbon out of the air and into the soil.

From Austin Barnes (he/him/his) to Everyone: 07:17 PM

The communities often (always?) being asked to sacrifice ag or other land for renewable energy projects are often ones who have contributed very little to the problem in the first place. We need other communities to sacrifice

From Thomas (Tom) Brandt to Everyone: 07:17 PM

I agree, optimal mix likely to be traditional indigenous hunting, gathering, and fish ponds--if can be protected from sea level rise--as well as organic regenerative permaculture, and various forms and scales of vertical ag, ranging from for profit to community based non profit and neighborhood and household DIY local subsistence/self reliance.

From Amanda Ellis to Everyone: 07:18 PM

amen Austin

From Chip Fletcher to Everyone: 07:18 PM

No GET on local food.

From scoleman34 to Everyone: 07:19 PM

Yes, agree, Chip!

From Me to Everyone: 07:19 PM

Second Chip's!

Can we make that a proposal? No GET on local food

From Chip Fletcher to Everyone: 07:19 PM

There is more profit in farming exportable crops than food.

From Forest to Everyone: 07:19 PM

I think this weaves with the previous proposal. Incentives for local companies, startups, farmers to hit our energy and agricultural goals. Build capacity internally. Speed up our targets with local/women/kanaka

owned business.

From Thomas (Tom) Brandt to Everyone: 07:20 PM

I used to run a biz incentive program for DBEDT, and local ag producers for local markets have to pay GET whereas local ag producers who export do not pay GET. So need to level the GET playing field.

From scoleman34 to Everyone: 07:20 PM

Agree, Forest!

From Johanie Rivera-Zayas to Everyone: 07:20 PM

Yes!

From Mira to Everyone: 07:21 PM

As a prospective woman farmer, incentives would be great! In theory HI supports Agroforestry, but it is very difficult to discern allowable agroforestry land usage from the Hawaii land classifications listed online.

From Chip Fletcher to Everyone: 07:22 PM

Recent papers identify large regions of tropics on the continents becoming unlivable over next 50 yrs... and it has already begun. each 1C additional warming displaces 1b people. This will disrupt global security and global trade.... Hawaii must be able to feed itself to thrive thru this period.

From Amanda Ellis to Everyone: 07:22 PM

Are you working with Albie Miles and Kamuela on their Ike Ai program?

From Thomas (Tom) Brandt to Everyone: 07:23 PM

I also used to work for USDA, and there at least used to be preferences for female and minority farmers.

From Amanda Ellis to Everyone: 07:24 PM

Purchasing solar for DOE schools would be a great start Scott!!

From Chip Fletcher to Everyone: 07:24 PM

Use RCUH

From Ben Sullivan to Everyone: 07:24 PM

Appreciate Scott's candor on the challenges of CARES. Spent - and done so within procurement :)

From Amanda Ellis to Everyone: 07:25 PM

Ben and Scott can we get you some volunteer help on federal procurement to move it through? have some contacts that could be helpful

From Me to Everyone: 07:25 PM

Mahalo nui Scott for sharing about what is going on.

From Chip Fletcher to Everyone: 07:25 PM

Provide govt incentives for soil C carbon content

From Jeannette Gurung to Everyone: 07:25 PM

We will start our project with a baseline study,

From Thomas (Tom) Brandt to Everyone: 07:26 PM

Chip, I agree that at present local food producers for local markets need to be subsidized, either by local consumers and/or local taxpayers, to compete with ARTIFICIALLY (subsidized) imported food. But I think there are current and emerging ways to level that playing field as well.

From Me to Everyone: 07:27 PM

Should we support a proposal to build a community-owned electric grid in the form of a 63-mi solar gathering pedestrian bikeway from Kapaau-Kailua Kona?

<https://ainaalohafutures.consider.it/should-we-support-a-proposal-to-build-a-community-owned-electric-grid-in-the-form-of-a-63-mi-solar-gathering-pedestrian-bikeway-from-kapaau-kailua-kona-climate-resilience-and-energy?results=true>

If you want to dig into the proposal here it is:

<https://drive.google.com/file/d/12kT1DWHnluNfSJvQkeTkAX8OhbnqeoCt/view>

From Thomas (Tom) Brandt to Everyone: 07:28 PM

All in favor of cost-effective community-based non profit microgrids and even peer to peer electricity sharing without the need for HECO as middleman or grid provider.

From Carter Collins to Everyone: 07:28 PM

We are here

Yes

From Thomas (Tom) Brandt to Everyone: 07:28 PM

In fact, I think we should subsidize all electricity customers who cannot afford to go off-grid to go off-grid asap.

From Lauren Esaki-Kua to Everyone: 07:29 PM

I like the idea of integrating solar roads -- the specific tech would need to be further investigated. I think Wattway is extremely expensive.

From Ben Sullivan to Everyone: 07:30 PM

@Thom - respectfully disagree. The grid is an amazing way to provide access to electricity to all in an equitable way. Off grid is very intensive and would be very difficult for 1/2 of the population to pay for

From Chip Fletcher to Everyone: 07:30 PM

Solar roads aren't working out so well.

<https://www.greentechmedia.com/articles/read/solar-roadways-are-expensive-and-inefficient>

From Thomas (Tom) Brandt to Everyone: 07:31 PM

Ben, I agree with you--at present. But based on my understanding of current and emerging decentralized gen cap, T&D, and storage, I think a centralized "grid-free" future is both tech feasible and desirable, IMO.

From Ben Sullivan to Everyone: 07:32 PM

mahalo Aulani! Look forward to changing my opinion with more info

From Chip Fletcher to Everyone: 07:32 PM

Do you, or Scott know Bidens platform on transport?

From Thomas (Tom) Brandt to Everyone: 07:32 PM

Oops! Make that DEcentralized grid free future :)

From Forest to Everyone: 07:33 PM

Building co-working spaces in rural locations. CV-19 has proven we don't all need to be in an office every day. But, rural and lower socio-economic communities are on the outside looking in

From jbarlow to Everyone: 07:33 PM

r

From Ben Sullivan to Everyone: 07:34 PM

love the open streets effort in Waikiki!

IT is the right thinking to open our streets to other uses beyond typical car dominance :)

From Lauren Esaki-Kua to Everyone: 07:34 PM

Micro-grids and decentralization could become increasingly valuable for community resilience at the more local level, especially if there are more disruptions from climate induced weather events?

From Chip Fletcher to Everyone: 07:34 PM

Biden wants to put \$1 billion a year into a grant program to help cities transition to automated vehicles.

From Ben Sullivan to Everyone: 07:35 PM

Oh and even though it is only a small part - e-bikes could be a HUGE and very equitable, and FUN solution

From Me to Everyone: 07:35 PM

One more proposal:

Should we support a proposal to create a Pongamia Farm/Cattle Ranch to remediate old sugar plantation soil, produce local beef, and a bio fuel jet fuel?

<https://ainaalohafutures.consider.it/should-we-support-a-proposal-to-create-a-pongamia-farmcattle-ranch-to-remediate-old-sugar-plantation-soil-produce-local-beef-and-a-bio-fuel-jet-fuel-climate-resilience-and-energy?results=true>

From Carter Collins to Everyone: 07:36 PM

I have logged off and back on. I am sorry we can not figure out what the problem is.

From Me to Everyone: 07:37 PM

If you want to dig into the proposal the proposal here is the sketch:

<https://drive.google.com/file/d/12Y2WomzdwqUIEvTkG8VLKjUxpKpDklc/view>

From jbarlow to Everyone: 07:39 PM

yeah, Ms Woodsude: I have proposal here too. that's why I'm here.

If anyone would like to read up on my brochure, pat.pending, letter of support NELHA. can download from:

<https://www.linkedin.com/in/jon-barlow-087b5018/>

From Lauren Esaki-Kua to Everyone: 07:41 PM

Does that mean the pongamia stands would eventually be phased out once soil is remediated?

From Chip Fletcher to Everyone: 07:41 PM

Cool ideas. But instead of biofuel, prefer to see jet fuel made by direct air capture of CO2 from the atmosphere using Climworks or CarbonEng plant powered by wave or geothermal.

From Scott Glenn to Everyone: 07:41 PM

seems like invasiveness risk is mitigatable

<https://www.hnei.hawaii.edu/sites/www.hnei.hawaii.edu/files/Observational%20Field%20Assessment%20of%20Invasiveness%20of%20Pongamia.pdf>

From Thomas (Tom) Brandt to Everyone: 07:42 PM

Can existing jet engines burn biofuel without modification? Also like the idea of majority local ownership.

Scott Seu: are you familiar with pumped mass storage, similar to pumped hydro?

From Ben Sullivan to Everyone: 07:42 PM

okay that was funny y'all...Celeste: "Chip, does that exist?"

From scott seu to Everyone: 07:42 PM

Truly sustainable biofuel would be hugely valuable. Many past biofuel ventures have not proven to be a net benefit for the environment, with the exception perhaps of Pacific Biodiesel turning waste cooking fats into fuel.

From Amanda Ellis to Everyone: 07:43 PM

Lanzatech funded by NZer Stephen Tindall has done successful run on biofuel w both Virgin and united

From scott seu to Everyone: 07:43 PM

Tom: I'm familiar with pumped storage hydro. Not sure about pumped mass storage.

From Daniel Ito to Everyone: 07:43 PM

UH has done the research on Pongamia and does not classify it as an invasive

From Lauren Esaki-Kua to Everyone: 07:44 PM

how does the nitrogen fixing nature of pongamia interplay with the effects of cattle on soil physical and chemical properties?

From Daniel Ito to Everyone: 07:45 PM

@Lauren did not have the opportunity to do that research yet

Great questions though, Lauren! Mahalo

From Thomas (Tom) Brandt to Everyone: 07:47 PM

Re converting HECO to local nonprofit ownership, one possible way that could be used in combo with other debt and equity financing, IMO. "Tax incentives are proposed to provide shareholders a bigger, quicker less risky short term profit in return for transferring their property rights to local stakeholders over 20 years."

https://www.academia.edu/30782591/The_Case_for_Introducing_Stakeholder_Corporations?fbclid=IwAR11Udnztajy5RacrD5jyfRiqX4LWnIBSgBb42LZQXonpQ50Jo5vx2G5Jw4

From Chip Fletcher to Everyone: 07:47 PM

Q - all of these wonderful proposals are inward looking to a large extent. What can HI do to solve the problem on the global stage?

From Ben Sullivan to Everyone: 07:47 PM

really think carbon pricing is a hugely important policy and would be a great one to focus on here and elsewhere. Tough to implement at a State level but not impossible. We will need a LOT of money for resilience efforts of all types and carbon \$ is a great tool to consider. County of Kauai supports this via our General Plan

From Thomas (Tom) Brandt to Everyone: 07:47 PM

Chip: Not much at all, IMO

From Austin Barnes (he/him/his) to Everyone: 07:49 PM

@Chip ocean focused solutions perhaps. we have little land but we have a looooot of ocean

From Thomas (Tom) Brandt to Everyone: 07:49 PM

"Mountain Gravity Energy Storage (or MGES) employs cranes on the edge of a steep mountain to move sand (or gravel) from the bottom to a site at the top, storing potential energy. Electricity is generated when the

sand is lowered back from the upper site.

Where would be the ideal places to install such a system? The scientists use Molokai Island in Hawaii as an example, outlining how all of the island's energy needs can be met with wind, solar, batteries and their MGES setup.

The researchers are thinking of locations with high mountains, like the Himalayas, Alps, and Rocky Mountains or islands like Hawaii, Cape Verde, Madeira, and the Pacific Islands that have mountainous terrains.

How much energy is created? The system takes advantage of gravity, with the energy output being proportional to the sand's mass, gravity and the height of the mountain. Some energy would be lost due in the loading and unloading process. Hydropower can also be employed from any kind of mountainous water source, like river streams.

From Chip Fletcher to Everyone: 07:49 PM

@Austin Iron fertilization!

From Austin Barnes (he/him/his) to Everyone: 07:50 PM

+1

From Thomas (Tom) Brandt to Everyone: 07:50 PM

Scott: source for summary of pumped mass storage above:

<https://bigthink.com/surprising-science/scientists-use-mountains-gravity-store-energy>

From Daniel Ito to Everyone: 07:50 PM

I agree with Matthew and Johanie regarding the “entrepreneurial side” of farming like how to scale their business to meet the demands of larger local businesses like Zippy’s.

From Chip Fletcher to Everyone: 07:50 PM

Iron Fertilization - despite a fair amount of research, there are significant questions needing modeling and field trials.

From Forest to Me: (Privately) 07:50 PM

If can I'd like share something

From scott seu to Everyone: 07:51 PM

Got it Tom. Will take a look at it. Thanks.

From Celeste Connors to Everyone: 07:52 PM

@Forest, please add a link to this project in the chat when you can.

From Scott Glenn to Everyone: 07:52 PM

<http://www.shiftedenergy.com/hawaii/>

From Ben Sullivan to Everyone: 07:53 PM

@Forest mahalo for your work and for your point about how much people are struggling

From Forest to Everyone: 07:54 PM

forest@shiftedenergy.com

From Daniel Ito to Everyone: 07:54 PM

@Forest need more mentors like you for farmers. Mahalo!

From scott seu to Everyone: 07:54 PM

Really powerful to hear this Forest. We have to stop designing for the generic customers and realize certain of our customers need special support.

From Jeannette Gurung to Everyone: 07:54 PM

Would love to connect with anyone: jeannettegurung@wocan.org

From Carter Collins to Everyone: 07:54 PM

cartercollins@imagineinc.org at Solar Matters

From Amanda Ellis to Everyone: 07:55 PM

Very powerful process mahalo!

From Thomas (Tom) Brandt to Everyone: 07:55 PM

Lauren: Agree completely with decentralized network of micro, pico and nanogrids and decent gen and storage

From Chip Fletcher to Everyone: 07:56 PM

Ulalia, Aulani, Celeste - you guys have been awesome. Mahalo nui!

From kdesilva to Everyone: 07:56 PM

Ditto!!

From Maria Tome to Everyone: 07:56 PM

Yes, thank you! Excellent platform, discussion, and ideas! Hope you have a good weekend. You've REALLY earned it!

From Jeannette Gurung to Everyone: 07:56 PM

absolutely! Mahalo nui.

From scott seu to Everyone: 07:57 PM

Always so valuable to hear the diversity of thought and opinion and ideas. Mahalo!

From Thomas (Tom) Brandt to Everyone: 07:57 PM

Can u make it easy to copy and paste comments from here to consider.it?

From Celeste Connors to Everyone: 07:57 PM

<https://docs.google.com/spreadsheets/d/1qjPBKzzuhRPQroxP8l2giZNLZybWOBZqm5UatGfleeQ/edit#gid=1325410757>

From Austin Barnes (he/him/his) to Everyone: 07:57 PM

Agreed, mahalo nui Ulalia, Aulani, Celeste this has been the best one of these I've had

From Scott Glenn to Everyone: 07:58 PM

Thank you guys, this is a really exciting effort

"shovel-worthy" > shovel-ready

From Noe Noe Wong-Wilson to Everyone: 07:58 PM

Mahalo Aulani, Celeste, Ulalia and Kanoe. Great job tonight.

From jbarlow to Everyone: 07:59 PM

ms. Woodside, plz no forget instruct how to get to saved chats

From Lauren Esaki-Kua to Everyone: 07:59 PM

Mahalo for a great discussion and all of the knowledge shared.

From Ben Sullivan to Everyone: 08:01 PM

Aloha from Lihue - have a great weekend! Mahalo all for sharing - this was very informative and useful.
anyone can save the chat (3 dots at bottom "save chat")

From Me to Forest: (Privately) 08:02 PM

<https://www.ainaalohafutures.com/proposals>

From Kanoe Wilson to Everyone: 08:02 PM

Living Library

https://docs.google.com/document/d/1516a_GntV0dMCc456UgRLhaJvQIDy4fvFHfNeXHDnt0/edit?usp=sharing

From jbarlow to Everyone: 08:04 PM

aloha mahalo; is there access to funding?

From Forest to Me: (Privately) 08:05 PM

Mahalo kakou

From Forest to Everyone: 08:05 PM

Mahalo kakou

From Celeste Connors to Everyone: 08:05 PM

Mahalo everyone. Enjoy your drinks :-)

From jbarlow to Everyone: 08:06 PM

k, cause i'm getting old

From Kanoe Wilson to Everyone: 08:06 PM

<https://docs.google.com/document/d/1LvDUAkz8MAarMeFzaUzr8YoPBB8cDPzziVGdUCvK-MM/edit?usp=sharing>