SESSION TWO: FOOD, ENERGY, AND WATER AS RESOURCES IN THE FEW NEXUS

ENERGY
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Presenter to report to Plenary:
List of Participants:

FROM HOMEWORK

Challenges
- High/unstable cost of energy
- Limited infrastructure
- Shift from demand driven to supply driven
- Resource development compromises other issues
- Impatation/reliance on Outside
- Political Issues

Goals
- Affordable/local sustainable energy
- Increase efficiency
- Maximize renewables

DISCUSSION

Priorities
1. Energy efficiency before production

Categories
- Education, Workforce Development, and (Technology)
    - (technology) Should this be a separate category
- Regulations/Policies
    - Drive positive behavior changes
        - Ex. PCE does not drive conservation
- Energy Security
- Cultural views

    - Integrate system into communities understand cultural needs, desires
- How do we value energy?
    - $$
    - Comparisons to other technologies

Additional Notes from Dayne

Challenge: Decarbonize energy production

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We struggle with valuing the local input and adding it -- economic models.

Subsidy subsidies
Goal: Upgrade economic model to include ecosystem services.

Cultural integration -

Scaling -/ Modularity / challenge / opportunity to be leader in decentralized system.

Changing resources and changing environment: Future energy solutions might need to be different. Permafrost melting out is challenging installation of wind turbine foundations. Changing weather patterns - sun / cloud cover / storm frequency.

Island communities in alaska face cash (scarce cash resources) leaving their economy for importing food and energy. Import substitution to maximize the local cash resources. Ties into social values of energy production. Woody biomass usage in Tananan keeps X$ in the local community.

Remote and importing of fuel oil. Oil sent out to be refined and then brought back in. Very high cost. Some of these communities are sitting on large oil and coal resources. Carbon footprint of using local resources is less than exporting/importing the fuel.

Local processing - local value -

Hybrid redundant non-monolith production.

Regulations

Creating right incentives for local energy production - stop de-incentivizing.

Are their similar challenges similar with Hawaii and others?

Co-beneficial solutions:
Think about energy to provide benefits - Energy embedded in not just about waste treatment systems.
Get better economic models to pull that stuff out to find good solutions. Need a model that looks more broadly that silo'ed evaluations. How do you lead with that type of thinking broadly at a state level - there are specific communities that are going deep.

Need to get the information accessible who is doing what. Compiling the information that is there and identify where there are gaps. Coming up with a database that helps people identify key datasets needed for the model.

AKEnergy Database: AEA, ACEP, ISER, GINA
AK Affordable Energy Model: AEA, GINA, ISER, GINA, ACEP

Larger Themes:

1. Cultural
2. Valuation - economic, social, ecological
    - Value energy for what it is worth. Picking dollar value on social & ecosystem services components.
3. Security
4. Regulation & Policy
    - Lack of understanding at federal & local state level
5. Technology Needs / Education & W.F. Development
    - Find a way to recognise, acknowledge and then export skills and approaches.

Basic information of energy needs.

Rural Energy Conference -

DOE: RACI Competition - lack of understanding the challenges of local community members to participate in the larger funding/grant opportunities. Expectations for engagement in programs.

Circular: within grid designs - resiliency and security - solar + battery.

Food: fish? Dams & salmon: big obvious challenges. Resource development compromises.

Energy security takes on a new take in islanded communities. Do you have to trade one opportunity for another? Opportunity cost: picking one energy method at cost of going down biomass or other energy source - and potentially compromising food/water sources (fish, dam)