Learning from the Local
An architectural framing of renewable energy infrastructure.

Aarhus School of Architecture
Distributed and Open Production
Denmark
Susan Carruth
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Peter Gall Krogh, Boris Brorman Jensen
Context.
Renewable energy planning is a field dominated by the techno-economic. Such a focus ignores the cultural, civic, aesthetic and social facets of energy.
The project.
This PhD uses research-through-design to explore how an architectural framing can enable more resilient and place-specific renewable energy planning, focusing on west Greenland as a case study.
The design process.
The Research-through-Design focuses on interpreting in depth fieldwork to understand local practices and traditions which can then shape creative design solutions for local renewable energy.
Both bottom up and top down governance of energy is investigated, exploring how national energy policy, and historical physical planning legislation has shaped local settlement patterns. The empirical work suggests ways that energy can enable isolated communities to embed resilience, and help mitigate energy pricing policy inequality.

How the project relates to governance and policymaking: the interplay between top-down and bottom up actions and its implications on governance and planning; the way diverse stakeholders participate in decision making.
Activism and Civic Participation

How the project relates to activism and civic participation: the capacity of individuals, groups and organisations to undertake initiatives and foster change at an higher level; the democratization and openness of the processes.

Rather than focusing on participatory processes during the early design stages, the project looks to develop renewable energy systems that can be adopted and adapted by local communities – an aspect lacking in most national energy systems. By doing so it helps enable less reliance on imports.
Social Interactions and Relations

From larger cities to small settlements, respect for local customs and patterns is an essential facet of making renewable energy sustainable in a broader sense than kilowatts produced. The project studies regional socio-cultural characteristics and extracts key concepts that can underpin instigation and operation.

How the project relates to social interactions and relations: the potential of the initiatives to enhance, collaboration, social cohesion, conviviality, connections and sustainability.
Energy planning is often seen as merely civil engineering, outside the domain of city and landscape planning. The project takes the stance that energy shapes cities, and shapes lives. It builds on architectural competences in physical planning and includes energy in that domain, making energy processes visible and legible.
Production, Distribution and Consumption

As well as increasing the legibility of energy chains, the project works with shortening and domesticating the production-distribution processes of renewable energy, decreasing reliance on imports and building new local resource bases.

How the project relates to production, distribution and consumption: the new production/distribution/consumption chains, the new technologies and the local assets/resources for more sustainable value creation systems.
Skill Training and Design Education

Existing and traditional skillbases, such as hunting and sewing, are appraised and built upon, encouraging opportunities to transfer these knowledge bases and livelihoods into a digital era.
Unemployment is a problem in Greenland, especially in isolated settlements. By taking energy production down to the local scale, the possibility of job creation becomes localised and distributed.

How the project relates to job creation: the potential of the initiatives to create new job opportunities and social orientated business.
Storytelling and Visualisation

A ‘Thick Description’, using words and photographs, is used to describe the fieldwork. A combination of digital sketches, 3D visualisations and diagrams are employed to communicate design ideas at a conceptual level.
www.aarch.dk
www.reform.aarch.dk
susan.carruth@aarch.dk

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