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Catharsis

How to make Renewable Energy Projects acceptable

Realistic Solutions to the Social Unacceptance of Renewable Energy Projects

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Against Renewables

Renewable technologies are **not always welcome nor accepted**.

Why? Barriers in the Market, Politics, Community.

What can we do? Understand the reasons,
Listen to the people,
Adapt their needs,
Educate.



1. Acceptability

Designing a project to be well received by consumers and adopted widely

Accessibility, Eco-design, Marketability

2. Acceptance

The project is widely accepted by the market, the communities, socio-political parties

PIMBY, Standards, Support

A project must be accepted to be **successful**.

How?

- Educating people to the sustainability of renewable energies
- Developing easy-to-use systems for anyone
- Lowering the costs and incentivizing the consumer and the producer



Barriers and Drivers

NIMBY



Information campaign, conferences, public hearings

Lack of Know-How
Market not ready
High costs



Training of skilled workforce, **Research** and Development, Stimulus by the government

Hostile culture



Feedback from local communities and **Adapting** the systems accordingly

Unreliability



Smart grids, **storage**, **flexibility**, wide energy mix...



EVERY PROJECT IS SITE-SPECIFIC AND DIFFERS IN BARRIERS AND DRIVERS



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Hydroelectric



Most
Contested
Renewable
Energy



Most projects **require a dam**. Ecosystem at risk.
In developed countries it's already well exploited and can't grow more.
In developing countries villages need water for irrigation and subsistence.

The energy company must earn the community trust and the community must be respected and included in the project. The companies are asked:

- **Certificate of Non-Objection** ← MANDATORY
- Road improvement
- Grid and Energy Access
- Healthcare
- Education
- New Jobs

Only if negotiated
(almost **never fulfilled**)



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Wind



Cliffs, windy plains and coasts are the best for turbines but the worst for the communities

- Ruin the landscape and the ecosystem
- ~~Affect the health of people nearby~~ **fake**, but people still believe it
- Uncertain impacts on local tourism, agriculture and income generation
- High cost of installment



Your Wind Farm will **succeed** if:

- It's "away from sight, away from mind"
- Locals personally believed, invested in the project and will earn from it
- The company is a trusted local (multinationals are hated)



Solar



Least
Contested
Renewable
Energy



Large works not required

Develop horizontally (low visibility)

Can be easily installed on roofs → direct benefit for the user

Low efficiency solved with big scale plants (CSP)



How to **fail** a Solar Power Plant:

- Do not use accurate data when choosing the site
- Employ unskilled workforce with no training
- Rely on foreign technologies, production and know-how instead of developing a local market

Congratulations, you scared all the investors!



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Geothermal *(Heat Pumps)*

1% global energy production



Heating and cooling through soil or underground water at a fixed temperature

Yes,

Silent

Hidden underground

Without combustion = safer, cleaner

Lower the peak time demand

But:

No standards and guidelines yet

Hard and expensive to install on existing buildings, better for new buildings

Tenant or Landlord, who pays?

Lack of skilled personnel = higher costs

Low consumer awareness

So?



Educate, train, provide financial **incentives**, develop a regulatory framework, define guidelines and **certificates** in the sector, invest in **research**, improve installation methods.



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Culture *influencing*

Wasting energy in every language

Underdeveloped countries:

Inefficient wood and coal stoves due to religious and social reasons

 Norwegian:

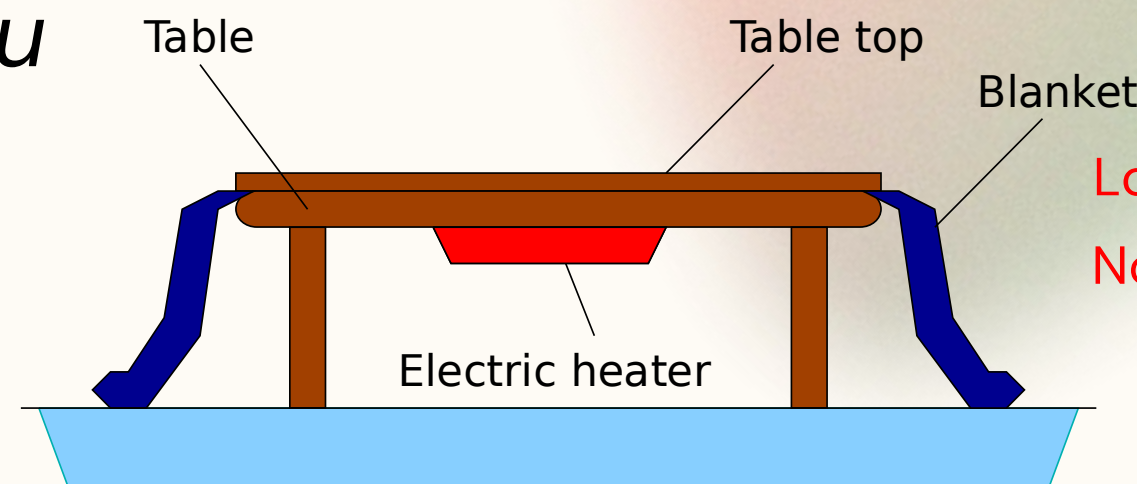
koslighet ("coziness") → heat every room *Good for heat pumps?*

 Chinese:

tong feng ("airing the room") → even in winter *AC nightmare!!*

 Japanese:

Kotatsu



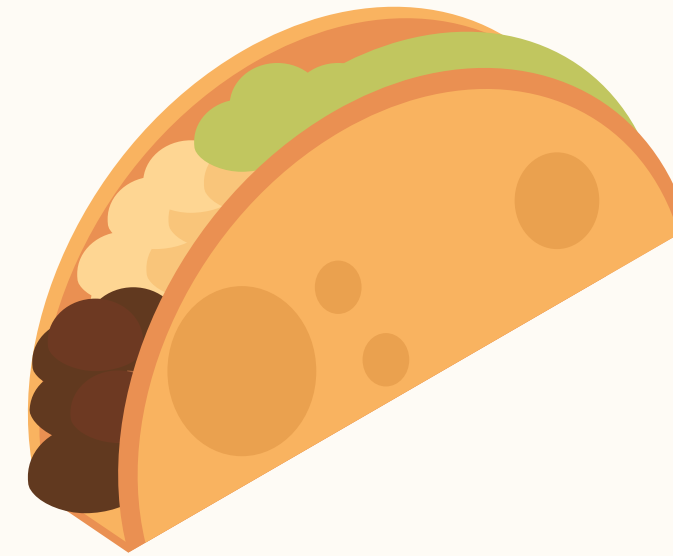
Low efficiency heating devices per room
No central heating system



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Wrapping up:

The Key for Acceptance



Trial-and-error process

Feedbacks

Involve people in the decision making

Education

Training

Build **trust**

Respect the environment and the community

Gather **data**

Protect ethnic minorities

Finance **research** and development

Boost **domestic** market

Design **standards**

Co-create projects

Invest more resources in educating and raising awareness of people rather than in the efficiency of technologies that is already advanced.



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Questions & Answers Session

What would YOU do?

Thanks for listening!



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