

IRENA Innovation Week 2018

05 – 07 September 2018 | Bonn, Germany

Empowering Citizens: Value, Challenges and implications,

*Community owned
renewable energy
generation*



Why this yellow ribbon?

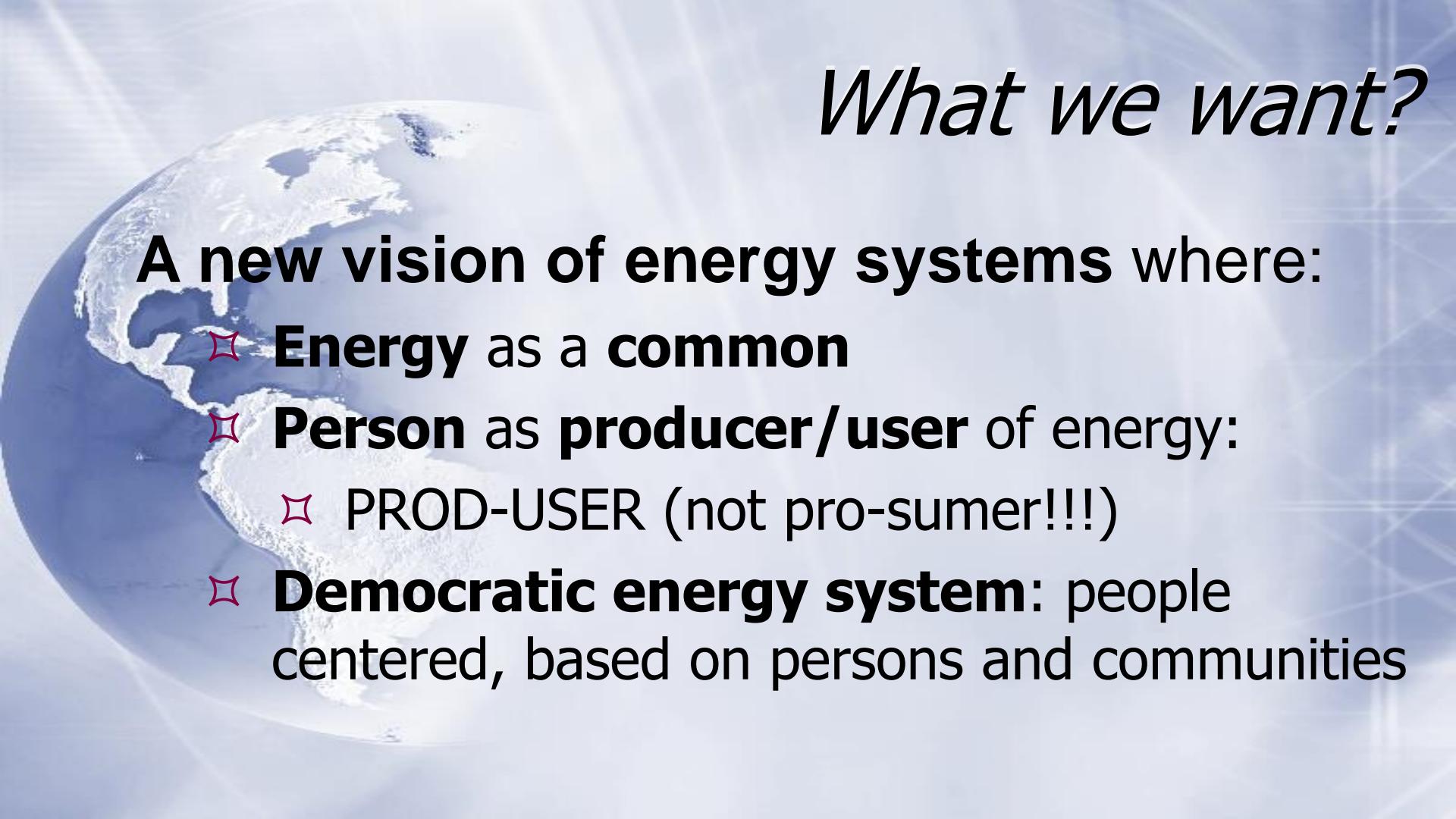


Pep Puig, PhD engineer.



Summary

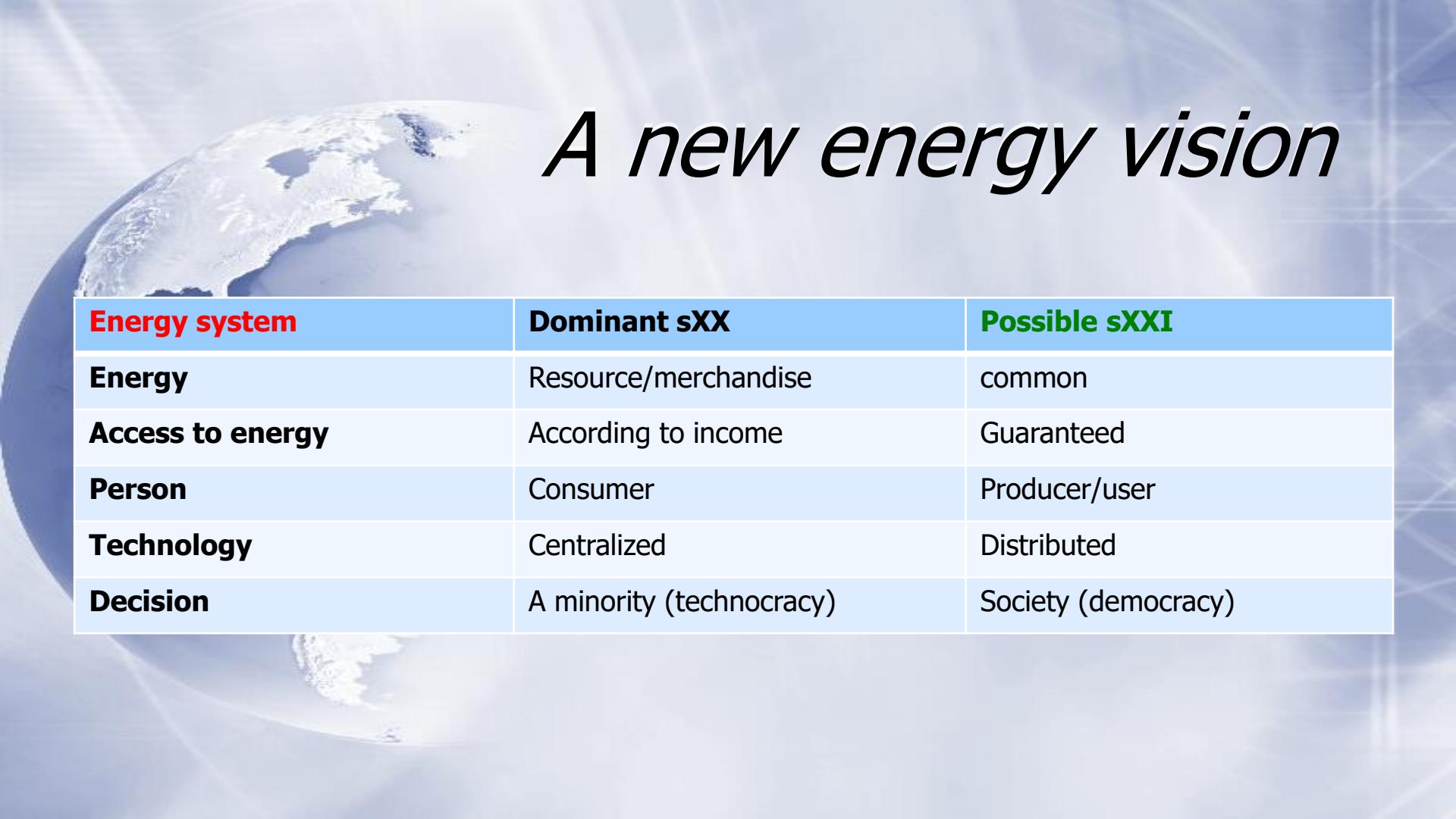
- ☒ A new vision of energy
- ☒ The key questions
 - ☒ Community power, why? how?
- ☒ Examples for learning
- ☒ Energ-ETHIC Democracy



What we want?

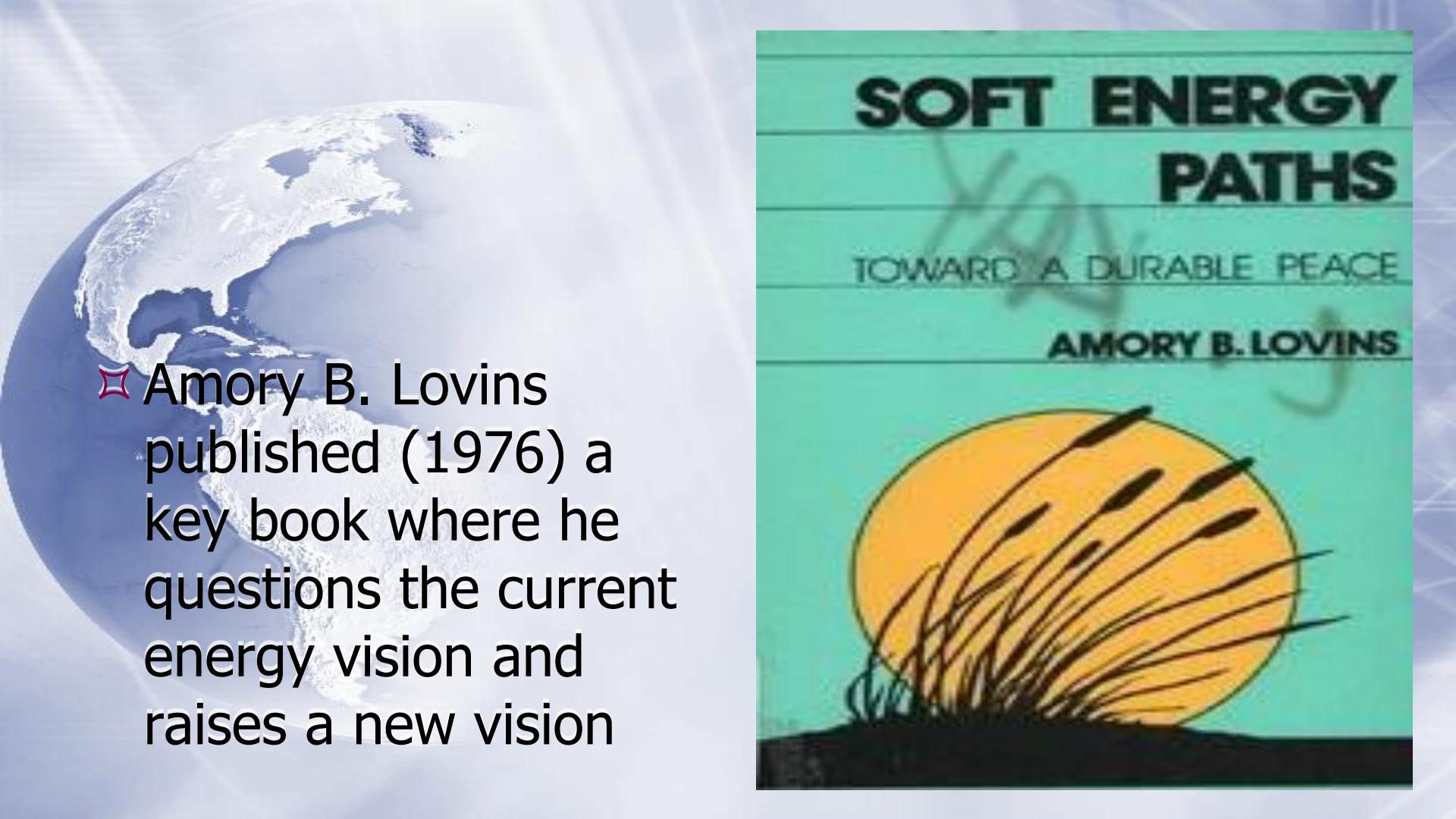
A new vision of energy systems where:

- ☒ **Energy as a common**
- ☒ **Person as producer/user** of energy:
 - ☒ PROD-USER (not prosumer!!!)
- ☒ **Democratic energy system**: people centered, based on persons and communities

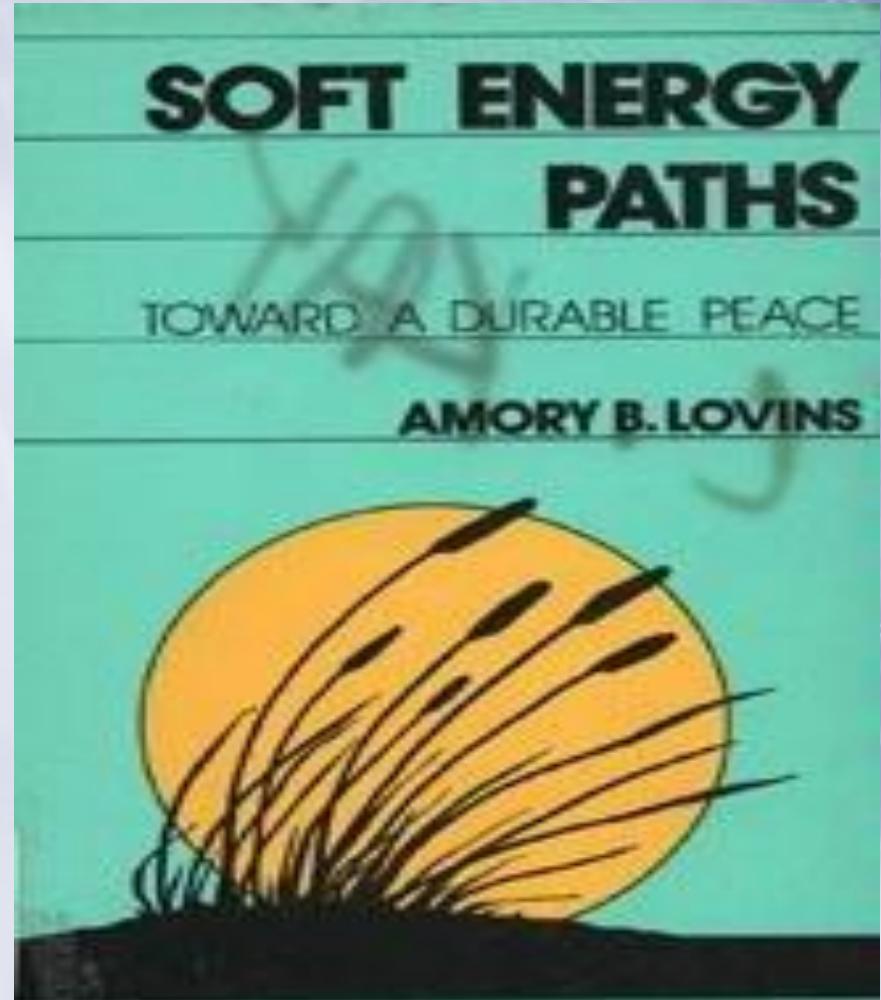


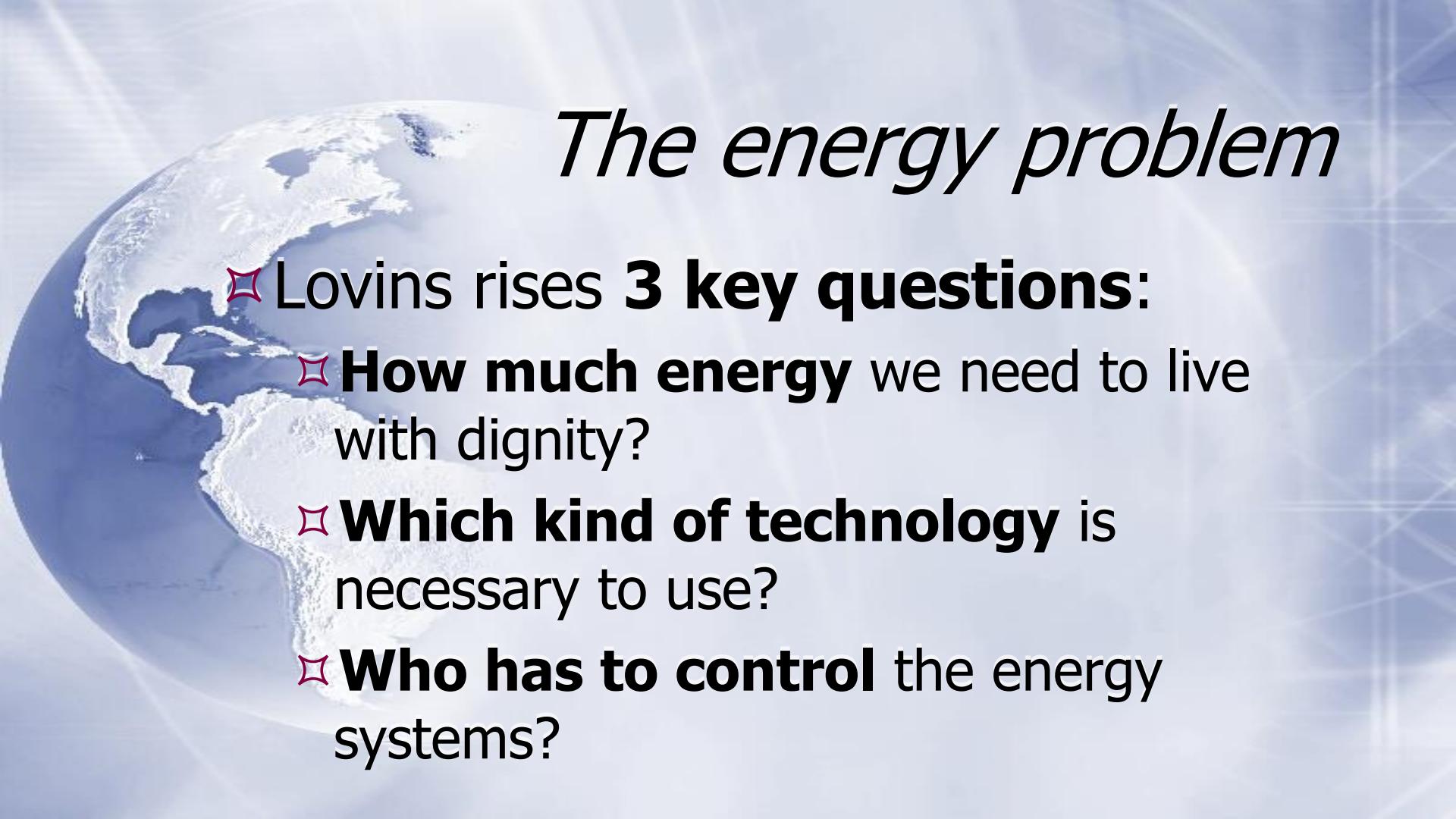
A new energy vision

Energy system	Dominant sXX	Possible sXXI
Energy	Resource/merchandise	common
Access to energy	According to income	Guaranteed
Person	Consumer	Producer/user
Technology	Centralized	Distributed
Decision	A minority (technocracy)	Society (democracy)



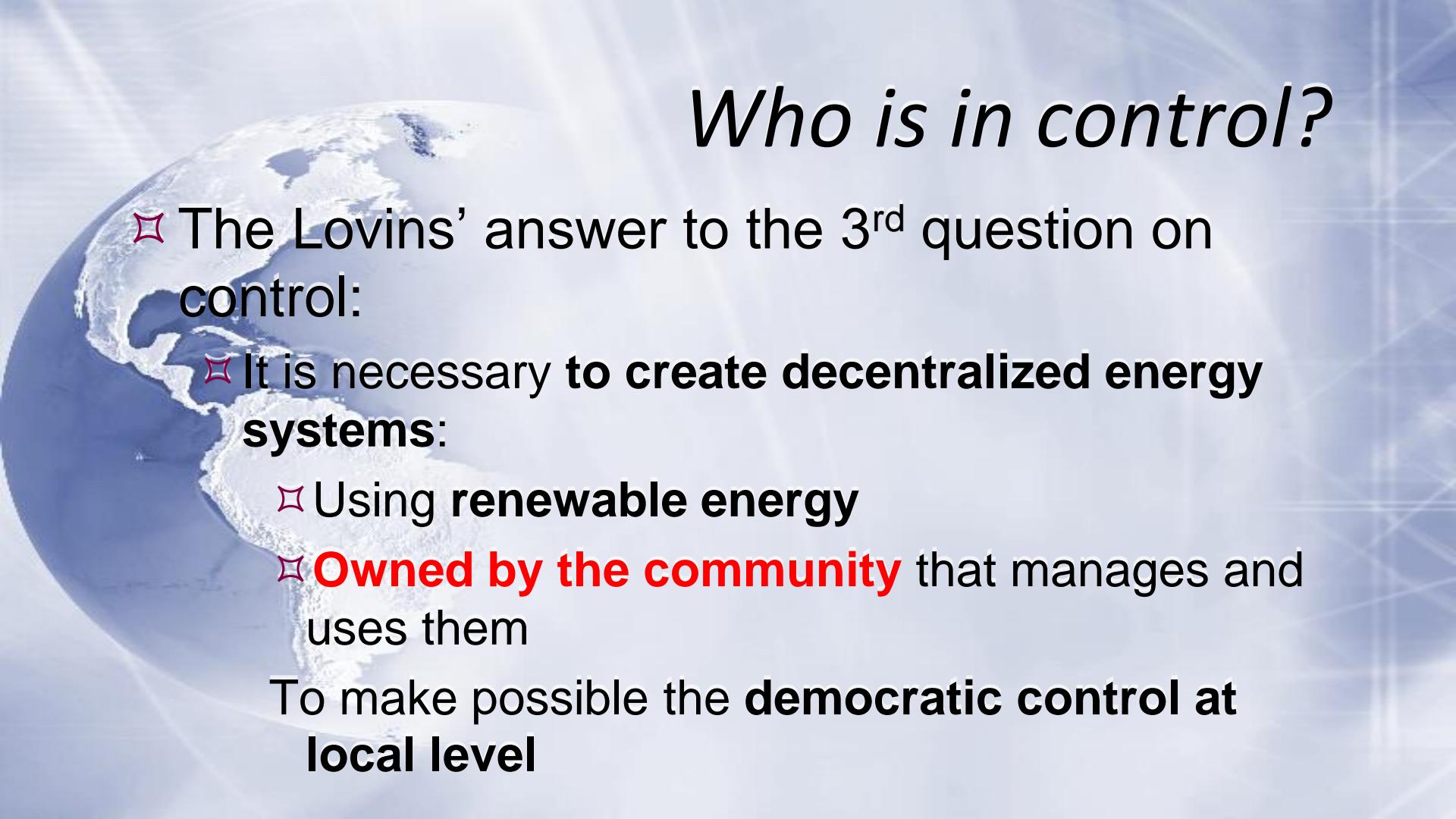
❖ Amory B. Lovins published (1976) a key book where he questions the current energy vision and raises a new vision





The energy problem

- ☒ Lovins rises **3 key questions:**
 - ☒ **How much energy** we need to live with dignity?
 - ☒ **Which kind of technology** is necessary to use?
 - ☒ **Who has to control** the energy systems?



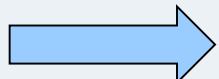
Who is in control?

- ☒ The Lovins' answer to the 3rd question on control:
 - ☒ It is necessary **to create decentralized energy systems:**
 - ☒ Using **renewable energy**
 - ☒ **Owned by the community** that manages and uses them
 - To make possible the **democratic control at local level**

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Our Board of Directors

SMUD is owned by its customers, who elect a seven-member Board of Directors.

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Go solar

SMUD offers you the tools and information you need to make an informed choice about whether solar is right for your home or business.

[Give feedback](#)

If you're considering solar, use our [Solar System Estimator](#) to help you determine the benefits of installing a rooftop solar system. Let us serve as your trusted advisor to help you make the choice that's right for you.



BUSINESS

Germany's "Electricity Rebels"

Germany's
Black Energy
electric



The group
power in

energy a
electric
that rew

EWS - Elektrizitätswerke Schönau EWS - Mozilla Firefox

Ficher Edición Visualiza Historial Adreses direcces Ayuda

http://www.ews-schonau.de/ews.html

WEB SEARCH

Kombikraftwerk Agentur für Erneuerbare Energien Kombikraftwerk

EWES

Start Kontakt Impressum Sitemap Datenschutz AGB Suchbegriff eingeben

- + EWS
 - Geschichte
 - Leitlinien/Struktur
 - Mitarbeiter
 - Auszeichnungen
 - Referenzen
 - Pressemitteilungen
 - Kontakt
 - EWS Netze
 - Ökostrom
 - Jetzt wechseln
 - Mitwissen
 - Mitmachen
 - Runterladen
 - Links
- Online-Formulare

Der etwas andere Energieversorger

Die Elektrizitätswerke Schönau betreiben das Stromnetz in Schönau und versorgen bundesweit mehr als 100 000 Privathaushalte, Gewerbebetriebe und Industrieunternehmen mit sauberem Strom (Stand 12/2010). Die EWS sind aus einer Bürgerbewegung entstanden und strengen ökologischen **Leitlinien** verpflichtet. Die Geschäftsführung und Gesellschafter setzen nicht auf unabdingte Gewinnmaximierung, sondern investieren in eine nachhaltige Energieversorgung.

+ EWS in Bildern

Elektrizitätswerke Schönau Ein Bilderbuch

Schönau ist eine kleine Stadt im Schwarzwald. Entdecken Sie unsere Heimat und die EWS.

Jetzt ansehen

+ EWS in Zahlen

Jahr	Wert
1998	10
1999	15
2000	25

EWS in Zahlen Von Anbeginn bis heute Wie viele Kunden, Mitarbeiter, und Neuanlagen? Hier finden Sie alle Zahlen im Überblick.

Jetzt ansehen

MEHR INFOS

- > Jetzt wechselt! So leicht ist der Wechsel...
- > Vertrag Der neue unterlaufen, ausfüllen, mit Kopie der letzten Rechnung wegschicken - Fertig! (PDF)
- > Anreise zur EWS Anfahrtssplan nach Schönau und zu den Büros
- > Bericht EWS eG Beitragsentlastung und Satzung der Genossenschaft
- > Pressemitteilungen Aktuelle Presseinformationen der EWS
- > 100 gute Gründe
- 100 GUTE GRÜNDE GEGEN ATOMKRAFT WIRKSAM
- Die Anti-Atom-Kampagne der EWES Schönau, Mitmach! (PDF)
- > Das Schönauer Gefühl Der Film über die Geschichte und die Zukunft des EWS wird produziert von Fuß8 e.V.
- > Daten austausch Informationen zum elektronischen Datenaustausch mit der EWS Vertriebs GmbH

1st Community based wind project in Catalonia, in Spain and in the Southern Europe



Pujalt, Alta Anoia, Barcelona, May 6th., 2018: Living from the air

Why Community power in Spain?

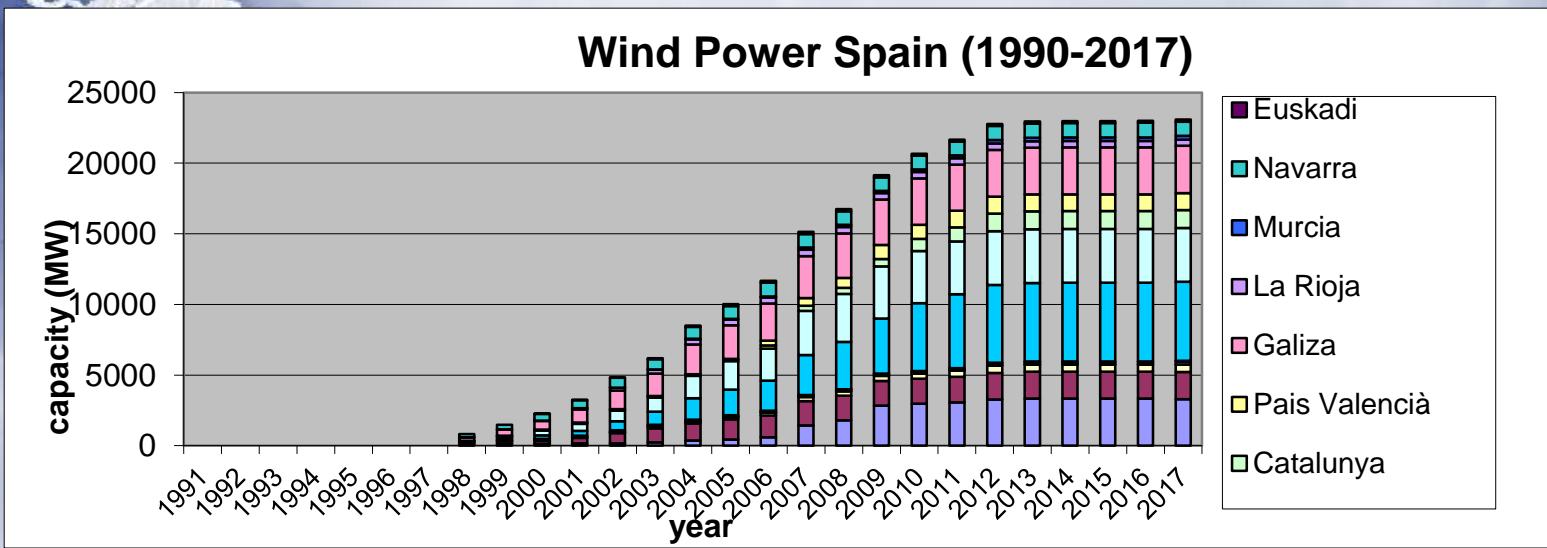
- ☒ All wind projects in Spain are owned by utilities or big commercial companies



Iberdrola	24,15 %
Acciona Energía	18,48 %
EDP Renovables	9,88 %
ENEL Green Power España	6,48 %
Gas Natural Fenosa Renovables	5,26 %
Eolia Renovables	2,29 %
Saeta Yield	2,22 %
Vapat	2,04 %
RWE	1,92 %
Olivento	1,82 %
Enerfin	1,69 %
Viesgo	1,65 %
Bora Wind	1,43 %
Medwind	1,07 %
Others	19,62 %

Why Community power in Spain?

- ☒ To show that in the Spanish context of RE (stagnant or retrograde) it's possible to develop a wind project based on a community approach (without FIT, bank loans, big utilities, big investors, etc., only based on people's power)



How it has been possible?

- ❖ People involved in the project were founders of Ecotècnia Wind Coop in the eighties



How it has been possible?

- Learning from solar community projects developed in Spain when FIT was existing



How it has been possible?

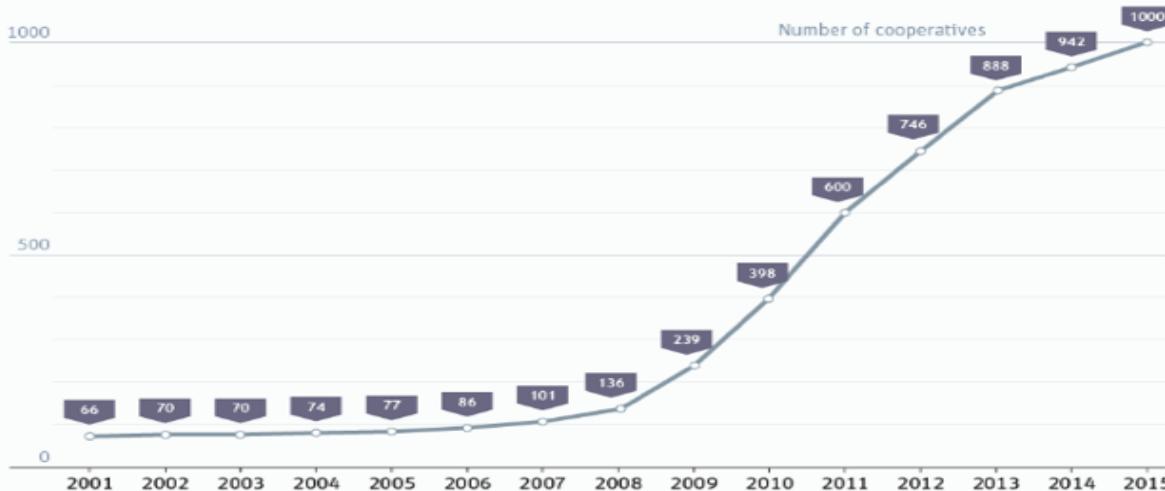
Germany leads on community energy projects



Citizens form cooperatives to drive the energy transition

Number of energy cooperatives in Germany, 2001–2015

Source: www.unendlich-viel-energie.de



German Energy Transition

energytransition.de



German Energy Transition

Arguments for a renewable energy future.

KONGRESS

100% Erneuerbare Energie Regionen

„Die Energiewende ist in der entscheidenden Phase. Ich glaube aber, es wird klappen.“
Klaus Meiners (Aachen)

Startseite | Veranstalter | Programm | Ausstellung | Sponsoren | Anreise/Übernachtung | Rückblick | Projekte

[Termin in Outlook-Kalender eintragen!](#)

Jetzt anmelden!

Kongress "100% Erneuerbare-Energie-Regionen" 11. + 12. November 2014

Schwerpunktthema: Erfolgreiche Rahmensetzungen für die dezentrale Energiewende in Kommunen und Regionen

Die Energiewende ist eine der wichtigsten Zukunftsaufgaben Deutschlands. Sie wird bereits heute in einer großen Vielzahl von Kommunen, Landkreisen und Regionen praktisch gelebt. Hunderte von ambitionierten kommunalen Klimaschutzkonzepten wurden unter breiter Bürgerbeteiligung erstellt und zahllose regionale Energieinitiativen, wie zum Beispiel Bürgerenergiegenossenschaften, gegründet. Diese stehen bereit, ihre Projekte mit großem Engagement jetzt in die Tat umzusetzen.

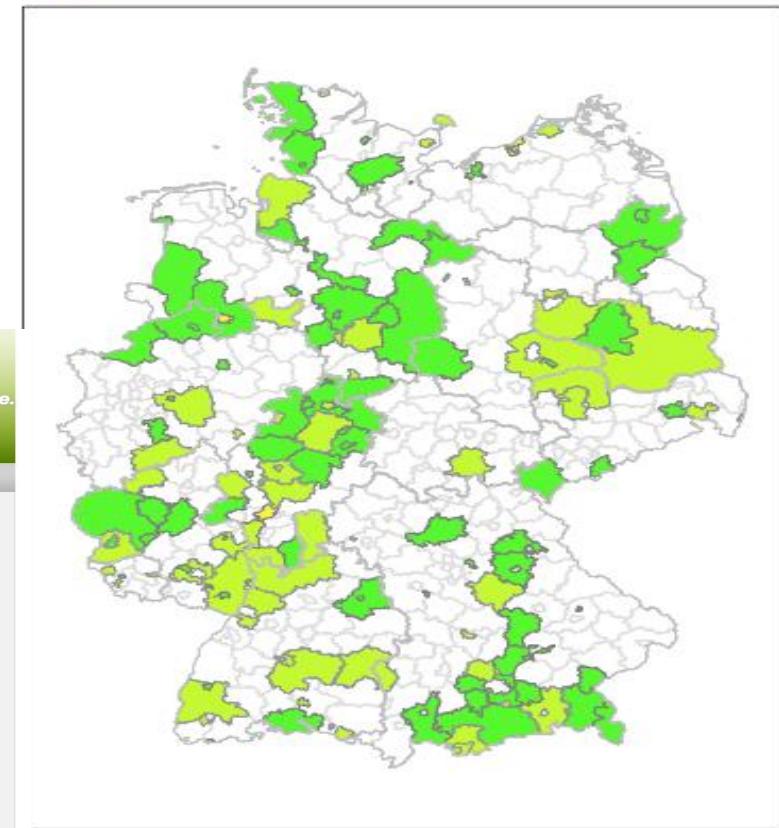
Mit der thematischen Schwerpunktsetzung „Erfolgreiche Rahmensetzungen für die dezentrale Energiewende in Kommunen und Regionen“ der Veranstaltung „100% Erneuerbare-Energie-Regionen“ in 2014 soll erreicht werden, diese regionalen Umsetzer und Treiber zusammenführen, um gemeinsam ein Bild über die aus ihrer Sicht notwendigen politischen Rahmenbedingungen zur erfolgreichen Weiterführung einer dezentralen, regionalen Energiewende zu entwerfen.

Wie auch bei allen Vorläuferveranstaltungen des Netzwerks im Rahmen der Kongressreihe "100% Erneuerbare-Energie-Regionen" steht auch diese Veranstaltung unter dem Motto: Aus der Praxis für die Praxis.

Die Kongressreihe "100% Erneuerbare-Energie-Regionen" ist einzigartig im Bereich der Kommunalkonferenzen. Mit mehr als 700 Teilnehmern – Vertretern aus Kommunen, Wirtschaft und Wissenschaft – ist die Veranstaltung der bundesweit größte Kongress dieser Art zum Thema "Erneuerbare Energien und Energieeffizienz in Regionen und Kommunen".

100%
Erneuerbare
Energie
Regionen

Energie-Kommune



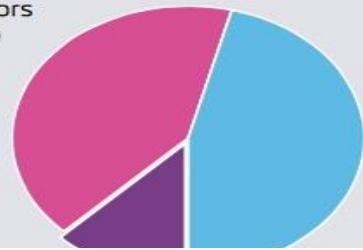
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typen oder unzureichende Datenlage

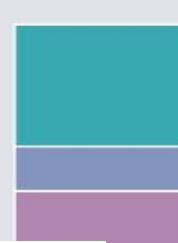
Installed renewable energy capacity broken down by ownership in Germany in 2012

Figure 4

Institutional and strategic investors
30.2 GW (41.5 %)



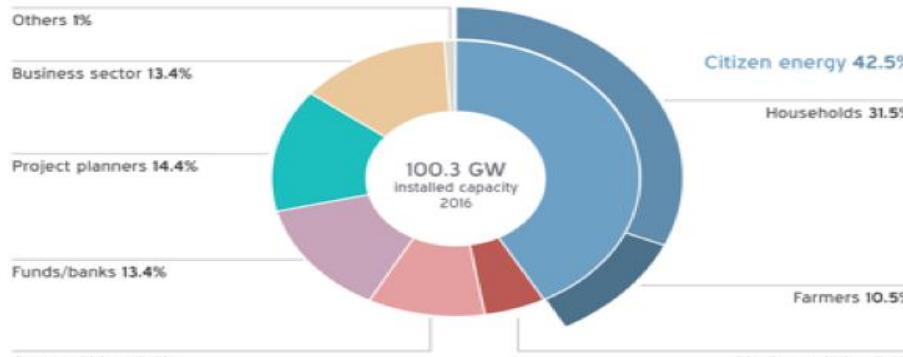
Citizen-owned renewable energy projects in broader sense
33.5 GW (46.6 %)



Citizen-owned renewable energy projects in a narrow sense
25 GW (34.4 %)

Investments in renewables are spread across many players
Ownership of renewable energy systems in Germany at the end of 2016

Source: trendresearch



ed storage power plants, offshore wind, geothermal energy, biowaste

How it has been possible?



1974: Tvind schools asked themselves what to do in front of the oil crisis

1975: beginning of the works

1978: start of operation

900 kW



Nordisk Folkecenter

for Vedvarende Energi

COMMUNITY WIND POWER for the World

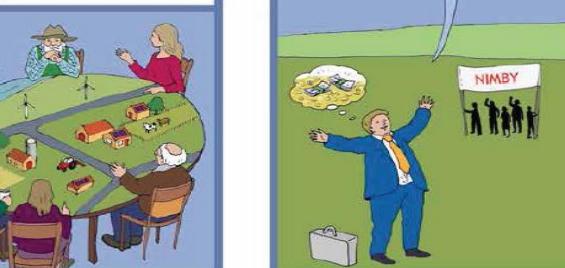
*Energy
Local
Community
Lower Ele*

**Not 20% - but 100% local ownership as
the alternative to external investors.**

Citizens take matters in their own hands! Locally owned energy production will bring development and generate income for the local community.



OPTION 1.



People abandon their land and move away. Money flows to investor's pocket.



OPTION 2.

[View in Danish](#)

Middelgrundens Vindmøllelaug

Offshore Wind Farm outside the Harbour of Copenhagen



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Real World Example: Hvide Sande, fishery harbour Denmark: 100% local acceptance

Right now
allow the wind farm's power production online



Links
[Wind Energy Industry](#)

[Wind Turbine Owners](#)

[Wind Turbine Monthly Magazine](#)
[Wind Turbine](#)

[Wind Turbines 2003](#)



Why Community energy?

- ☒ It creates **local dialogue** and **acceptance**
- ☒ It raises **public awareness**
- ☒ It **solves problems and conflicts**
- ☒ It demands **less transmission lines** and saves electricity
- ☒ It is private investment promoting **cheaper and better technologies**
- ☒ It is **DEMOCRATIC**
- ☒ It makes **sustainable development** understandable
- ☒ It gives people **opportunity to act for** sustainable development
 - ☒ Generating clean energy & reducing CO2 emissions



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HOME ABOUT US COMMUNITY OWNERSHIP GET INVOLVED NEW PROJECTS GREEN ENERGY NEWS CONTACT US

**ENERGY4ALL LIMITED
DELIVERING COMMUNITY
GREEN POWER**

Energy4All was formed in 2002 to expand community ownership now have 15 projects in the Energy4All family with 10,000+ members enabling many more communities to benefit from renewable energy.

[REGISTER YOUR INTEREST >](#)



ENERGY4ALL LIMITED COMMUNITY OWNERSHIP

Energy4All was formed in 2002 to expand community ownership of renewable energy. We now have 15 projects in the Energy4All family with 10,000+ members - £30m+ raised - enabling many more communities to benefit from renewable energy.

[REGISTER YOUR INTEREST >](#)



ÉNERGIE PARTAGÉE

NOUS CONNAÎTRE L'ÉNERGIE CITOYENNE BOÎTE À Outils DEVENIR ACTIONNAIRE

L'énergie par les citoyens,
pour les citoyens

[CARTE DES PROJETS](#)



[x](#)



COMMUNITY WIND



SUPPORTED POWER

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BUSINESS

Big Power Goes Local

A grass-roots movement to generate power in towns and basements is challenging the energy industry's status quo.



In construction of new wind energy projects, and after a partnership between government and industry, Denmark is the world leader in the wind industry. What most Americans don't know is that the vast majority of turbines in Denmark were composed of small groups of mid-sized turbines, not the huge wind farms of today. Danish wind turbines were operated by farmers, homeowners and small businesses, either independently, or more frequently in cooperative ventures. These were three key components in the Danish wind initiative:

1. The right of wind power developers to connect to the electrical grid.
2. The legal requirement that utilities purchase the wind-powered electricity; and
3. A guaranteed fair price.

These requirements removed one of the biggest hurdles to developing the wind



SHARE OFFER NOW OPEN

England



The Schools' Energy

£500,000 under this
a children's hospice.

[Click here to download the Share Offer Document](#)

Coming Soon



Academy for a better world, Brahma Kumaris, Mt Abu, India



Ontario





Community energy

❖ **Community energy requires:**

- ❖ **Balanced playing field** (fair regulation)
- ❖ **Equal access to capital** and financing,
- ❖ **Self-organization** and good community management
- ❖ **Education and empowerment** to people in the community so they recognise their opportunities to become active in the energy system (interaction between people and between them and the networks)

Community energy

- ☒ Opens the door to build a **democratic energ-ETHIC system**
 - ☒ **Empowering** individuals and communities
 - ☒ **social appropriation of technologies**
 - ☒ **Using renewable** energy sources
 - ☒ **Taking advantage** of their capture, conversion and use
 - ☒ Sharing locally the wealth generated
 - ☒ Combining, at local level, technological opportunities with economic opportunities

Community energy

❖ **Principles** in which a **democratic energ-ETHIC system** should be based:

1. Reducing energy needs (efficiency)
2. Free of fire (no fossil fuels)
3. Flexibility (two way flow)
4. Local control (local decision making)
5. Equitable access (technologies, networks)



Community energy

- ❖ **Energy democracy has the ability to create a fair and equitable energy economy**
 - ❖ where **energy prices** are **transparent** and **effective in terms of cost**,
 - ❖ where there is **no cross-subsidization** from one part of the system to another part thereof



Community energy

- ❖ **Every community has the opportunity to be the owner of a renewable energy project**

- ❖ **Communities of locality**

- ❖ are made up of people living in a certain geographical area, be it a small village, a county, or a densely populated city

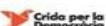
- ❖ **Communities of interest**

- ❖ are comprised of individuals living in many different communities of locality that nevertheless share a common interest

POWER TO THE PEOPLE

Do big multinationals really own energy? Can communities take control over what should belong to them?

**FREE CATALAN
POLITICAL
PRISONERS!**



Thank You