

seeker, artist, hacker

Mindsets for leadership through the big  
transition





**FROM VOLUME  
TO VALUE**

Action perspectives towards a sustainable, valuable and clean energy landscape in South Holland by 2050



**Energy buddhism**  
everything is connected



**DELTA GRID 2050**  
PERSPECTIEVEN VOOR DE ZUID-HOLLANDE ENERGIE-INFRASTRUCTUUR

SMART.  
MULTI.  
COMMUNITY.  
GRID. 2



**UNIVERSAL  
RIGHT**

 **unify.energy**

**TOPSECTOR ENERGIE**  
Innovatie voor een duurzame toekomst

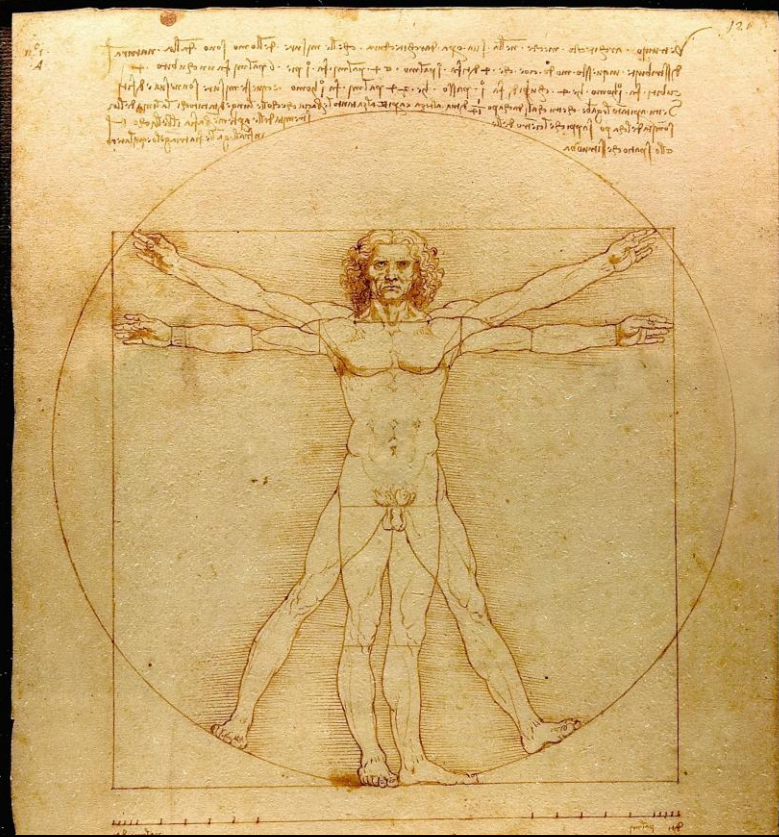
Digitalisering en energie –  
méér dan de som der delen

**ETHICS  
@WORK**

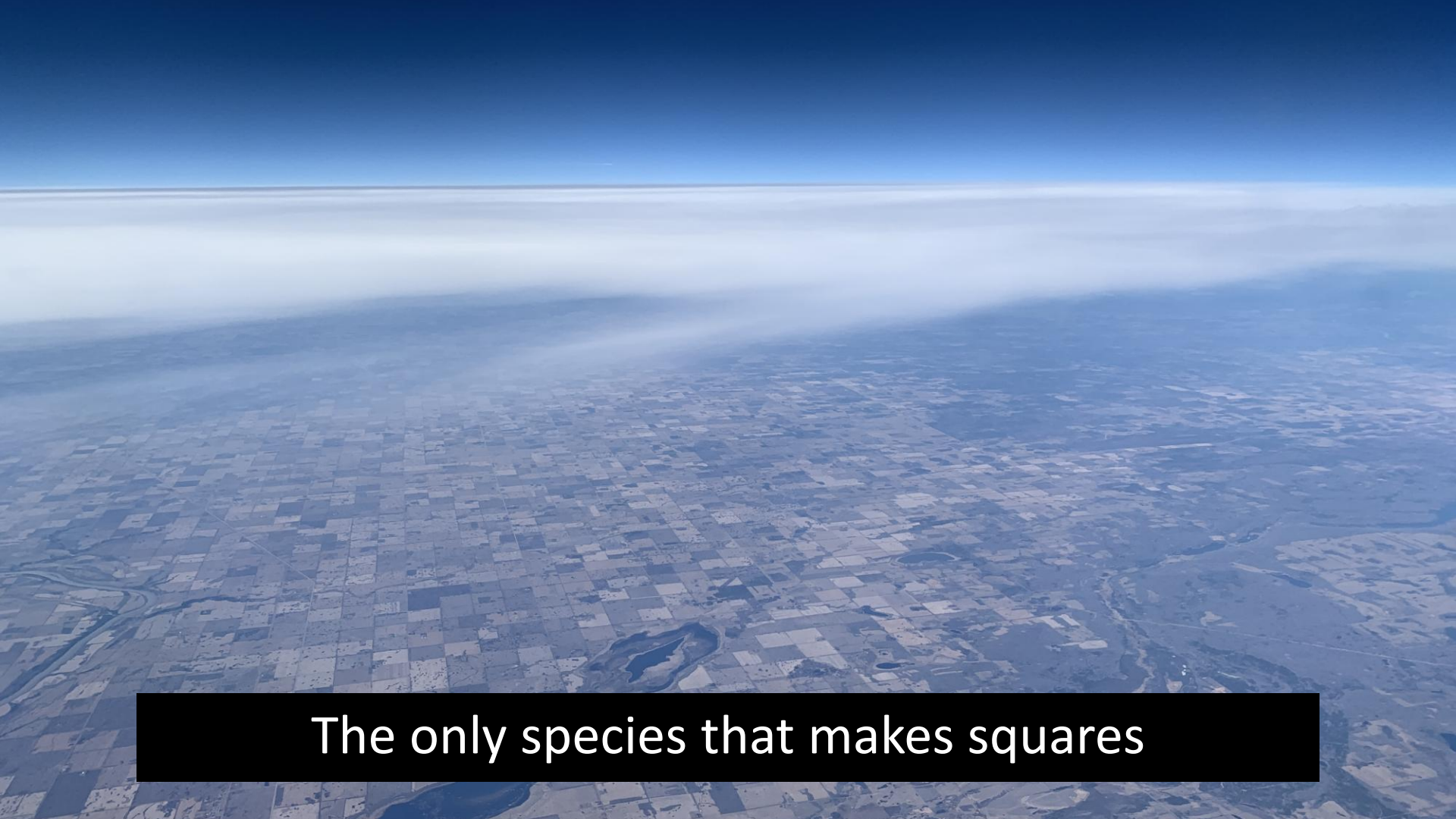
DILEMMAS OF THE NEAR FUTURE AND  
HOW YOUR ORGANIZATION CAN SOLVE THEM

EDITED BY KRIS OSTERGAARD

arash@unify.energy  
arash azami (LinkedIn)



Homo Sapiens: a unique species



The only species that makes squares



(and perhaps also the  
Australian wombat)





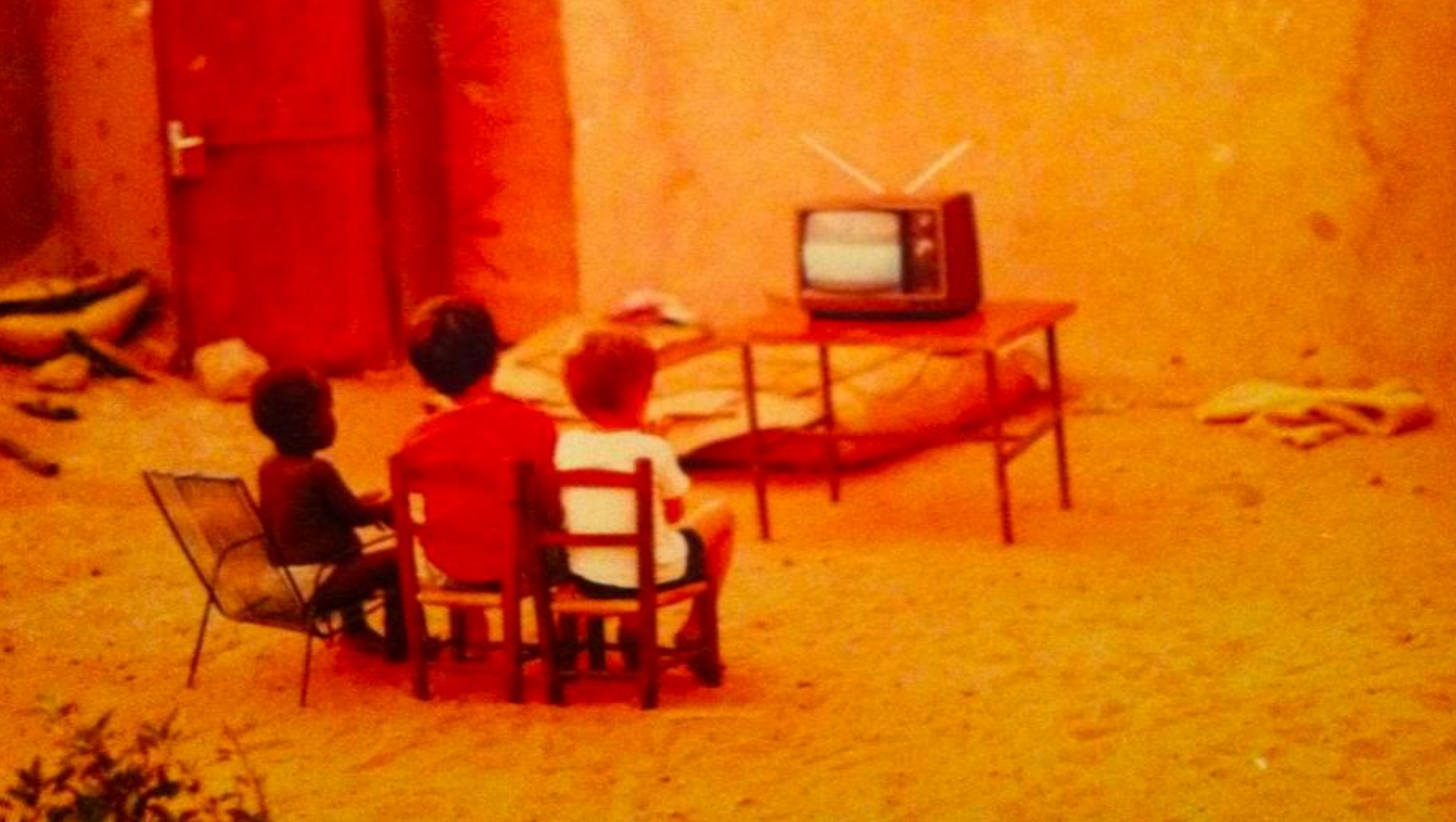
The only species producing waste that is not considered  
food by other species  
(the only ones capable of creating a non-circular economy)

Many species can fool others





...but we seem to be the only ones that are wired  
to fool ourselves





Current combustion of fossil fuels: 1.000.000x more than Earth can replenish

*Photo credit: Tech. Sgt. Perry Heimer*

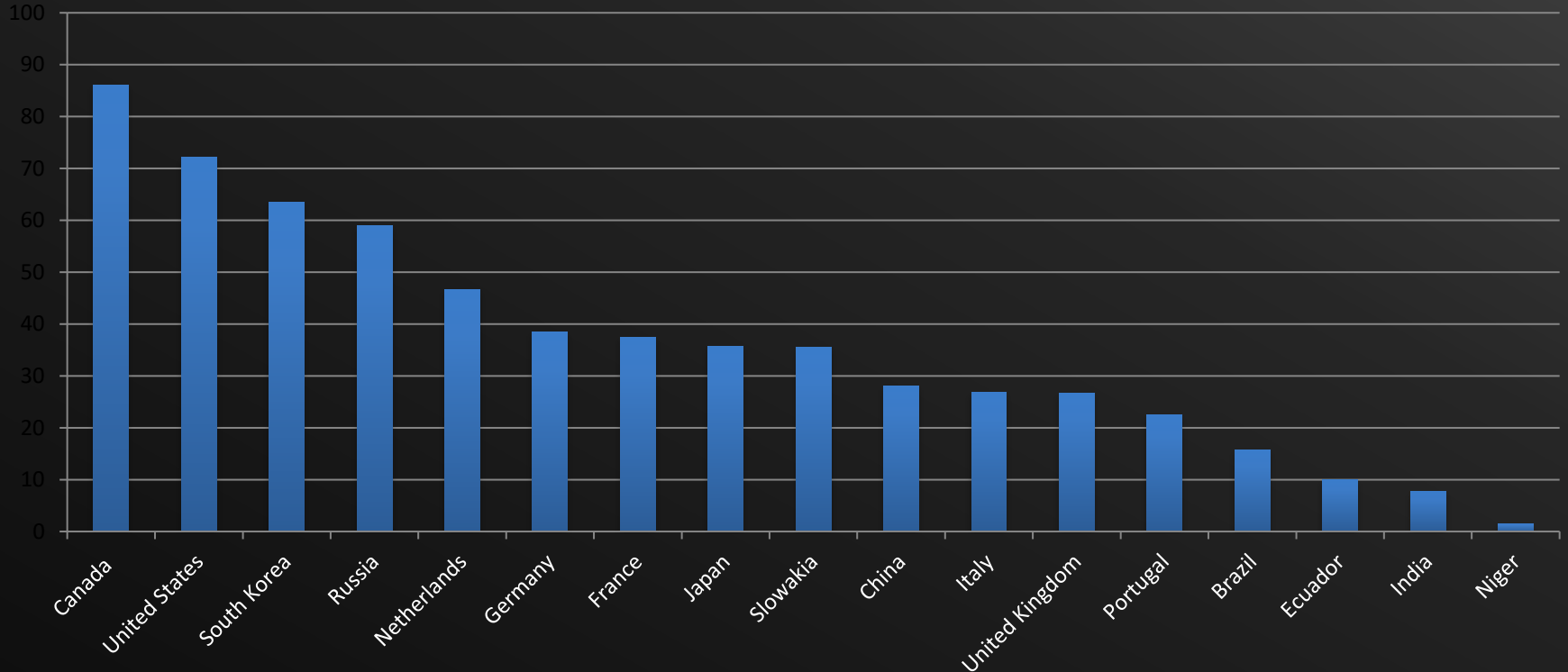


**2.500.000.000 people live in energy poverty**

**...and meanwhile we have abundance: the sun shines all of humanity's annual energy needs in 1,5 hours**

# Energy is not equally divided

## Annual energy per capita in MWh

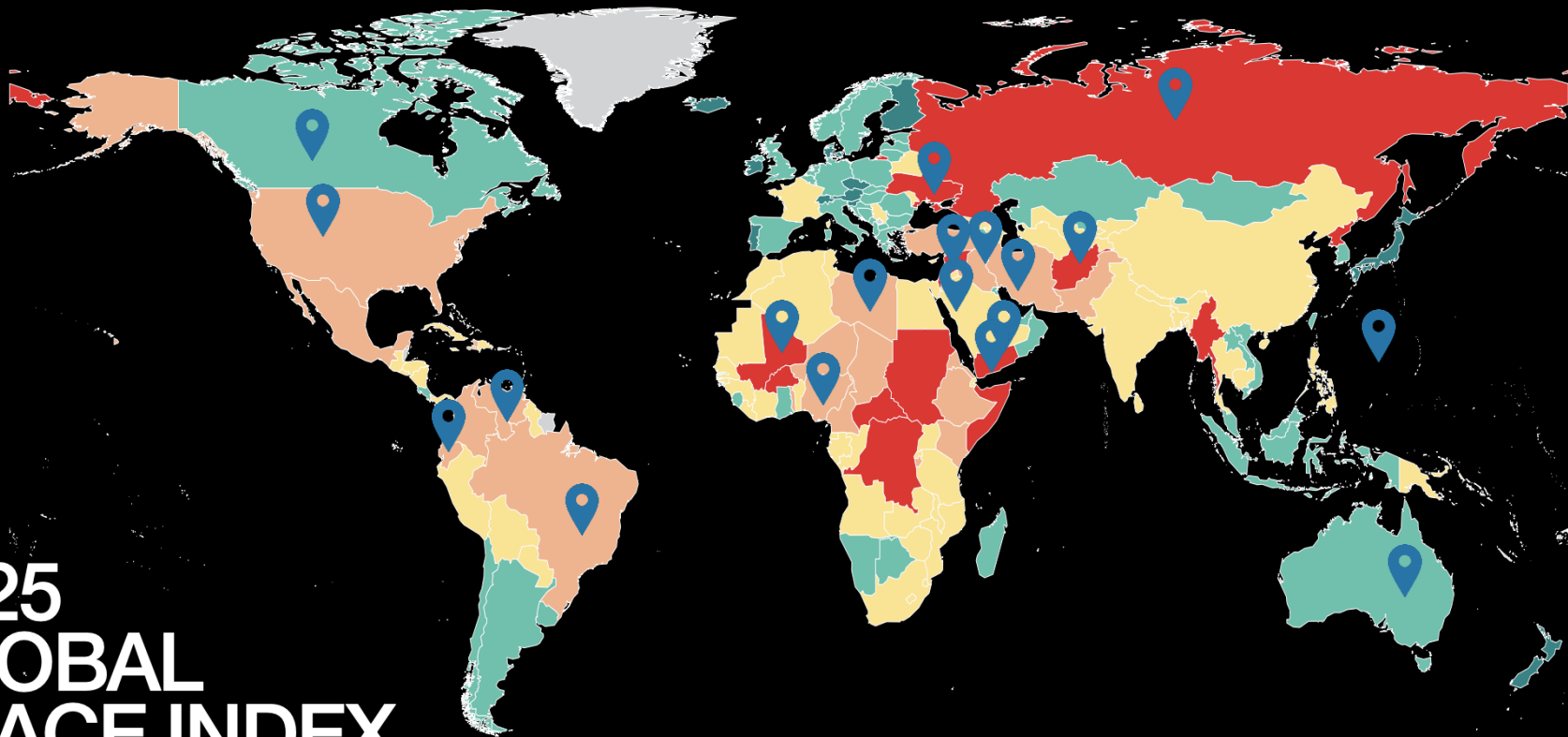


*Energy use per capita 2020 in MWh/year, sources: Enerdata, IEA, World Bank, Unify*

# 2025 GLOBAL PEACE INDEX

A snapshot of the global state of peace

## THE STATE OF PEACE



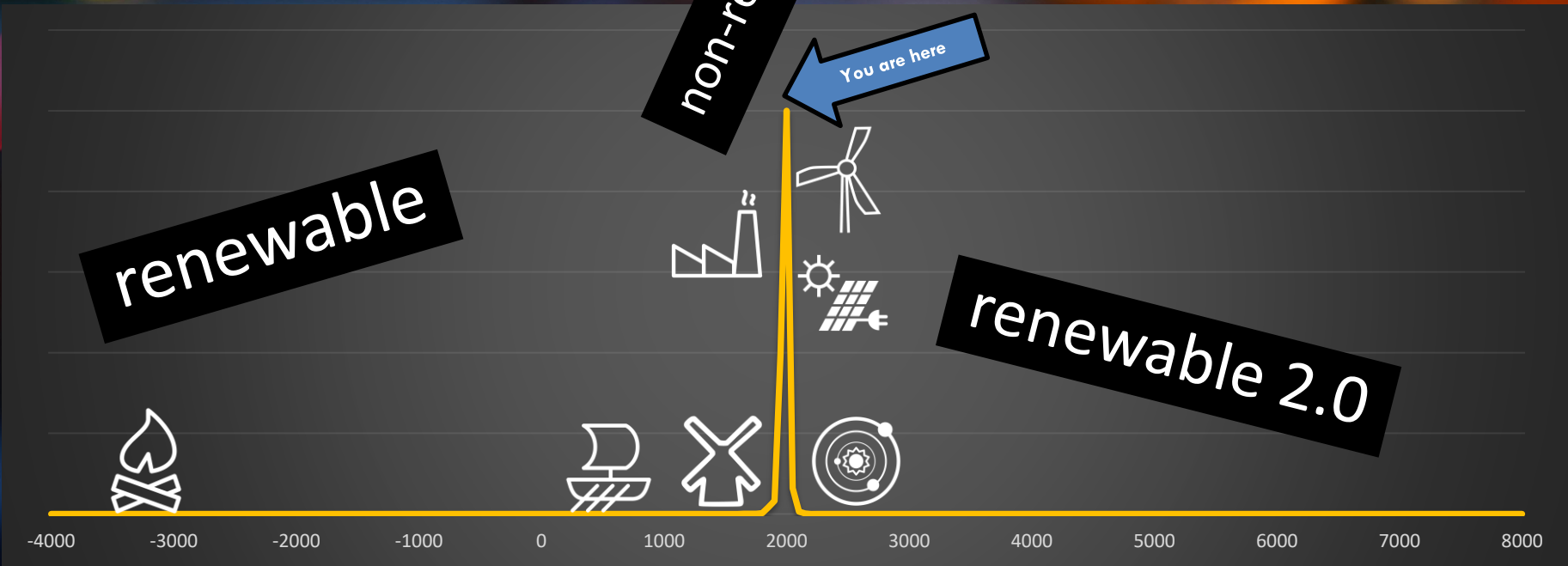
Fossil energy & conflict are very much interconnected

Crisis = a tipping point

危机

A time of danger; A time of opportunity;





Fossil fuel consumption (4000BC to 8000AD)

# IEA predictions:



Table: The magnitude and speed of deployment

Indicator type	Current	2030	2050
Total final energy consumption	442 EJ	406 EJ	343 EJ
Electricity demand	23 889 TWh	30 000 TWh	49 722 TWh
Share of electricity in total final consumption	20%	28%	53%
Share of solar and wind in electricity generation	12%	40%	71%
Annual investments in grids	USD 332 billion	USD 600 billion	>USD 1 trillion
Global power system flexibility needs (compared to 2022)		X 2	X 4
Battery storage installed capacity	45 GW	1 018 GW	6 500 GW
Electric vehicles	27 million cars	315 million cars	1 150 million cars
Heat pumps installed in buildings	1 000 GW	3 000 GW	6 500 GW
Installed capacity of space cooling equipment	850 GW	1 400 GW	2 700 GW
Share of buildings that are zero-carbon ready in new buildings and deep renovations	<1%	100%	100%
Share of buildings that are zero-carbon ready in existing building stock	<5%	20%	80%

Solar & Wind +600% in 27 years

Battery storage +2250% in 7 years

EV's +1150% in 7 years



Note: current and projected numbers based primarily on IEA Net-Zero Scenario.

What we are really good at: underestimating the power of exponential growth

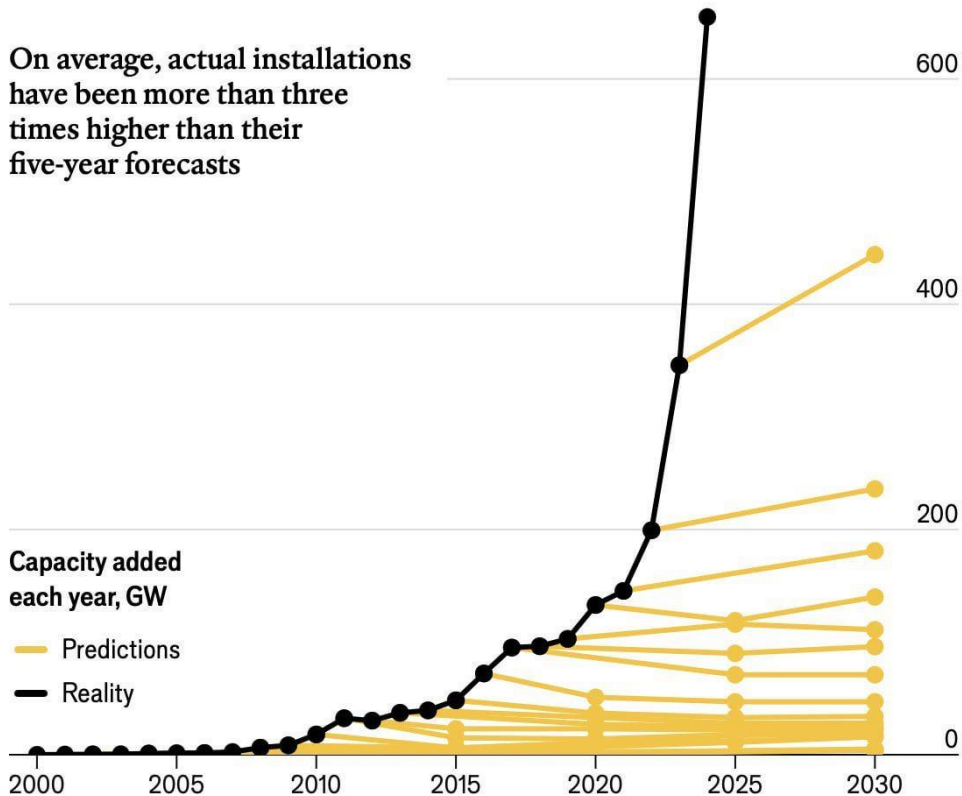
↓ EASY PV

*how solar outgrew expectations*

On average, actual installations have been more than three times higher than their five-year forecasts

Capacity added each year, GW

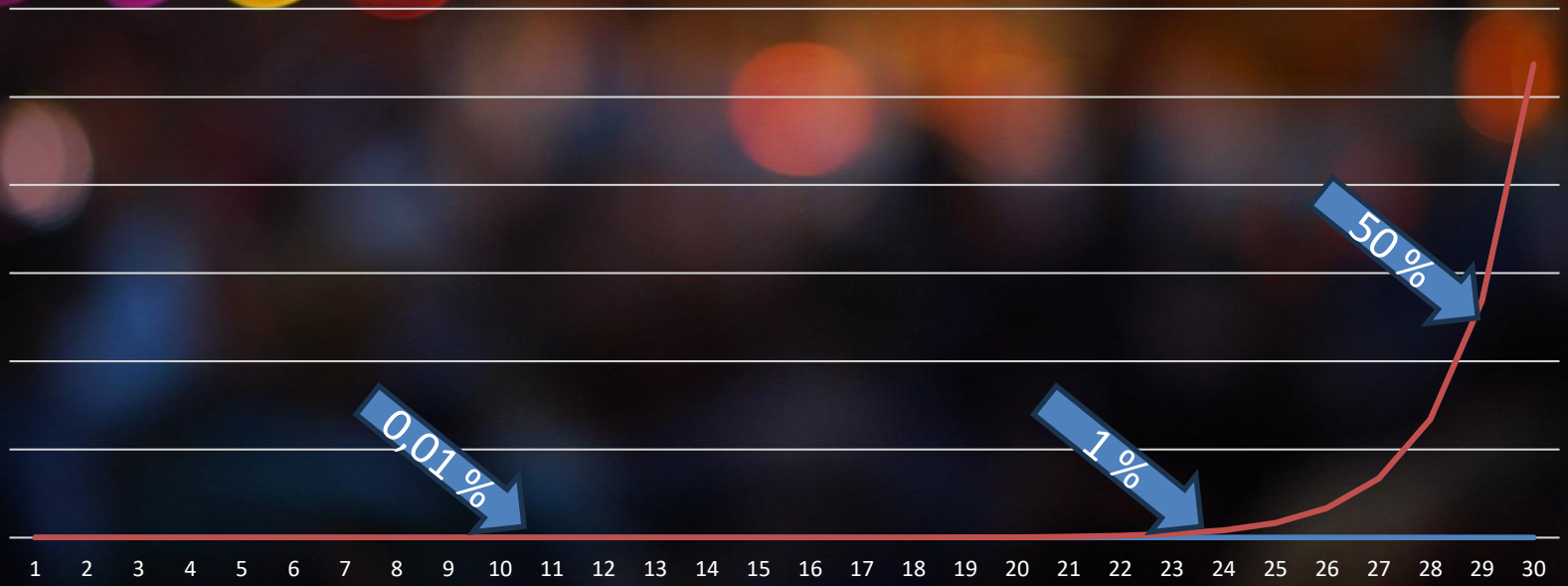
— Predictions  
— Reality



Sources: IEA; Energy Institute; BloombergNEF

# The mindgames of exponentials

Exponent = 2



Energy in  
the digital  
era?



The paperwork submitted for one permit to develop an offshore wind farm

New technologies

New economy & business  
models

Energy: 4 transitions  
at the same time

New social models

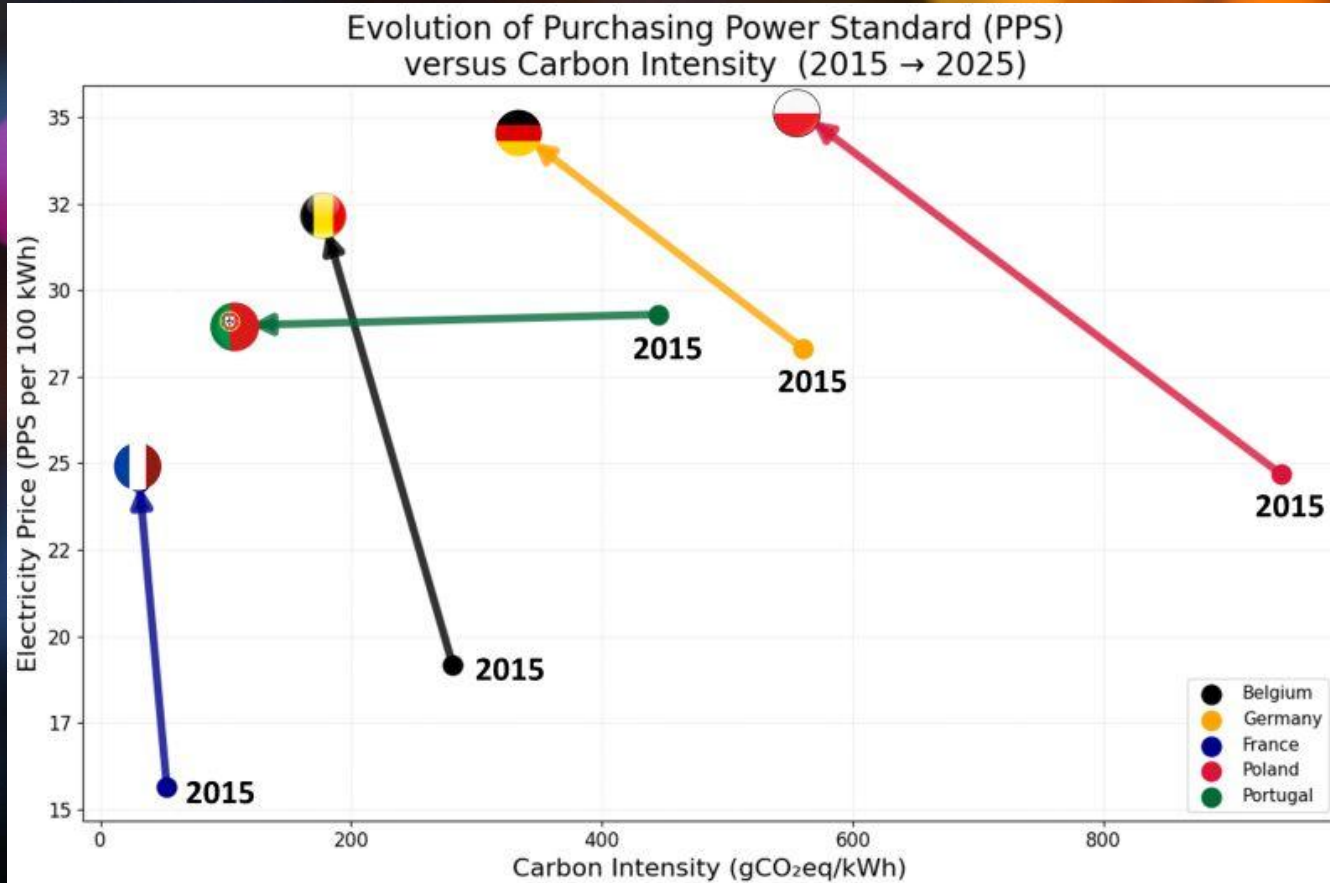
New laws & regulations



HIER GEEN  
WINDTURBINES

~~Improve the current system~~  
Build a new system

# Better renewable strategy: less vulnerability



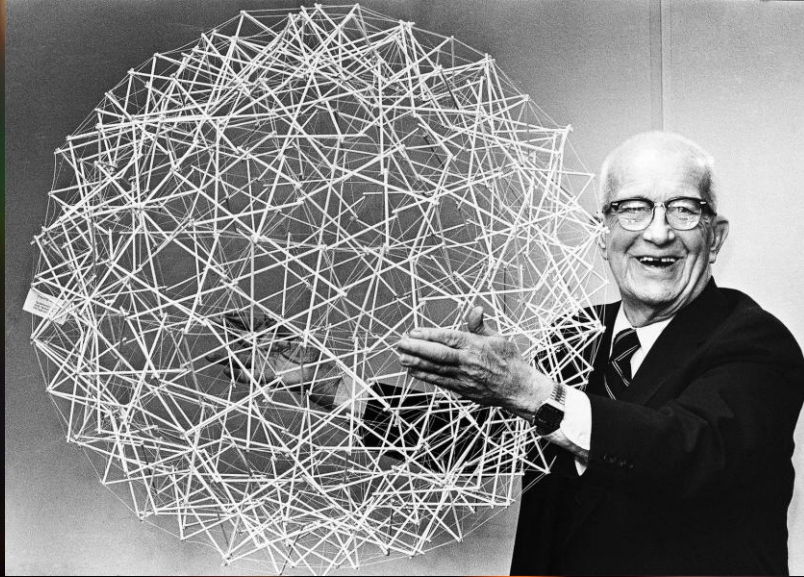


# European Commission paves the way:

- Clean energy for all, Fit for 55
- Local energy Communities
- Energy sharing (update q4 2023)



## What energy innovators need: new mindsets



“You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.”



# 1. the seeker's mindset

“I am always certain that I can never be certain”

“In nature nothing  
is created, nothing  
is lost, everything  
is transformed”  
*Antoine de Lavoisier*



# What nature shows us

A group of approximately 12 people are sitting in a circle on logs and the forest floor in a lush green forest. They are engaged in a discussion, with some looking towards the center and others looking at each other. The background is filled with tall trees and dense foliage, creating a natural and serene setting.

The forest: a 100% renewable, circular, waste-free, ownerless, distributed and regenerative energy system

The 'silver bullet solution' is diversity

More diversity = better resilience & inclusion

# Floating rotating solar @ Rotterdam, NL



# WaterMLN: Modular hydrogen generator




# LV Energy:

Acoustic and vibration energy harvester: turn noise into electricity



# Festivals as pop-up societies, the perfect living lab

Into the Great Wide Open, Vlieland

An aerial photograph of a large outdoor festival at dusk. The festival is set in a clearing surrounded by dense green forest. In the center, a large crowd of people is gathered around a stage area with colorful lighting. Several large tents and structures are visible, including a prominent white tent on the left and a purple tent on the right. The sky is a mix of orange and blue, indicating sunset. In the background, a hill with a small structure on top is visible against the horizon.

## 2. the artist's mindset

A photograph of a brick building facade. A large, black, three-dimensional sign is mounted on the wall, slanted upwards from left to right. The sign contains the text "I HAVE TO CHANGE TO STAY THE SAME" in white, capital letters. The building has several windows: a large, multi-paned window at the top left, a smaller window at the bottom left, and two windows on the right side. The brickwork is dark and textured.

The artist: translates realities and expand our understanding of things. Arts shift paradigms.

# Living lights

Ermi van Oers - Plant powered light as an ultimate interface between human need, technology and nature.





Park van Morgen 2.0 - Rotterdam



## Pelt chair

Leon Houben- The global warming  
temperature  $\Delta$  made tangible

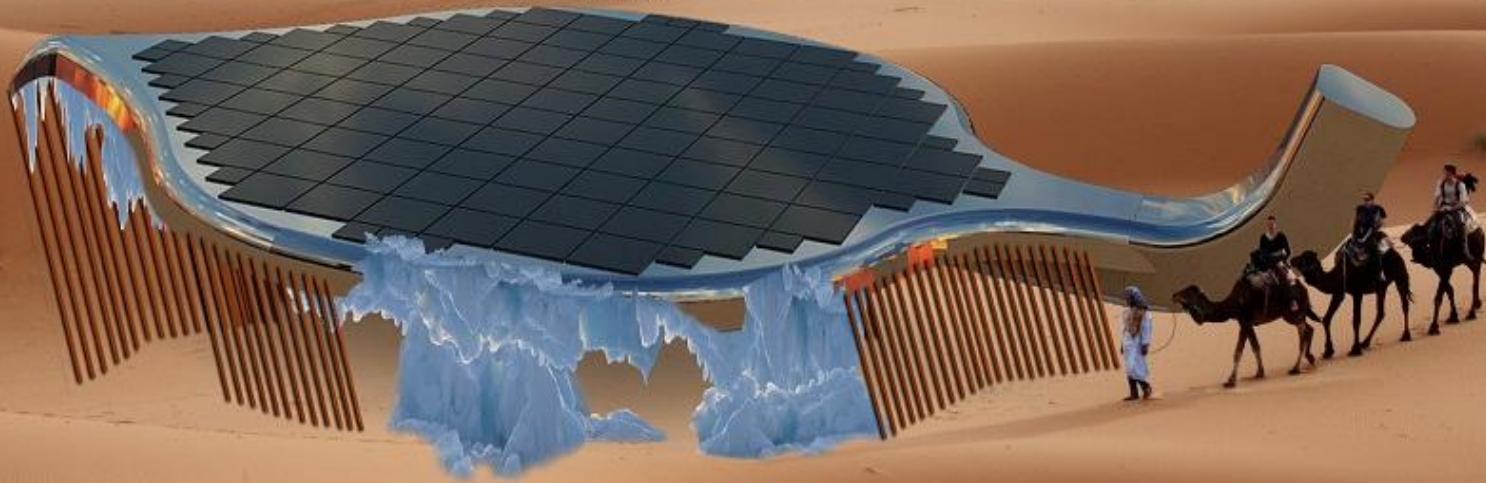


**SUNGLACIER**



# Sunglacier

Ap Verheggen – A glacier in the desert:  
electricity and water out of air







Sunglacier @ Expo 2020 Dubai

### III. T3h h4ck3r's m1nds3t



Hacker: never wait for circumstances to change.  
Change the circumstances instead.

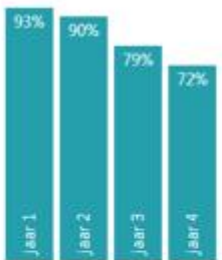




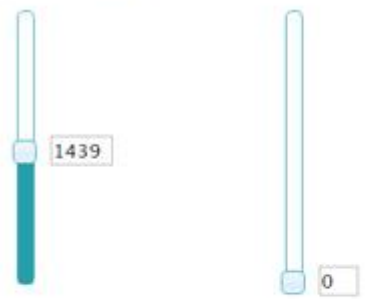
Solar powered mobile phone grid, Niger



29% onafhankelijk in 4 jaar



Energiebudget (per maand)    Startinvestering

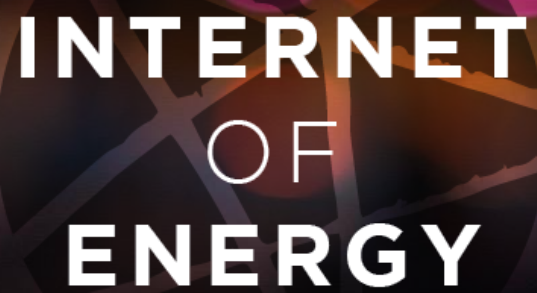


Opslaan    Reset    Bereken

Energiekosten: € 1.348

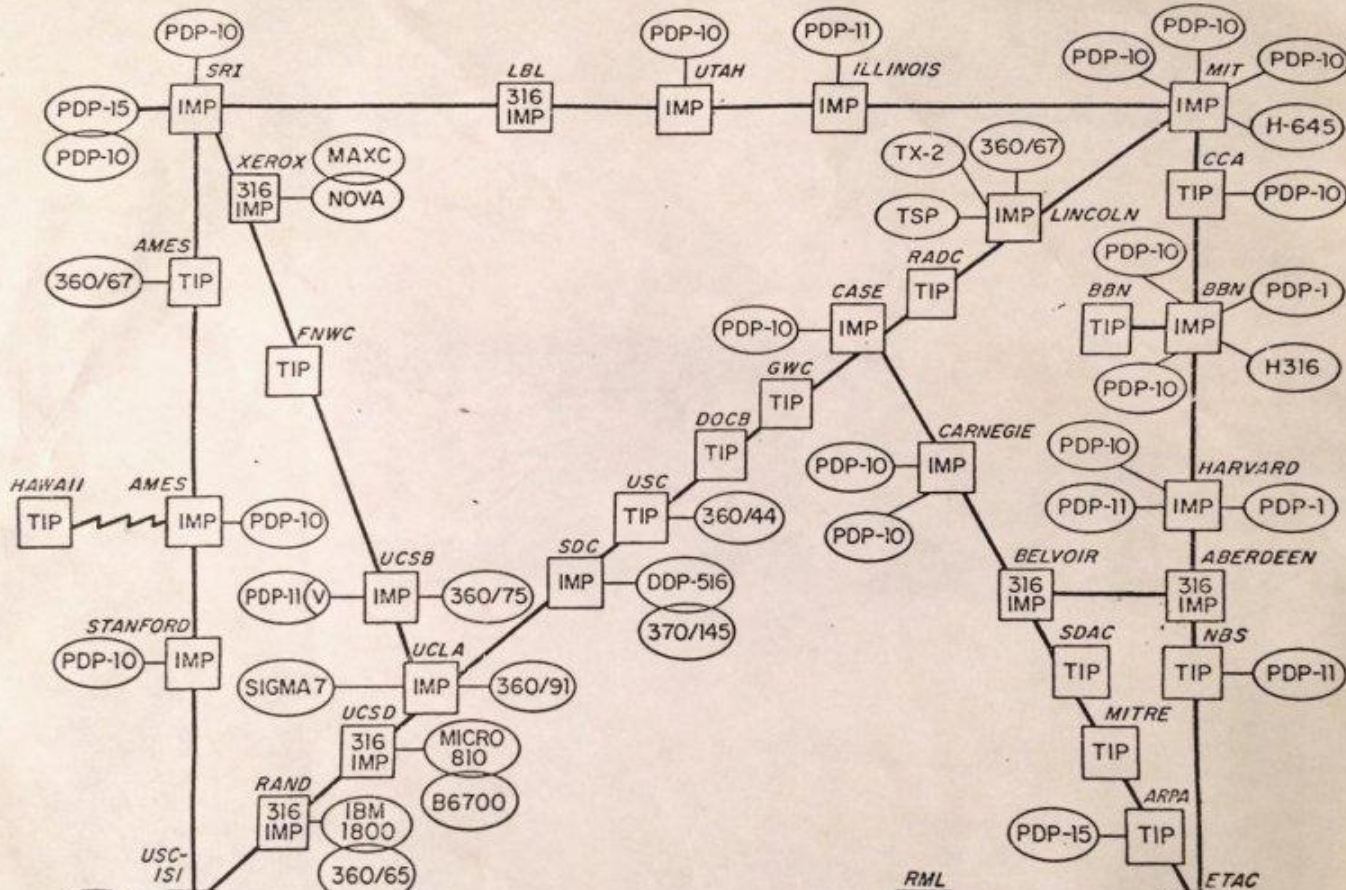
# PATH TO ZERO

Integrated energy for the built environment, with a pathway to increased independence, autonomy, and resilience. Average energy savings per customer: 30% after 3 years.

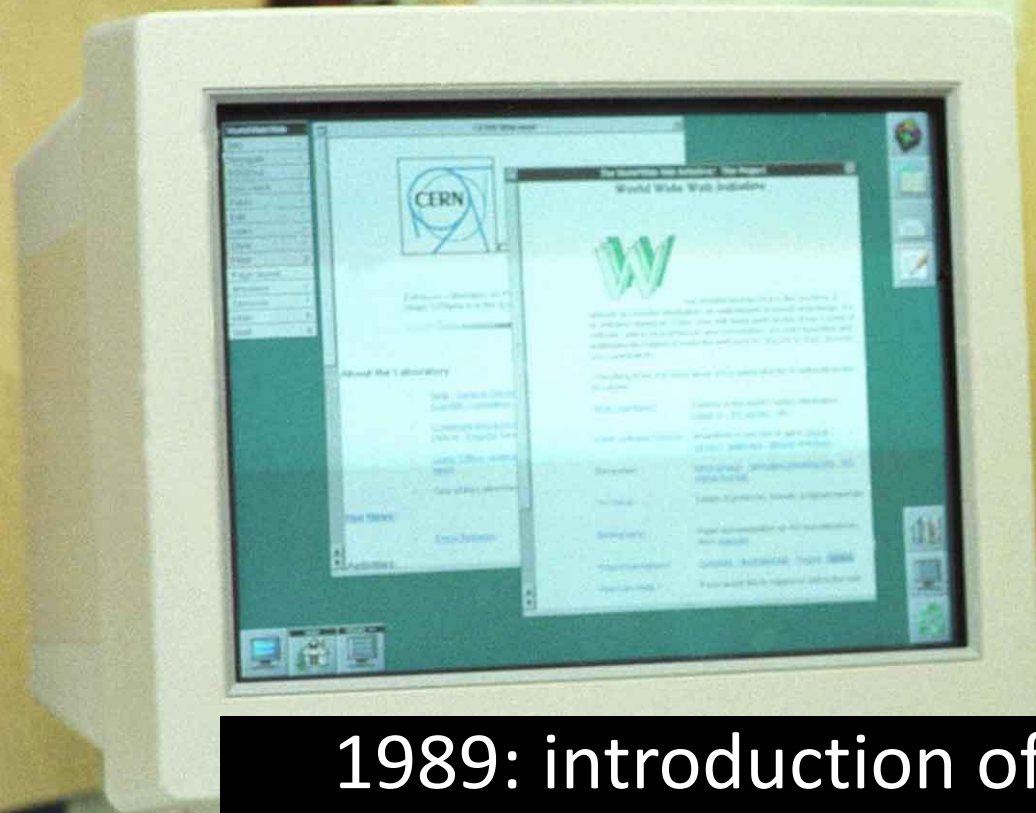


**INTERNET  
OF  
ENERGY**


# ARPA NETWORK, LOGICAL MAP, MAY 1973



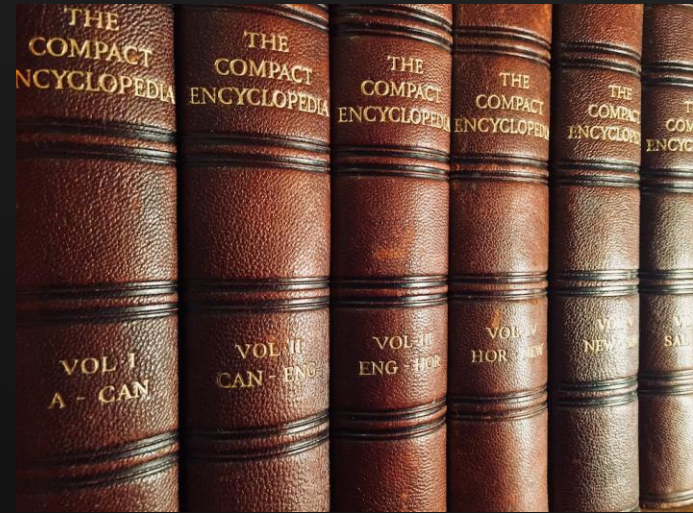
Arpanet in 1973: 36 users



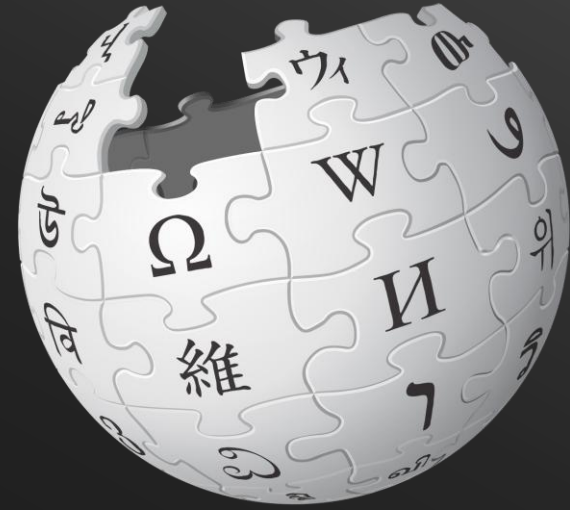
1989: introduction of www-protocol



October 2025: 6.040.000.000 internet users



Consumer  
prosumer

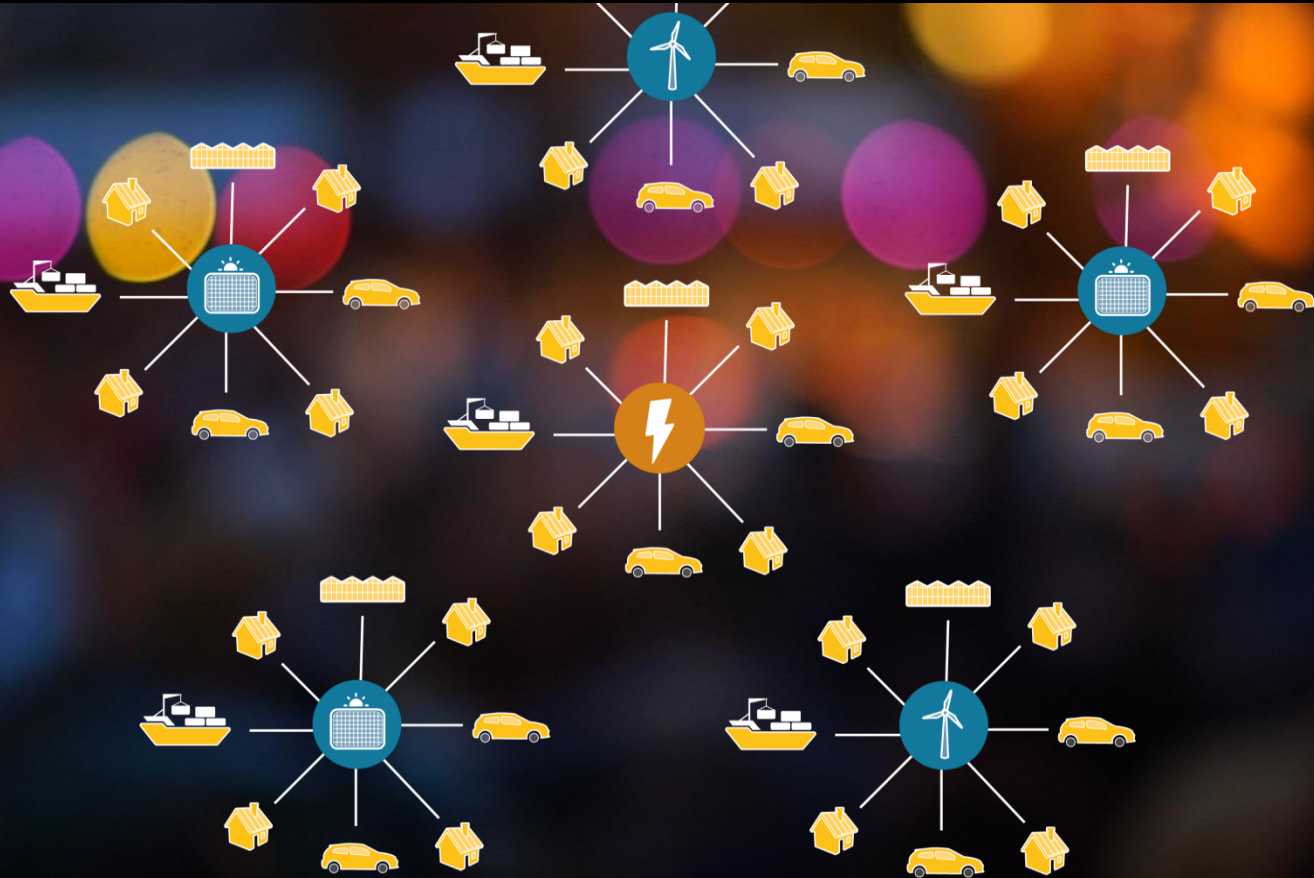


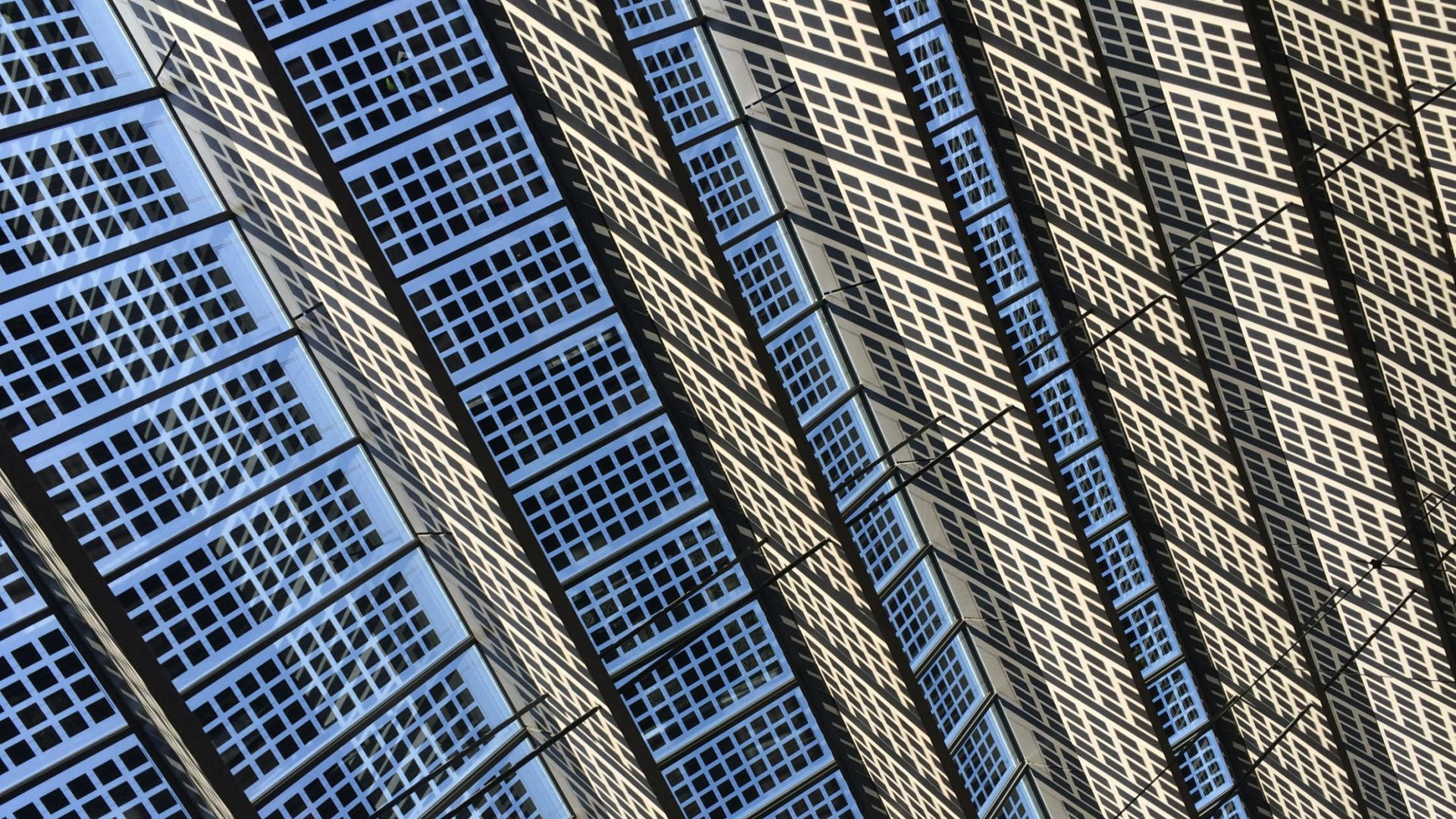
Energy transition follows digitalization: central – decentral - distributed





Decentralization = suboptimal: new technologies, old business- an dsitribution models





# Distributed energy: everything is connected to everything else



# INTERNET OF ENERGY



IoE: a self-balancing network of interconnected devices. An energy ecosystem

# Rethink the system: shift from 'security of supply' to 'energy security'



Keep energy local: >5x more resilient, up to >90% cheaper

- **Central = expensive & fragile.**  
(In EU: € 35k/connection to uphold 22 minutes downtime)
- **Distributed = cheap & resilient:**  
Home battery + solar panels: \$ 899 allowing 9 hours downtime

# Grid balancing from the outside in: decongestion by design



80 / 80 / 80/20

Striving for partial autonomy on each grid level reduces grid stress by >99% on national level



unify.energy

# Planning & control





Sense & respond



Swarm intelligent systems

Synergy: building energy breakthroughs together for tomorrow



SYNERGY

# RESILIENCE!

1–3 April 2026

DGTL Festival – NDSM Amsterdam

Including the DGTL Night Show,  
April 3 22:00-05:00

with Armand van Helden & Benny Rodrigues



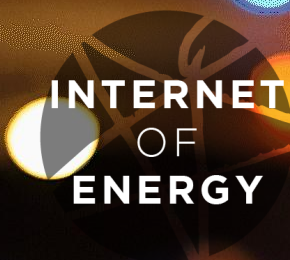
## Challenges:

# Resilient Energy Hub  
Marineterrein

# Future-Proof Festivals

# Designing Europe's Strategic  
Defaults





INTERNET  
OF  
ENERGY

People Power People -  
Universal access to clean, renewable and conflict-free  
energy



UNIVERSAL  
**RIGHT**

# No more squares?



Eve Park – Ontario CA, Supernature Labs | Dror Benshetrit

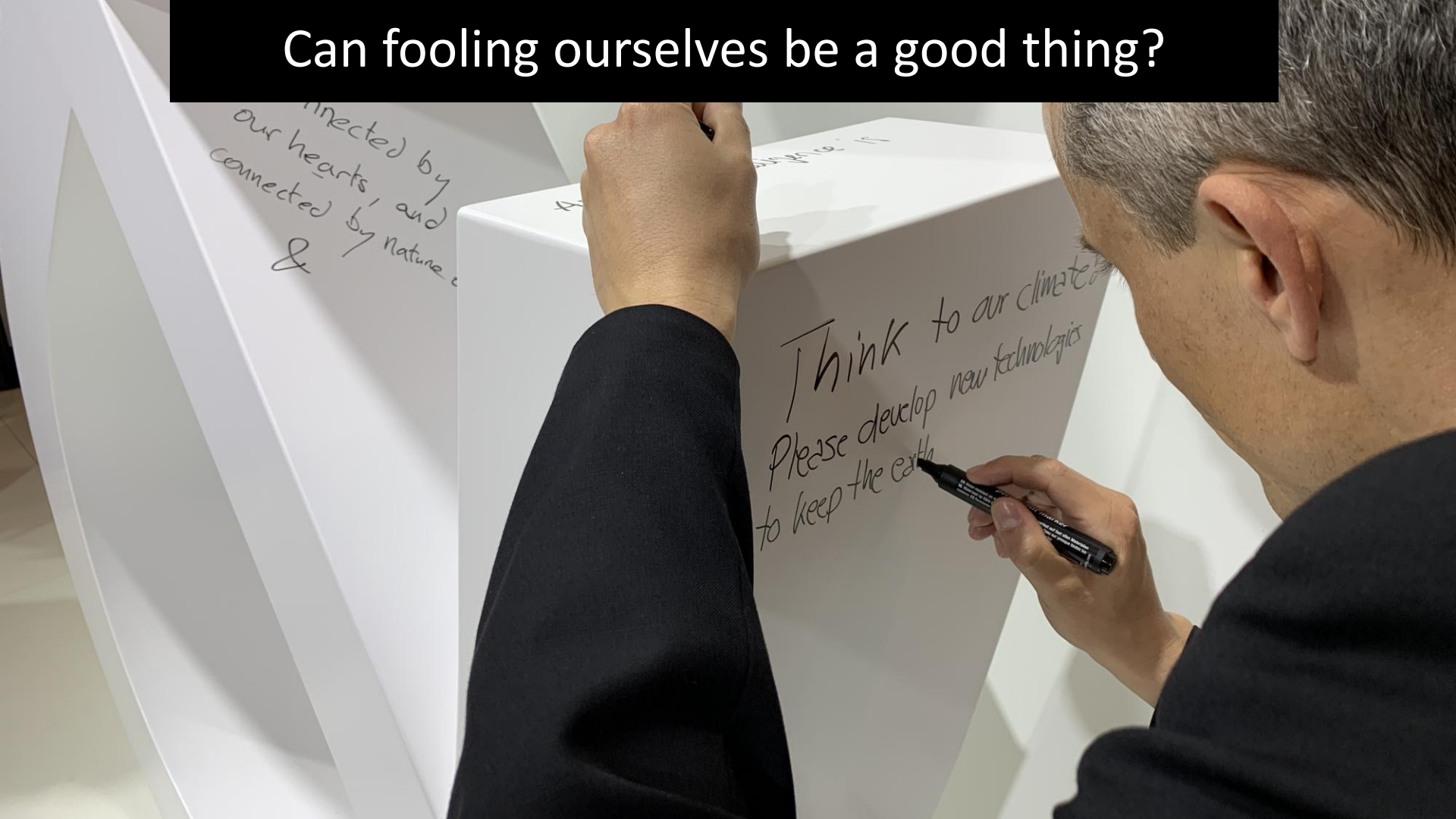


No more waste? Dublin University: common mealworms turn polystyrene back into organic material

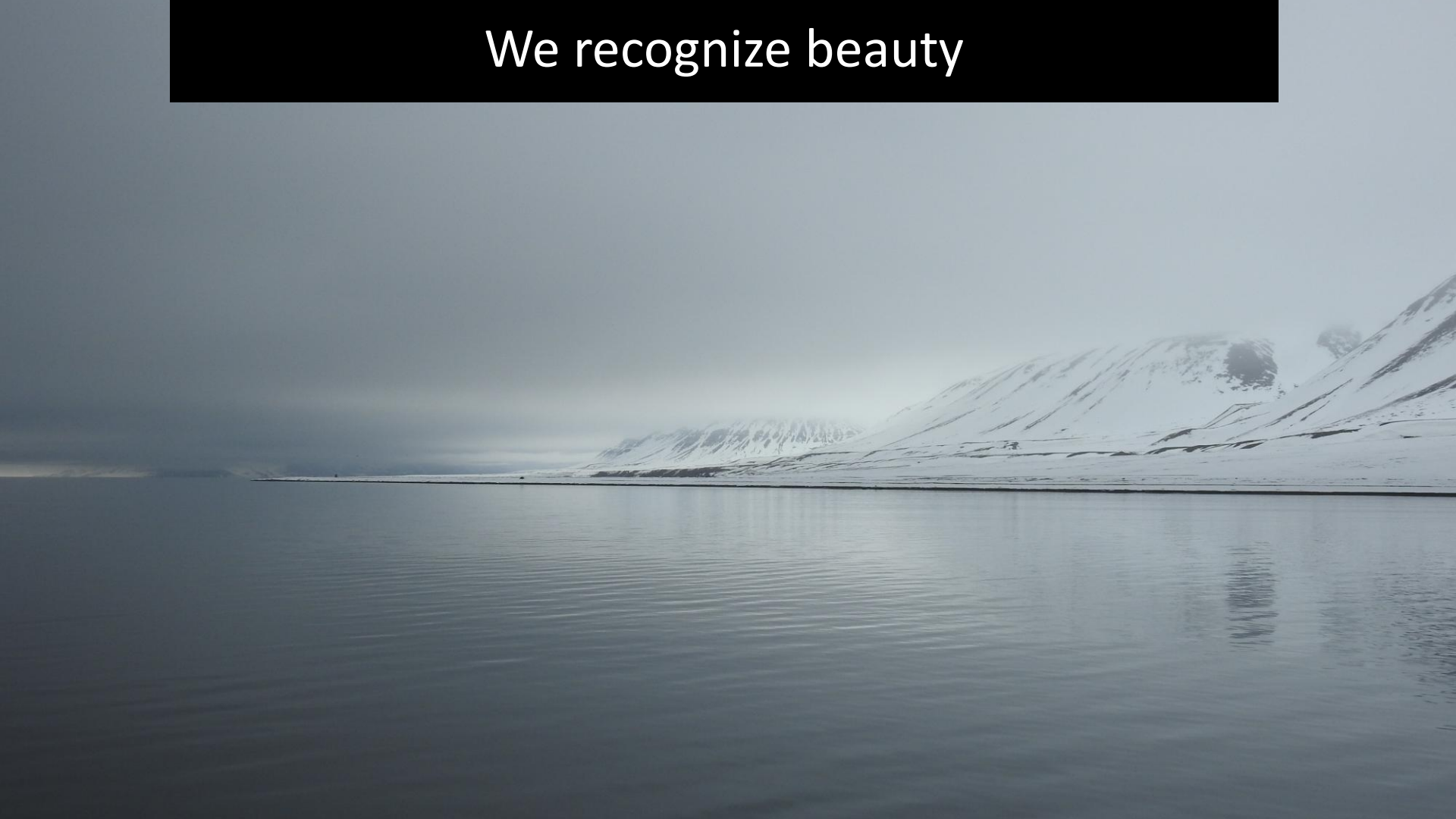
# Can fooling ourselves be a good thing?

connected by  
our hearts, and  
connected by nature  
&

Think to our climate  
Please develop new technologies  
to keep the earth



We recognize beauty



In big things



...and in small things



We create beauty

This image shows a page of handwritten musical notation on aged, yellowed paper. The score is written in dark ink and consists of several staves. The notation includes various musical symbols such as notes, rests, and beams, along with some handwritten annotations in red ink. A prominent black rectangular box is overlaid at the top of the page, containing the white text "We create beauty". The paper shows signs of age, including some staining and a slightly uneven texture. The overall appearance is that of a historical or personal manuscript.

Feel compassion



...connectedness



We recognize patterns



...and translate these into new realities





Beyond the culture of contest...



...and onto a culture of collaboration:  
synergy, more than the sum of our parts



“imagine all  
the people  
sharing all the  
world”



unify.energy

dream.develop.do



arash@unify.energy  
arash aazami (LinkedIn)