Futures Resilience from New Great Electrification and Peer-to-Peer Society

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Debate on Smart Energy
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Structure of Presentation

1. Futures Thinking as Strategic Skill
2. Transformative Neo-Carbon Energy Scenarios
3. New Great Electrification and Peer-to-Peer Society
1. Futures Thinking as Strategic Skill
Futures Research as Strategy

“No wind is favourable to the one who does not know the port where he/she is heading for" - Seneca 4 BC - 65 AD

Action without a vision is purposeless. Vision without a strategy or action is useless.

National strategies:
”Finland as Information Society”
”Finland as a Country of Low Emissions”
1. The future cannot be predicted

We can only create images and ideas of what events we will be facing in the future - therefore futurists use the phrase “many alternative futures”. More or less enlightened anticipations.

2. The future is not pre-determined

We can assess what will probably happen (i.e., what the grades of probability are), when we consider the different options. There is not one future.

3. The future can be affected

Therefore it is important to know what is probable (plausible) and what is preferable. This requires the consideration of values.

(Roy Amara 1981)
FUTURE = CHANGE
RAPID CHANGE EMPHASIZES THE STRATEGIC IMPORTANCE OF FORESIGHT
Identify – Anticipate - Analyse

• Change is not only rapid but also continuous. It is increasingly difficult to foresee in our complex world

• We are living the age of globalization, urbanization, digitalization, and resource scarcity

• These megatrends are making a significant impact on nations and on people’s lives
The future use of natural resources and energy is also affected by socio-cultural aspects such as changes in people's lifestyles and as well as value and education systems (and vice versa).

Studying these aspects is equally important as technological, economic and geopolitical factors.

-> NEO-CARBON ENERGY PROJECT
2. Transformative Neo-Carbon Energy Scenarios
Christian Breyer, LUT, How to reach a 100% renewable energy system?

- Horizon scanning
- Futures Cliniques
- Transformational scenarios on Neo-Carbon Energy Futures 2050

Business, government and NGOs

Pasi Vainikka, VTT
Project Coordinator

Neo-Carbon Energy is one of the Tekes strategy research openings, carried out in cooperation with the Technical Research Centre of Finland VTT, Lappeenranta University of Technology LUT, and Finland Futures Research Centre FFRC.

Jerome Glenn
Millennium Project

http://www.neocarbonenergy.fi/
https://www.youtube.com/watch?v=Ww76jNrVHhw&feature=youtu.be
What is Neo-Carbon?

• In the neo-carbon system energy is produced by solar and wind technologies and is stored in synthetic methane. Not only energy production, but the whole-of-society will be affected by this new energy system.

• Possible socio-economic consequences and prerequisites of the neo-carbon energy system are anticipated. The future energy system and landscape is affected by changes in socio-cultural aspects such as value systems and people's lifestyles.
In the neo-carbon world, everything is produced emissions-free with solar, wind, and other renewables. Synthetic products replace oil (generated by the electricity from renewables).

In the 21st century, decentralized energy system drives a peer-to-peer society.

In the 20th century, infrastructure was centralized. In the 21st century decentralization proceeds.
Transformational Scenarios

We constructed all our four neo-carbon scenarios as “Transformational” in order to not to be too cautious or conventional in exploring futures.
1. RADICAL STARTUPS

2. VALUE-DRIVEN TECH EMOTHS

3. GREEN DIY ENGINEERS

4. NEW CONSCIOUSNESS

FOUR TRANSFORMATIONAL SCENARIOS 2050
Deep ecology

Radical Startups

Society is business-oriented, but economy is driven by a multitude of small-scale startups known for their "radical" values and approaches.

Environmental problems are solved commercially. Businesses are drivers of new, ecologically oriented lifestyles.

Peer-to-peer approaches take place within startups and their networks.

Value-Driven Techemoths

Peer-to-peer approaches are practiced within global technology giants called "techemoths".

Techemoths provide solutions for environmental issues and are developers of cutting-edge energy technologies.

Markets take care of environmental issues.

New Consciousness

Threat of an ecological collapse and ubiquitous information and communication technologies have led to a new kind of consciousness.

Human beings are deeply intertwined with nature and with each other.

Environmental problems are not seen as practical issues but called for deeper changes in values and mindsets.

Green DIY Engineers

The world has faced an ecological collapse.

Engineer-oriented citizens have organized themselves as local communities to survive.

Environmental problems are solved locally, with a practical mindset.

Corporate ("Centralized" peer-to-peer)  Peer-to-peer  Neo-Communal (Distributed peer-to-peer)
Testing Scenarios with the Pioneer Analysis

• Pioneer analysis was used to examine the pathways towards a future 100% renewable energy society.

• The key idea and hypothesis in this survey is that futures knowledge can be obtained by identifying these forerunners and learning from them proactively.
Tailor-made Expert Survey on the Neo-Carbon Scenarios 2050

- **Aim:** To identify forerunners
- **Millennium Project, Club of Rome and other experts from case countries invited**
- **Descriptive, not statistical analysis**
- **Views:** which scenarios are possible, probable and preferred and why?

**Sample questions:**
- What would need to change in your country for radical startups to flourish?
- What would make the large companies in your country develop products and services based on renewable energy?
- How can society support these DIY engineers?
- What local issues drive new consciousness in your country?
3. New Great Electrification and Peer-to-Peer Society
Our new research project at the Finland Futures Research Centre focuses on the full electrification of society, shaped by the uptake of renewable energy technologies and the new models of Peer-to-Peer Society.

Are such advances bringing forth a new narrative?

Read more about the future of energy!
https://urly.fi/WDs
• The transformation of the energy system aligns with the principles of a Peer-to-Peer Society.

• Peer-to-peer practices are based on the active participation and self-organising practices of citizens. Citizens share knowledge, skills, co-create, and form new peer groups.

• Citizens will use their capabilities also to develop energy related products and services.
How Can Citizens Express Their Lifestyles Through Energy Solutions?

1) **Citizens can reduce energy consumption** in their energy choices and everyday decision-making points on traffic, waste etc.;

2) **Citizens can consume green products and services**: products of factories that run on renewables, that help to save energy or even private investment.

3) **Citizens can “go solar”** and produce the energy they use by themselves;

4) **Being politically active** and vote for those that drive change; and

5) **Expressing values** by joining NGOs or interest groups or by being active on social media and building networks.
Surprises are the New Normal
- Testing Resilience of Renewable Energy World with Black Swans

• Futures Clinique of the Neo-Carbon Energy Project 17th May 2017

• Keynote speaker is Dr. Karlheinz Steinmüller (Z_Punkt)/Millennium Project

• Commentary by Dr. Jarno Limnell (Aalto University), professor of cyber security
Smart Energy Transition

- Boldly building post-fossil era
- Developing futures resilience
- Electrifying whole society as well as tapping into the potential of peer-to-peer society
Thank You!

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“We have the science, the technology, and the game plan to make it happen. Now it is a question of whether we will recognize the economic possibilities that lie ahead and muster the will to get there in time.”

- Jeremy Rifkin -
NEO-CARBON REPORTS


NEO-CARBON REPORTS


REFERENCES


