Testing Transformative Energy Scenarios through CLA Gaming

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Conference on Improving Scenario Methodology: Theory and Practice
Warwick Business School, Coventry, UK
14th – 15th December 2015
Structure of Presentation

1. Testing and elaborating scenarios through serious gaming

2. Transformative energy scenarios

3. Applying the Causal Layered Analysis game to test scenarios

4. Conclusions and open questions
Development of CLA scenario game by Heinonen, Minkkinen and Inayatullah started at Future Infinite Conference in Helsinki 2014

CLA game session by Inayatullah for the FFRC students and staff

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Pilot CLA game was conducted at “Futures Studies Tackling Wicked Problems” conference, June 2015
Testing and elaborating scenarios

- Draft scenarios
  - Input: context and focus
  - CLA game
    - Feedback: new insights
  - Improved scenarios

[Image: NEO Carbon Energy logo]
2. Transformative energy scenarios
Transformative Scenarios 2050

  - VTT Technical Research Centre of Finland, Lappeenranta University of Technology, FFRC
  - Funded by Tekes, the Finnish Funding Agency for Innovation
  - Zero-emission energy system: renewables, energy trading, storage

- FFRC: socio-economic futures related to energy system
  - What kinds of societal changes does the neo-carbon energy system promote and enable?
  - Citizen perspectives and transformational futures
  - How can businesses utilize these changes?
Research team of the foresight part of NEO-CARBON ENERGY

Finland Futures Research Centre (FFRC)/University of Turku (UTU)

Lead: Prof. Sirkka Heinonen

Project Researcher Juho Ruotsalainen
Project Researcher Joni Karjalainen

Research Intern Marjukka Parkkinen
Research Intern Nick Balcom Raleigh (Millennium Project Intern)
TRANSFORMATIVE SCENARIOS 2050

Deep ecology

ECOLOGICAL AWARENESS

Pragmatic ecology

Corporate ("Centralized")

RADICAL STARTUPS

NEW CONSCIOUSNESS

VALUE-DRIVEN TECHEMOTHS

GREEN DIY ENGINEERS

PEER-TO-PEER

Neo-Communal (Distributed)

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| Radical startups  
(deep ecology + corporate P2P) | New consciousness  
(deep ecology + distributed P2P) |
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<td>Society is business-oriented, but economy is driven by small startups known for radical values.</td>
<td>Threat of collapse has led to less individualism and new consciousness of interconnections.</td>
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| Value-driven techemoths  
(pragmatic ecology + corporate P2P) | Green DIY Engineers  
(pragmatic ecology + distributed P2P) |
| Peer-to-peer approaches are practiced within global technology giants ("techemoths") which develop energy technologies. | After ecological collapse, engineer-oriented citizens have organized themselves as local communities to survive. |
3. Applying the Causal Layered Analysis game to test scenarios
Causal Layered Analysis (CLA) is a futures research method developed by Sohail Inayatullah.

Investigation of alternative futures by studying beliefs and assumptions.
CLA Layers

- **Litany**: “what is said”, issues
- **System**: “what happens”, causes and effects
- **Worldview**: “what is believed”
- **Myth/metaphor**: narratives that inform the other layers
“Original” CLA game according to Inayatullah (2015a)

Participants divided into four groups according to CLA layers: litany, system, worldview and metaphor

1) Choose a topic
2) Litany group presents a headline
3) Back-and-forth interaction between groups
   • System view, stakeholder viewpoints, metaphors
4) Outcome: a new litany based on the discussion
Neo-Carbon CLA Game

Format was modified for the objective of elaborating existing scenario drafts

Participants were divided into five groups according to the four scenarios – not into the four CLA layers

Game proceeded in two phases
Phase 1: Working on one of the scenarios in a small group
CLA layers were covered sequentially
Front page of a future newspaper was presented.
System / social causes

PESTEC Futures Table
Worldview

Roles: motivating, threatening factors; allies, enemies

Each group had seven role cards, plus blank cards for invented roles.
Participants created metaphors in character:

- "Oasis in the Desert"
  - Artist

- "Harmony inside the fences"
  - Retired Civil Servant

- "Back to Basics"
  - Deep Ecologist

- "The kids have taken over"
  - Retired University Teacher
Phase 2: Presenting (‘selling’) the scenarios to the whole group
Groups reported back to a larger session led by Sohail Inayatullah.

He encouraged groups to “sell their scenarios” to the other groups.

Groups presented their scenarios in character, each participant describing the scenario from their role’s perspective.
4. Conclusions and open questions
Outcomes

- 41 people participated from more than 15 countries

- The experiment was successful: participants were able to generate relevant and thought-provoking metaphors and causal dynamics for the NEO-CARBON scenarios

- Analysis of the feedback for the original scenarios is ongoing
Outcomes

• FFRC will continue experimenting with CLA game in scenario building

• Future applications of CLA Game may include an online game
Further development challenges

Analysing social dynamics, e.g. alliances and conflicts

Green arrows = allies
Red arrows = enemies

[Diagram showing interactions between various roles including Customer, Small Entrepreneur 1, Small Entrepreneur 2, Techemotive, Transhumanist, Employee of a "Techemoth", Underground Anti-corporate Hacker 1, Underground Anti-corporate Hacker 2, CEO of a "Techemoth", Marginalized Person, Low Level of Education, High School Student]
Further development challenges and open questions

- How to familiarise participants with the scenarios?
- Which aspects of the game need more refinement?
- What is an appropriate duration for the game?
- Could the game be continued as an online version?
A complete report on the game session will be published as an FFRC eBook.

To participate in development of CLA Game, please contact us:

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THANK YOU!
REFERENCES


See also Demonstration video of CLA game experimentation with Neo-Carbon Energy Scenarios https://sites.google.com/site/futuremediac/videos--presentations
