Slovenia as a Model of Integral, Low-Carbon Economy and Society?

Dr. Darja Piciga
Služba Vlade RS za podnebne spremembe
Government Office of RS of Climate Change

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Maribor, Slovenia, 8th-10th March 2012
Focus of the presentation

1. The Draft Low-Carbon Strategy of Slovenia
2. The three scenarios for 2035 in times of climate change
3. Applying “International Futures” model for scenario creation and evaluation
4. The Integral Approach framework
5. The integral character of the Draft Low-Carbon Strategy
Our world is so confusing

This map is not working!

- Climate change
- Terrorism
- Economic globalization
- Changes in working life
- Immigration
- Polarisation of the society
- Financial crises
- Revolutions, wars
- etc

Source: Hämäläinen, 2011; O’Hara 2008
Sustainable Development - Dimensions:

Gospodarstvo
Economy

Družba
Society

Okolje
Environment
The vision of Slovenia as a low carbon society in 2050 is a highly integrated and inclusive society with an excellent business sector and a high quality of life, space and natural environment.
Low-Carbon Society

Society (or economy),

- of which the greenhouse gas emissions are lower than the absorption capacity of the global ecosystem,
- and at the same time based on the principles of sustainable development.

Slovenia is among the first countries that have already drawn a comprehensive strategy for a transition to a low carbon society!
Global goal: Halt the increase of global average surface temperature below 2°C

Strategic goals of Slovenia:
- Lower the national GHG emissions to less than 4 million ton of CO₂ equivalent by 2050
- Make sure that vulnerability of Slovenia to effects of climate change does not increase above the present level

**Slovenia 2050**

![Graph showing emissions by sector from 2000 to 2050](image)

- **Energy**
- **Industry**
- **Housing and services**
- **Transport**
- **Non CO2 Agriculture**
- **Non CO2 Other**

**Current Policy**

- Emissions trends from 2000 to 2050 are depicted, showing the projected reduction in emissions under the current policy.
## Strategic approach

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<th>Reducing emissions through green growth</th>
<th>Green Growth</th>
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<td>Green Taxes</td>
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<td>Public Expenditure</td>
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<td>Adaptation</td>
<td>Improving predictions and assessment of vulnerability</td>
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<td>Integration of adaptation objectives into sectoral policies</td>
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<td>Innovation and Education</td>
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<td>Awareness and Communication</td>
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<td>Active Role in International Community</td>
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### Thematic AREAS:
**SWOT** ➔ **Vision** ➔ **Objectives and Guidelines**

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<thead>
<tr>
<th>THEMATIC AREA</th>
<th>EMISSION REDUCTION</th>
<th>ADAPTATION</th>
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<td>Energy</td>
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<td>Transport</td>
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<td>Low carbon technologies</td>
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<td>Agriculture</td>
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<td>Solid waste</td>
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<td>Spatial planning</td>
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<td>Forests, sinks, biodiversity</td>
<td>✓</td>
<td>✓</td>
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<td>Waters</td>
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<td>Health</td>
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<td>Natural disasters</td>
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Process 2008 ➔

- Project “Development Scenarios for Slovenia to 2035. Trends and opportunities in the times of climate change.” 2008
- Research project “Slovenia – Low-Carbon Society” 2008-2011
- Establishment of Government Office of Climate Change in 2009
- Parliament declaration 2009
- Draft Climate Act 2010
- Consultation process 2010-2011
- Over 15 stakeholder workshops
- “International futures” model
- Draft published in Sept. 2011
- Ready for adoption in 2012
The scenario planning exercise, described in the report *Development Scenarios for Slovenia to 2035. Trends and opportunities in the times of climate change* was undertaken in 2008 by the Office for Growth, with assistance from Scenario Development (an international UK-based scenario agency).

**FORECAST vs. SCENARIOS:**

Current realities (mental maps) → Multiple Paths → Alternative Future Images → SCENARIOS

The DECISIONS we take today for the FUTURE are determined by our PERCEPTIONS OF THE PRESENT and our ASSUMPTIONS ABOUT THE FUTURE.
Green Slovenia today – forestry, rich biodiversity, water availability, people, cultural heritage, ...
“Clueless” is reported in the form of a piece of writing from a critic in 2035. The writer looks back and tells of the various failures of the past 27 years, suggesting that his own life is at risk since, by 2035, the government has lost any respect for human rights, freedom of expression and critique.

The “Green Oasis” scenario is presented as a conversation between three individuals who are contributing to a documentary, produced in 2035, about Slovenia’s successes. The three interlocutors represent different professional stakeholders who are central in addressing climate change. They praise Slovenia’s action and try to also grapple with some of the challenges that were encountered in making this outcome happen.

“Chameleon” is presented in the form of a diary kept by a woman who is engaged to a farm labourer. She chronicles events of the moment and their implications, and gains deeper insights and understanding as time progresses. The diary chronicles change as it occurs, adaptation as it is made, and the realisation that adapting to impacts has, after 27 years, not been enough, citizens – taxes were even imposed on couples with no children! ...
3 Scenarios: key points

Clueless – a scenario showing pervasive lack of government action and denial of any impending environmental impacts, hoping that the problems solve themselves. The growing extreme weather conditions and negative impacts on Slovenia eventually justify the extreme and draconian measures implemented by an increasingly autarchic government. This is a scenario that does not believe in climate change impacts, and any corrective action is left until the very end – when it is ultimately too late.

Green Oasis – the best possible outcomes are achieved through early technology-driven action and through attitudinal and value changes. The population buys into the plans and all recommendations, policies and regulations are implemented fully for maximum benefit. The economy changes to become less carbon intensive and an overall national pride and “happiness” is central to effect lasting change. This is a scenario of “being ahead of the impact curve” in order to mitigate and prevent climate change impacts, as far as possible. Global collaboration is required for each country to reach this kind of scenario.

Chameleon – this is an evolutionary story: small incremental adaptations and accommodative responses to deal with the impacts and consequences of climate change without taking a fully proactive stance to avert the impacts in the long term. Some action is taken but without coordination or conviction: many little steps but no new journey. This is a scenario that goes overall in the right direction because people feel that a response to climate change is mounted, however it is consistently too little and too late for any lasting impact and to avoid exposure to the climate change-related forces.
3 Scenarios: key points

DENIAL → Clueless

- AWARENESS AND EDUCATION (VALUES, ATTITUDES)
- TECHNOLOGY DEVELOPMENT
  - ADAPTATION TO EFFECTS OF CLIMATE CHANGE
  - REDUCING GHG EMISSIONS (CAUSES)
  - DEVELOPMENT OPPORTUNITIES
  - WELL-BEING
  - GLOBAL COOPERATION

→ Green Oasis

TOO LITTLE AND TOO LATE → Chameleon
Branching points between scenarios

1. Is climate change seen as a reality that requires a response?
   - No: Clueless
   - Yes: Are systems changed fundamentally to tackle climate change?

2. Are systems changed fundamentally to tackle climate change?
   - No: Chameleons
   - Yes: Green Oasis
Scenario Comparison:

What are the over-arching core values?

- revolve around wealth and economic growth at any cost
- the best model for achieving satisfaction is embodied in the market-based capitalism of the 1990s and early 2000s,
- no decoupling of GDP and energy use.

- people value above all their country and the environmental, cultural and individual beauty it offers,
- maintaining and improving Slovenia as it is in 2008,
- responsibility for the future generation & general global responsibility.

- individualism and a lack of collective responsibility,
- people value their lifestyles,
- some are prepared and able to adapt to new situations,
- it is felt that if the environment changes, the country will be able to adapt and still “pull through”.
Scenario Comparison: important questions

- How is climate change perceived in Slovenia?
- What are the over-arching core values?
- Are the key stakeholders organising and rallying to act? Is there “policy cooperation”?
- Does the government take a lead?
- How does the economy change?
- What are the climate change impacts?
- What does R&D look like?
- How does the extent of impact mitigation vary across scenarios?
- What is the role of NGOs and other non-profit sectors?
- What happens to the various legislative packages already in the pipeline in 2008?
- What are the energy production and energy use outlooks?
- Who are the sources of information and analysis for climate change science?
- What is unexpected and challenging in each scenario?
International Futures (Ifs) helps understanding the state of the world and thinking about the future we want to see - to facilitate exploration of global futures through alternative scenarios. Data base with data for 182 states since 1960.

The website with all relevant information on IFs where it is freely available in downloadable form: [http://www.ifs.du.edu/index.aspx](http://www.ifs.du.edu/index.aspx)

Results displayed also on Google's Public Data Explorer ([http://www.google.com/publicdata/home](http://www.google.com/publicdata/home)).

Modelling - building complex scenarios of social, economic and environmental development.

Scenario creation using complex models:
- Bringing policy development up to the scientific level of research and validation.
Global scenarios GEO4, UNEP 2007

Markets First
the private sector, with active
government support, pursues
maximum economic growth as the
best path in improve the
environment and human well-being

Policy First
government, with active private and
civil sector support, initiates and
implements strong policies to
improve the environment and human
well-being

Security First
government and private sector
compete for control in efforts to
improve, or at least maintain, human
well-being for mainly the rich and
powerful in society

Sustainability First
government, civil society and the
private sector work collaboratively to
improve the environment and human
well-being. Strong emphasis on
equity. Accountability, transparency
and legitimacy are stressed across
all actors.

Figure 9.1 Strength of investments in opportunities to reduce vulnerability in human-environment systems and improving human well-being

- Markets First
- Policy First
- Security First
- Sustainability First

- Resolving conflict through environmental cooperation
- Securing access to and maintaining natural resource assets
- Promoting free and fairer trade
- Improving health
- Strengthening local rights
- Building institutions for equity
- Building and bridging knowledge to enhance coping capacity
- Building a culture of responsibility
- Integrating governance across levels and sectors
- Investing in technology for adaptation
- Building capacity for implementation
TRP Slovenia – Low Carbon Society

Schematic diagram of the hierarchical analysis of four UNEP scenarios
Possible scenarios in global context (IFs)

Emissions C (Mt) from fossil fuels - Slovenia

Year
0.0056
0.0051
0.0046
0.0041
0.0036
0.0031
0.0026
0.0021
0.0016


Scenario
Base
Base_BDPkor2
Bs_Slo SuF
Bs_SuSloB21
Markets
MF_Slo SuF
MF_SloSuB21
Policy
Po_Slo SuF
Po_SloSuB21
Sc_Slo SuF
Sc_SloSuB21
Security
Sustain

Milijard ton

SLUŽBA VLADE RS ZA PODNEBNE SPREMEMBE

hija znjuje CO2
Conclusions:

- UNEP GEO4 scenarios applied to Slovenia show suitable carbon emissions decrease only in the case of Sustainability scenario.

- Additional scenario components: Green tax strategy - UNEP scenarios with corrections:
  - Slovenian GDP growth 2% till 2030 and 1% after 2035
  - different UNEP scenarios for the World, Sustainability scenario for Slovenia

Several scenarios were produced by members of the project team:
  Dr. Stanko Hočevar (Head)
  Dr. Metod Škarja: metod.skarja@guest.arnes.si
  Dr. Gorazd Lampič: gorazd@elaphe-ev.com
  Dr. Mihael Sekavčnik
RESPONDING TO A WORLD ON FIRE
INTEGRAL APPROACH
FOUR WORLDS AND THE CENTER

Professor Ronnie Lessem & Dr. Alexander Schieffer
TRANS4M, Switzerland, www.trans-4-m.com
INTEGRAL ECONOMY
Releasing Southern, Eastern, Western Economic Gene-ius

LIVING life-based ECONOMY
Sustainable Enterprise, Well-being Economics, Real Economics, New Economics, Self-sufficient Community-based Economy

Self-Sufficient Community-based Economy
Sustainable Enterprise, Well-being Economics, Real Economics, New Economics, Social Business

MORAL ECONOMIC CORE
Indigenous Economics, Buddhist Economics, Islamic Economics, Catholic Economics, Humanistic Economics etc.

Developmental Culture-based Economy
Co-Evolutionary Economics, Conscious Economics, Associative Economics, Enterprise Economics

Social Knowledge-based Economy
Cooperative Enterprise, Open Economics, Network Economy, Common Good Economics

Integral Economics: a new transcultural approach towards social and economic transformation
Ronnie Lessem, UK, and Alexander Schieffer, Switzerland, TRANS4M
From Fundamental Research To Transformative Action

Path of Reason
- North Rationalism
- Level FOUR
- Level THREE
- Level TWO
- Level ONE

Path of Realisation
- Human Modes
- Doing

Path of Renewal
- East Holism

Relational Path
- South Humanism

Trust and Integrity in the Global Economy – Conference
Caux, August 2011

Integral Economics: a new transcultural approach towards social and economic transformation
Ronnie Lessem, UK, and Alexander Schieffer, Switzerland, TRANS4M
- Slovenia is in 2050 distinguished by a high educational level of population, i.e. possesses high intellectual capital.
- Development breakthrough was achieved by 2050 through innovation and investment in sustainable technological and non-technological solutions.

**FINANCE & ENTERPRISE:**
- In Slovenia, there are a number of sectors that are already part of or have the potential for green growth; in the following decades the policy of greening of all sectors is strongly promoted.
- Slovenia is in 2050 attractive for investment and living and is a lead developer of selected low carbon technologies.

**Science & Technology**

**Culture & Spirituality**

**Nature & Community**

**Economics & Politics**

**MORAL CORE**

- Healthy and biologically diverse ecosystems are adapted to climate change through natural processes and sustainable management. Preserved nature, including water quantity and quality, sustainable forests and biodiversity, provides ecosystem services.
- Slovenia is in 2050 a welfare society and the land of equal opportunities with high social cohesion, individuals and organizations are connected with the social environment.

- Building on Slovenia’s cultural heritage and the rich diversity of cultural influences.
- Supply networks in sustainable food and energy wood; related health-spa, recreation, catering and tourism build on natural and cultural heritage of Slovenia.
- Improved educational structure allows strengthening of civil society with strong social capital.
- Slovenia is actively participating in international efforts for sustainable development both through helping other countries but also by accepting “climate refugees”.

**Vision**
- Healthy and biologically diverse ecosystems are adapted to climate change through natural processes and sustainable management. Preserved nature, including water quantity and quality, sustainable forests and biodiversity, provides ecosystem services.
- Slovenia is in 2050 a welfare society and the land of equal opportunities with high social cohesion, individuals and organizations are connected with the social environment.
**MORAL CORE**

* Acceptance in principle of the values of sustainable development, high population awareness on climate change and the degree of motivation to act for the common good.

* Slovenia is in 2050 a society with a developed value system and conscious/enlightened holistic individuals and organizations.

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**Economic & Politics**
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**Science & Technology**
- Development breakthrough was achieved by 2050 through innovation and investment in sustainable technol. and non-technol. solutions.

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**Culture & Spirituality**
- Slovenija znīju CO₂.

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**Nature & Community**
- Healthy and biologically diverse ecosystems are adapted to climate change through natural processes and sustainable management.
- Preserved nature, including water quantity and quality, sustainable forests and biodiversity, provides ecosystem services.
- Slovenia is in 2050 a welfare society and the land of equal opportunities with high social cohesion, individuals and organizations are connected with the social environment.
Slovenia has several strengths and excellent opportunities on which to justify the strategy of green growth with reducing GHG emissions and of adaption to impacts of climate change.

- A small, open, export-oriented economy
- With a relatively good educational structure and
- Preserved natural environment

Represent a relatively favourable starting position for the transition to a low carbon society.
three valleys in unison

LOCAL & REGIONAL DEVELOPMENT

ECONOMIC GROWTH: provides social, cultural and environmental sustainability:

• the process of planning local and regional development (SUSTAINABLE TOURISM!)
• inclusion in national, international and EU programs
• build on and by integrating cultural and natural heritage
Solčavsko – Three Valleys in Unison

Promoting production chains:

- **TIMBER** - from tree to furniture (Solčava mountain wood)

- **WOOL** - from sheep to clothing (Jezersko-Solčava sheep)

- **CUISINE** - from nature on plate

- **SOLČAVA MARBLE** – from stone to vase
Research, development and innovation in low carbon technologies, the deployment and dissemination of innovations

- **Andrej Pečjak** – the Slovenian innovator converting cars into electric cars: [http://www.ad-pecjak.si/ECO/Ecar.htm](http://www.ad-pecjak.si/ECO/Ecar.htm)

- Successful innovator and socially responsible businessman, with several awards also in US: **Ivo Boscarol, Pipistrel** - [http://www.businessawardseurope.com/winners/winner-2010-pipistrel](http://www.businessawardseurope.com/winners/winner-2010-pipistrel)

- In Slovenia, there are a number of sectors that are already part of or have the potential for **green growth**.

- In a world in coming decades, demand for all types of low carbon technologies will increase the most. This allows the Slovenian economy, to strengthen its export position in products and services, for which has the capability and that will be developed in Slovenia as the **“lead market”**.

- Metal processing, electronic and electric industry with low-carbon products ranging from components for electric vehicles to smart energy grids – **sectoral green growth strategy** by 2020 already developed.
Reference model

SMART GRIDS

Elements:
Active Role in the International Community

> 2°C
80-95%

Dec. 2010 CANCUN Agreements

Cooperation in the region – the Alps and South East Europe

Fast start financing – Municipality of Mojkovac

Alpstar - TOWARD CARBON NEUTRAL ALPS

Low Carbon Strategies in the SEE
INTEGRAL, LOW-CARBON SLOVENIA

The Low Carbon Strategy and the overall Vision for Slovenia purposefully draws and builds on the particular cultural soil, richness and strength of Slovenia.

TRANSFORMATIONAL PROCESS:
• gradual participation of core players in society
• build purposefully on existing societal movements within the country
• setting out and facilitating the four paths to research and innovation: relational – renewal – reason – realisation

↓

Slovenia as a role model of transformatively and creatively engaging with climate

AND
INTEGRAL, LOW-CARBON SLOVENIA

A relevant knowledge creation climate, supporting through science & technology the climate vision of society and beyond.

A new living economy with a conducive and sustainable business climate.

A new environmental and social climate.

An open cultural and spiritually infused climate of dialogue and co-creation.

The engagement and unleashing of Slovenia’s own moral (economic) core thereby touching on our innermost belief systems.
Slovenia as Green Oasis: a DREAM or a REALISTIC VISION???

Development Scenarios in 2008

INTEGRAL, LOW-CARBON SLOVENIA

Will it remain merely a realistic vision?

Thank you very much for your attention!

http://www.svps.gov.si/
darja.piciga@gov.si