



# Opening a policy dialogue on sustainability in South East Europe

Ivana Rogulj, DOOR

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# The IDEA:

Main objective of the SEE SEP project is fact based dialogue with key decisions makers to influence policy and practice for a more sustainable energy system in South East Europe, aligned with key EU Policies and Directives.

## 18 Civil Society Organisations covering SEE

	Organisations
Lead partner	SEE Change Net
EU partners	WWF, CEEBW, CAN
Albania	EDEN center, Ekolevizija group
BiH	CPI, CZSS
Croatia	DOOR, FSO
Kosovo <sup>1</sup>	ATRC
Macedonia <sup>2</sup>	Analytica, Front 21/42, Eko svest
Montenegro	Green Home, MANS
Serbia	CEKOR, NGO Fractal

## 3 key components

<b>SEE 2050 Energy Model</b>	Development of SEE Low Carbon Roadmap: <ul style="list-style-type: none"><li>• Analysis of demand and supply sectors</li><li>• 7 national and 1 regional model</li></ul>
<b>Red Flag Reports</b>	Evidence based research in the following areas: <ul style="list-style-type: none"><li>• <a href="#">Financial support from the EU and IFIs for the energy sector in SEE</a></li><li>• <a href="#">Corruption in Energy Sector in SEE</a></li><li>• Quality of SEA/EIA of hydro power projects</li><li>• Energy Efficiency in SEE (in pipeline)</li><li>• Energy Poverty in SEE (in pipeline)</li></ul>
<b>Energy Community</b>	Monitoring and policy inputs to the: <ul style="list-style-type: none"><li>• <a href="#">Reform process and extension of the Treaty</a></li><li>• Projects of Energy Community Interest</li><li>• Other policy developments (LCPD/IED, Energy Efficiency Directive, etc.)</li></ul>

# Why such a long time-frame?



**Climate science** and the 2°C global warming goal look towards 2100

**Energy-related investments** are made for a period of 20 to 60 years (*if countries of the region plan to enter EU in next 20-60 years, they need to start making right decisions now!*)

**Path dependency**: stranded assets and infrastructure/technological commitment

**Governance**: ensure predictability and shape expectations

**Early triggers**: foster research and innovation that would shape energy transition and future energy systems



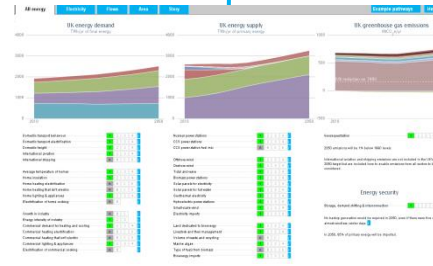
# Why did we choose the DECC 2050 Calculator as our policy dialogue tool?

- Representative simulation
  - ✓ The model provides the capacity to easily explore a large variety of scenarios on the full energy system
  - ✓ The model takes into account the existing literature and can represent most scenarios performed in previous studies
- Stakeholder involvement
  - ✓ Key stakeholders are consulted, and boarded on the methodology (500+ online call for evidence)
  - ✓ Key stakeholders are provided with an opportunity to review the assumptions during the consultation and through a final call for evidence process
  - ✓ All stakeholders can generate pathways representing their views
- Transparency
  - ✓ All model assumptions are accessible through presentations
  - ✓ All the model assumptions presented are directly placed in the model



# The 2050 Model has three levels of complexity for different audiences

## 2050 Analysis



Product

Excel Spreadsheet

Web Tool

My 2050

Audience





- Government technical experts
- Stakeholder experts

- Policy makers
- Stakeholders
- Well-informed public

- General public
- School children



# What sectoral data has been gathered in SEE 2050 Energy Model?

Sector	Approach
 Supply	<ul style="list-style-type: none"><li>• <b>Sectorial analysis (demand and supply side)</b><ul style="list-style-type: none"><li>• Robust analysis<ul style="list-style-type: none"><li>• identification of the levers and definition of their ambition levels (1 to 4) to ensure that a wide range of potential futures could be tested</li></ul></li></ul></li><li>• <b>Literature review</b> (more than a 100 studies reviewed in the region) and <b>data collection</b></li><li>• <b>Technical consultations</b> – including industry, government and academia (more than 30 meetings and more than 500 relevant stakeholders and experts consulted)</li><li>• <b>Consolidated analysis</b> and modeling</li></ul>
 Buildings	
 Transport	
 Industry: Cement, Steel, Aluminium	



# Model results (2 key pathways are being presented)

## The EU road

- An ambitious effort (level 3) is applied on all demand levers  
This enables close to 80% emissions reduction across the region vs 2010. The reduction is above 70% in most countries
- Supply ambition can be reduced (below level 3) because less energy is required
- Nuclear & CCS are used at a minimum in these scenarios

## The road to nowhere

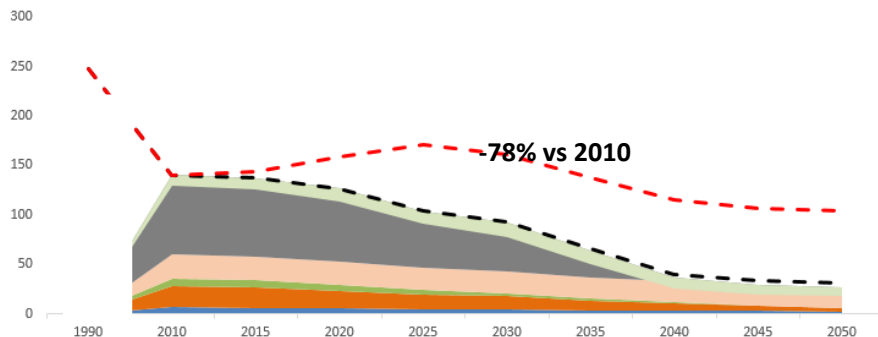
- Describes a business as usual effort and continued dependency on dirty lignite as a core energy source
- It leads to a 25% emissions reduction vs 2010



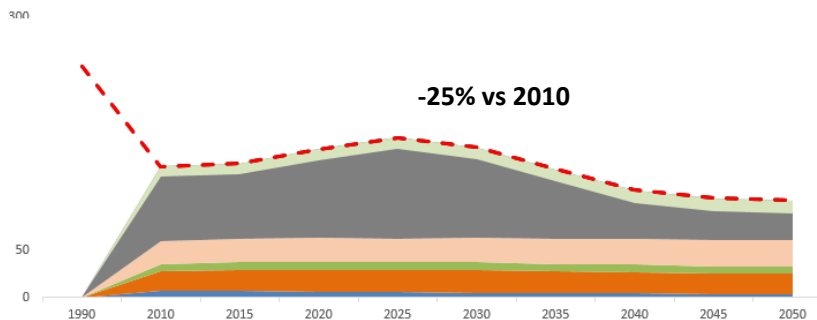
# Regional view Emissions by sector

Emissions by sector (MtCO<sub>2</sub>e, % vs 2010)

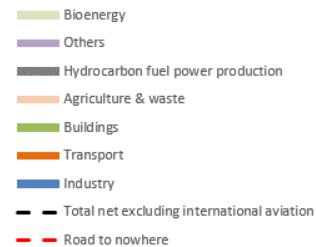
The EU road



The road to nowhere



- Emissions are driven by the hydrocarbon fuel power generation
- The “EU road” enables to significantly reduce Power, Buildings Transport & Industry emissions
- The “Nowhere” shows an increase in 2025 driven by activity increase, then a decrease driven by coal closures

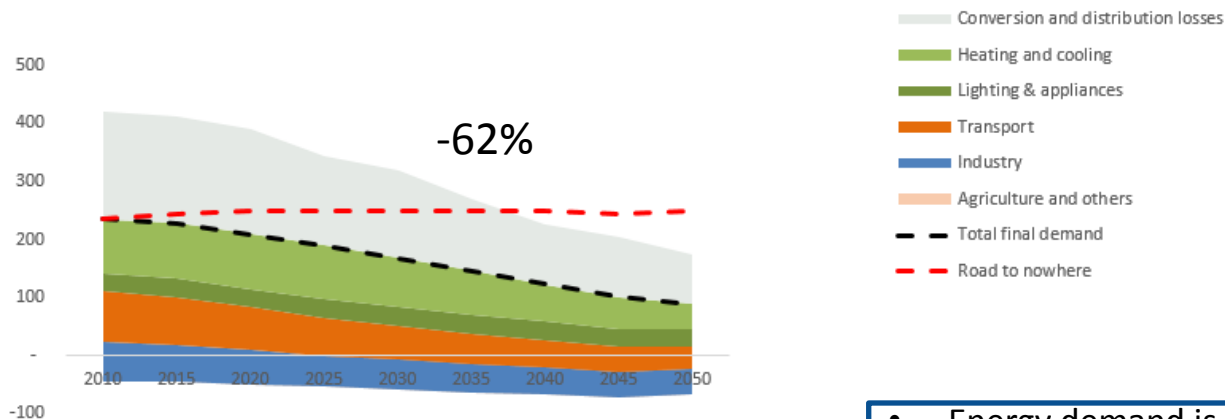




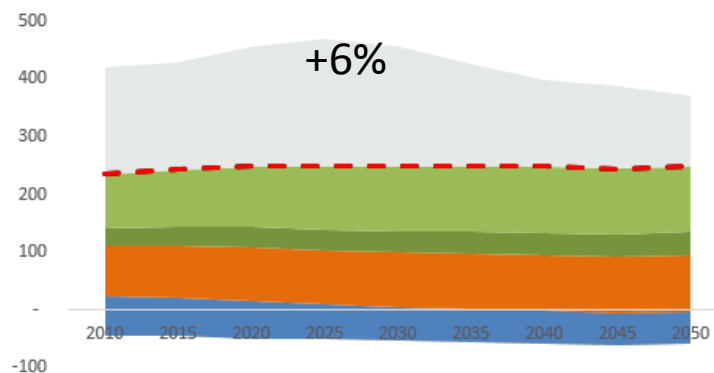
# Regional view Energy demand by sector

Energy consumption by sector (TWh, % evolution vs 2010)

The EU road



The road to nowhere



- Energy demand is driven by buildings, transport & Industry (and supply losses)
- The “EU road” enables a 60% demand reduction (also impacting supply emissions)
- The “Nowhere” creates an energy demand increase (the higher losses are explained by the coal electricity production)



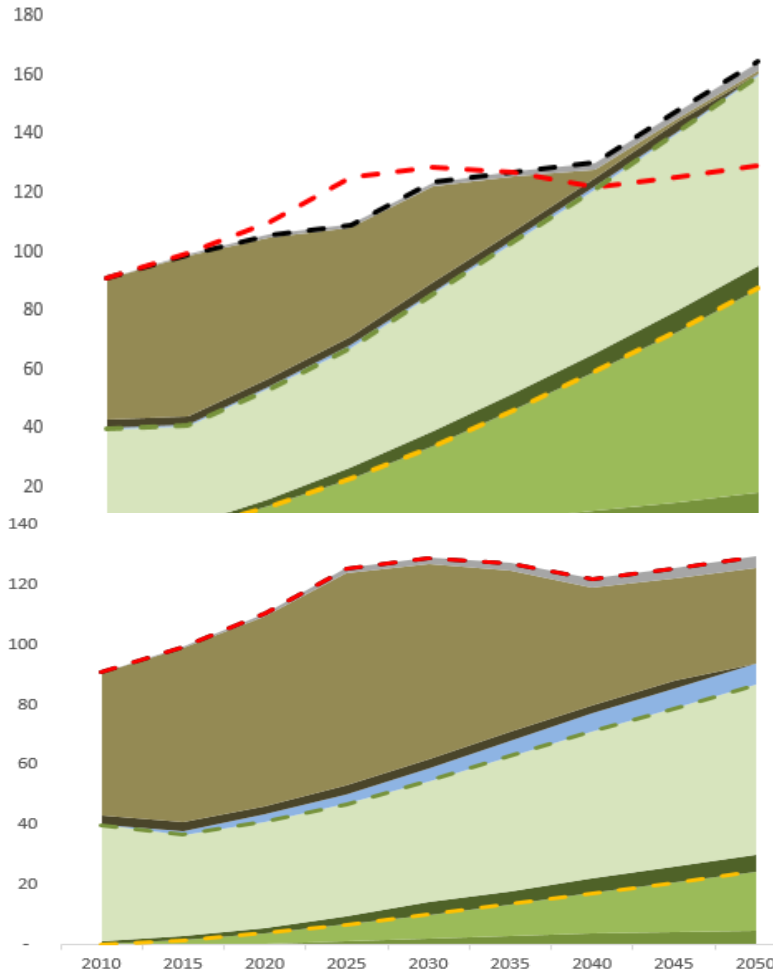
# Regional view

## Electricity production by source

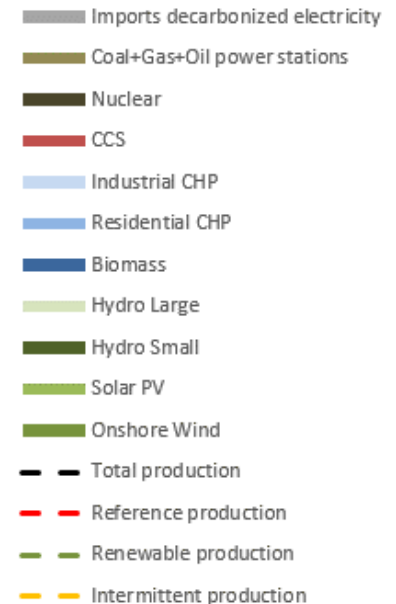
Electricity production by source (TWh, gCO<sub>2</sub>e/kwh)

The EU road

The road to nowhere



- The “EU road”, progressively replaces fossil fuels by Hydro, Solar & Wind
- The “Nowhere” keeps in operation several coal plants planned for phase out



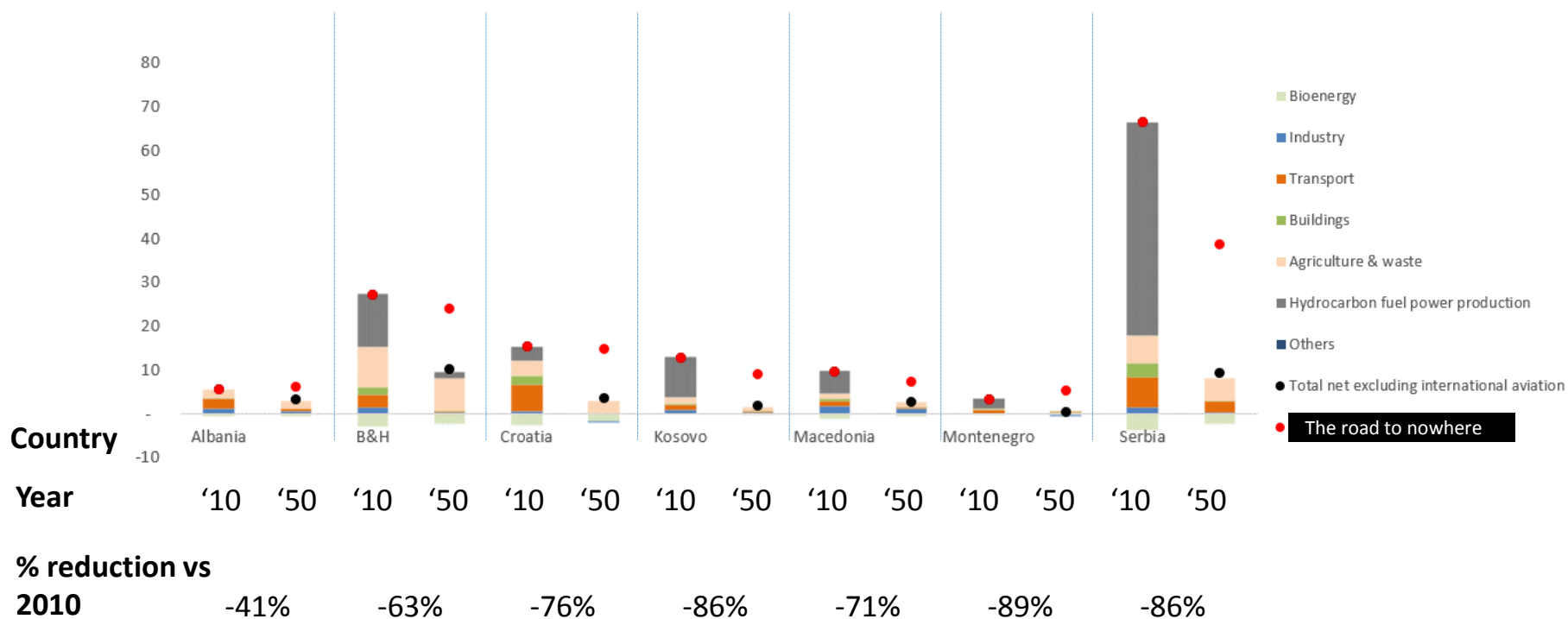
# Country view

## Emissions by sector

Emissions by sector (MtCO<sub>2</sub>e in 2010 and in 2050, % reduction vs 1990)

The road to nowhere (the red dot)

The EU road (the details per category)

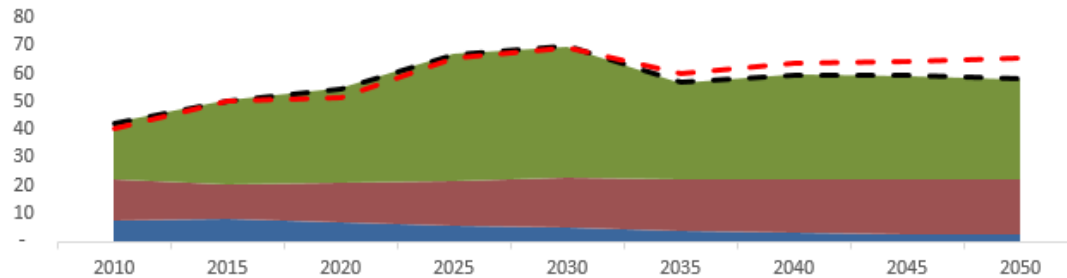


# Regional view

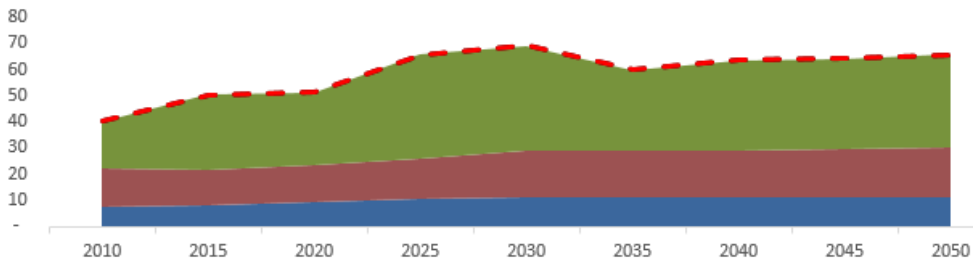
## Energy system costs by type

Energy system costs by type (€ Bln /year)

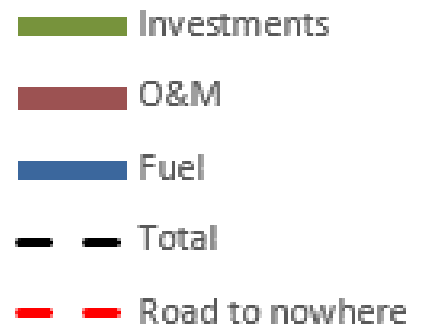
The EU road



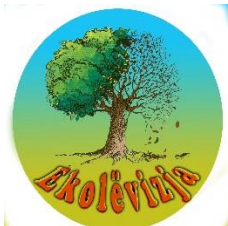
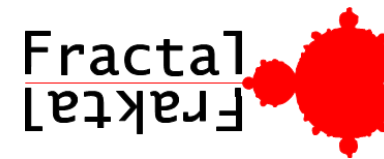
The road to nowhere



- The “EU road” has comparable energy system costs
- Several low carbon growth pathways can be significantly cheaper than the “Nowhere”
- The “EU road” investments are higher and are balanced by energy savings



# SEE SEP Partner CSOs



Co-author of scenarios: **DANIEL M. KAMMEN**, Director of Renewable and Appropriate Energy Laboratory (RAEL), University of California, Berkeley



# Decision making:

The model includes data on:

- Number of people to 2050
- Transport use and development
- Electrification of transport
- Houses and choices
- Renovation, refurbishment, new buildings
- Technologies
- Energy performance
- Industrial materials and technologies
- Renewables ....

**All these changes are where the decisions and involvement of stakeholders is being made.**



*The model will be online on October 16th, with premiere in French Institute (Oct 17).*

<http://84.200.52.122/2050/Croatia/Energy.php>

# Thank you!

Ivana Rogulj

