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# **Interdependencies between energy, climate and peace policy targets and technical flexibility options**

Dr. Eva Schmid

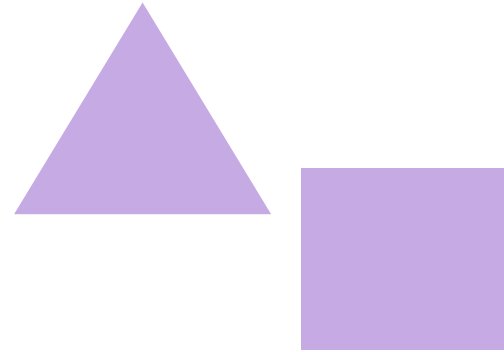
Policy Advisor for Power Grids and Low-Carbon Policy

Germanwatch e.V.

# Different Policy targets

- **Energy Policy Targets**

- Secure energy supply
- Affordable energy supply
- Sustainable energy supply
- (Socially viable energy supply)



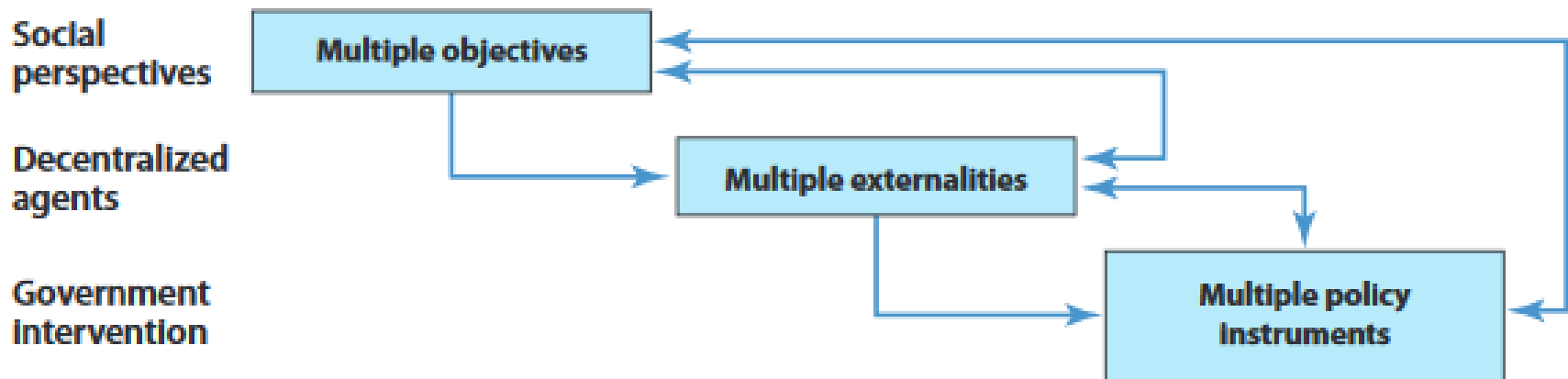
- **Climate Policy Targets**

- Mitigation: Reduction of global greenhouse gas emissions
- Adaptation: Adequate adaptation to climate impact hazards

- **Peace Policy Targets**

- Prevent armed conflicts
- Stabilize instable regions
  - Unemployment, Energy poverty, Corruption

# Conceptual background: Public policy framework



- Underlying synergies or trade-offs among social goals
- Externalities that justify political support
- Policy instruments that cure market or government failures
- Science: critical inquiry in relationships, whilst making value judgments transparent

# Selected Technical Flexibility Options

- **Power Grids**
  - Enhance geographical exchange possibilities
  - Large-area pooling can reduce balancing issues
- **RES-Power 2 gas**
  - Use the gas grid as storage, geographical, intertemporal & intersectoral exchange possibilities

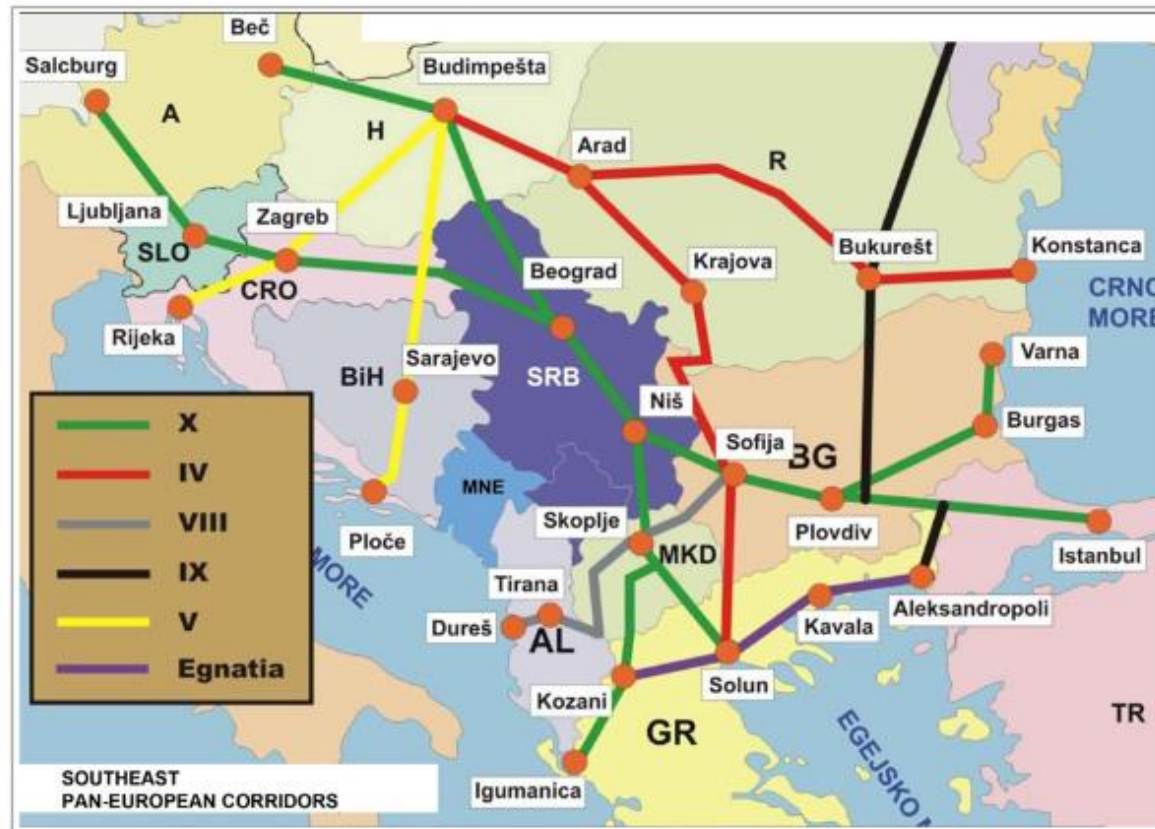
# A Green Corridor for Europe Connecting the EU and the Balkans

- Vision articulated by Global Climate Forum (GCF), Germanwatch supports this vision
- Think different infrastructure investments together to increase efficiency in planning and construction:
  - train tracks, roads,
  - electricity transmission lines
  - broadband internet
- Offer the Western Balkans a future of stability and prosperity (-> *Policy targets: Peace & Employment*)
- Electricity grid expansion: Necessary precondition for RES integration in this region (-> *Policy targets: Secure & Sustainable Energy Supply, Climate Mitigation*)



# Existing Train Corridors

Figure 15: Corridors in South-East Europe



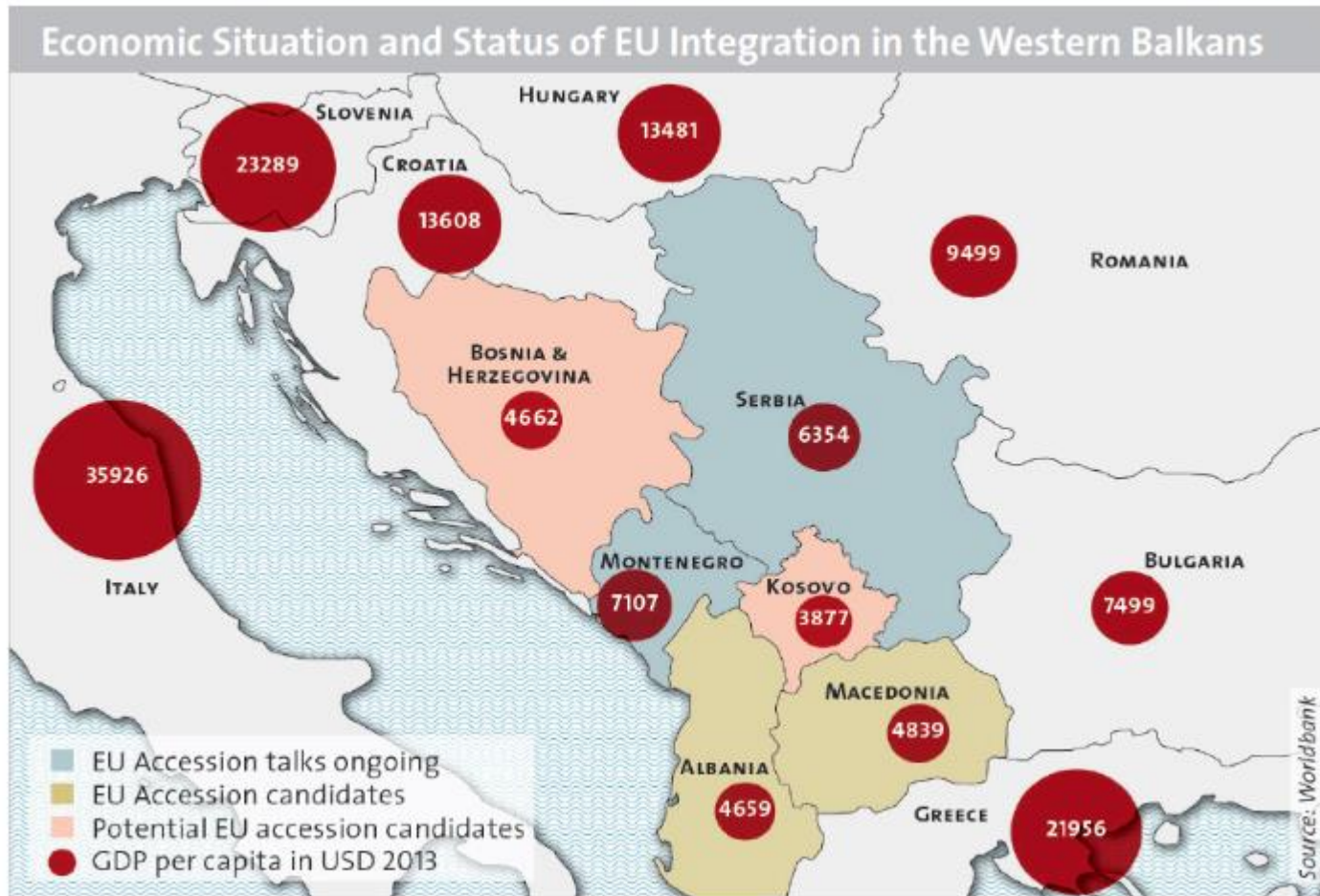
Source: RailwayPro (2014)

# Electricity transmission lines in WB6



# EU Integration and GDP/capita





Figure 21: Status of EU integration and economic situation (GDP per capita in USD2013)



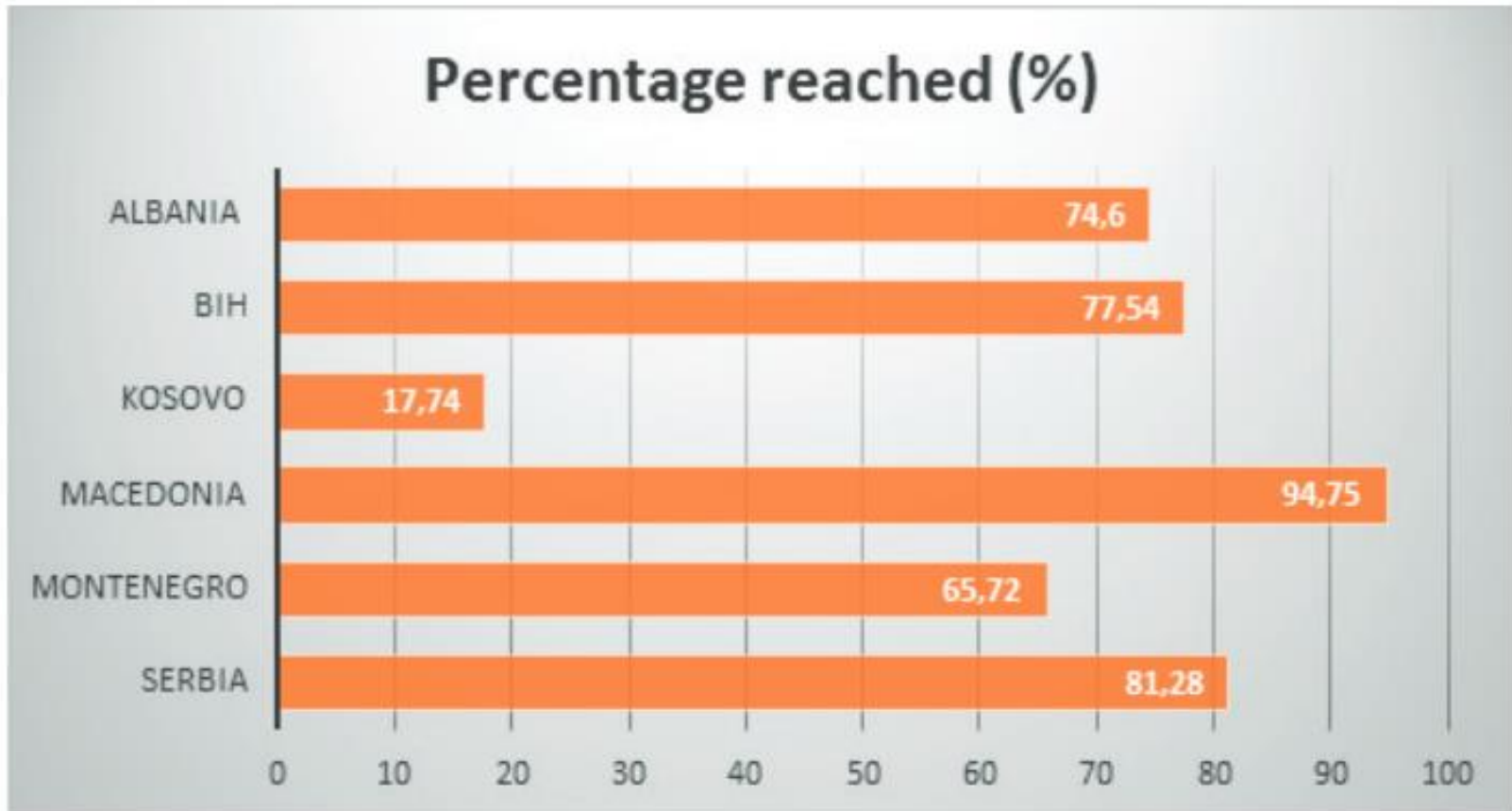
Source: Bieri (2015)



# Active electricity generation capacities

Country	Albania	BiH	Kosovo	Macedonia	Montenegro	Serbia	Total (MW)
Thermal power plants 	0	1,856	1,171	800	218.5	3,905	7,950.5
Hydro 	1,797	2,150.44	49.42	699	667.7	2,898	8,261.56
Wind 	0	0.30	1.35	36.8	0	0.5	38.95
Solar 	0	8.71	0.1	16.7	0	10.8	36.31
<b>Total in WB</b>	<b>1,797</b>	<b>4,026.45</b>	<b>1,221.87</b>	<b>1,552.5</b>	<b>886.2</b>	<b>6,814.3</b>	<b>16,287.32</b>

# RES Target Fulfillments



Graph 2. Percentage of RES reached

# RES-Electricity from Russia: RUSTEC

- Vision articulated by IFC - Worldbank (International Finance Corporation)
- North-West of Russia:
  - Particularly favorable and cost-efficient onshore wind (comparable to offshore in North Sea),
  - Biomass (forestry industry), small hydro
- Wind in North-West Russia
  - Local competition with nuclear, will only be installed if exports to EU are underlying idea
  - Benefit RU: Develop Russian Wind-industry
  - Benefit EU: Fulfill RES-targets (joint project under Directive 2009/28/EC)
  - New interconnection required

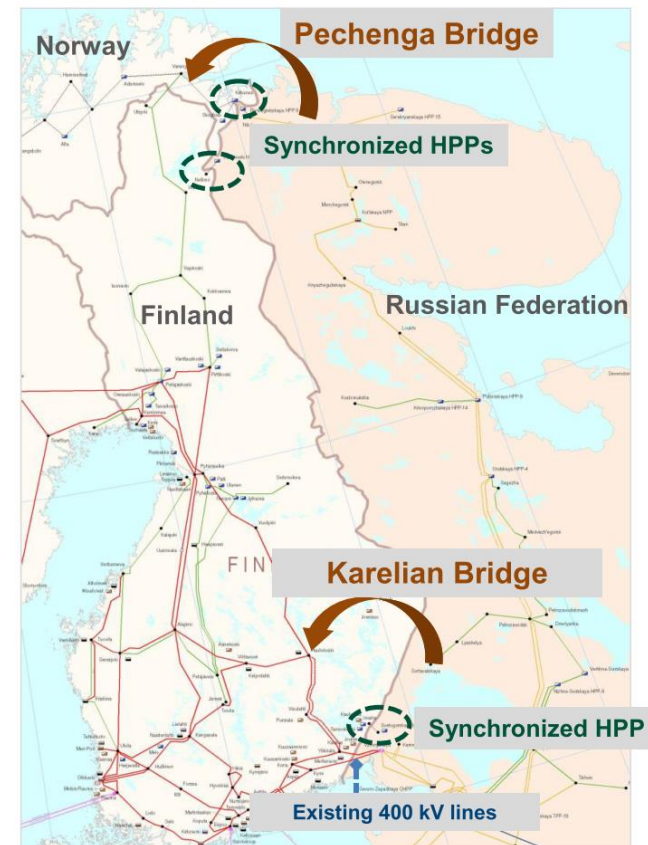
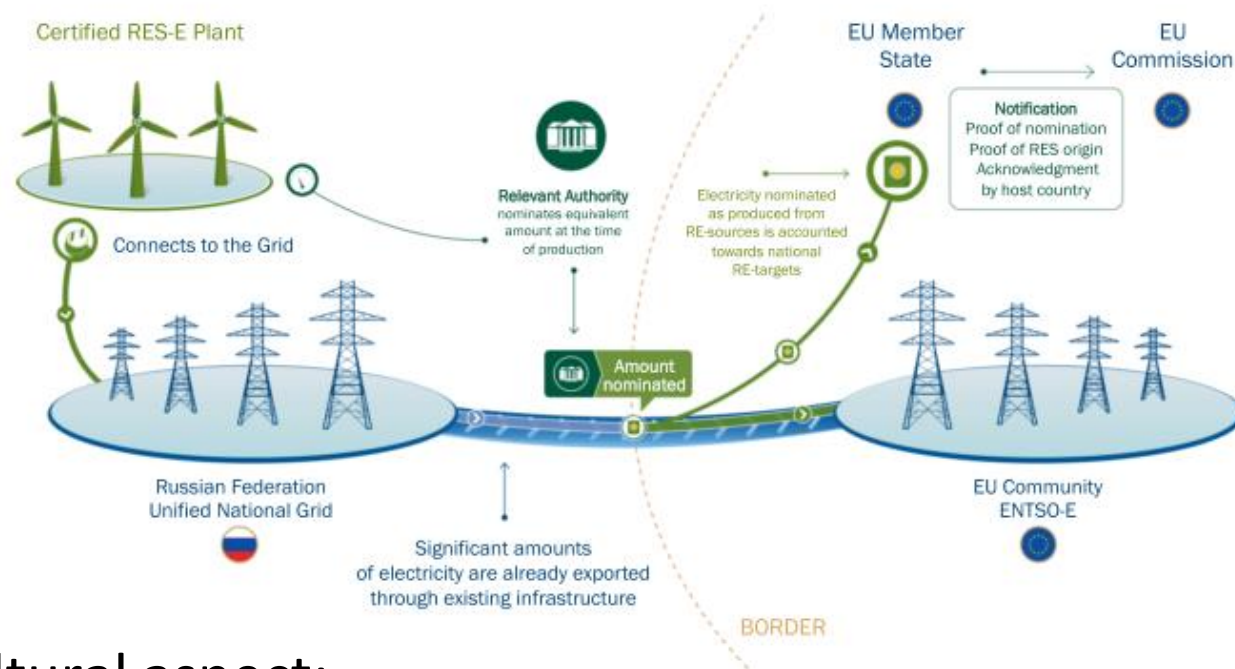


Figure 1: Existing interconnection capacity and network reinforcement plans  
Sources: ENSTO-E grid map,<sup>vi</sup> together with Artemyev (2011) and Ivannikov (2011)

# RES-Electricity from Russia: RUSTEC



- Cultural aspect:
  - Russia conceives itself as a nation that exports fossil fuels
  - Built-Up of a national RES industry prerequisite for transition
  - Euros in RES-Projects potentially avoid the fossil corruption route

# Long-term vision: Wind-Gas from Russia

- In northern Russia, wind potentials are very good
- Generate Gas from the surplus wind-electricity exploited in relatively empty northern regions
- Alternative to fossil industry jobs
- Use existing gas pipelines to export to Europe
- Provide system flexibility through CO<sub>2</sub>-neutral gas imports in Europe
- CO<sub>2</sub> for methanisation could come from CCU with biomass plants
- Basic idea: Without an alternative to fossil industry Russia will never transition to a low-carbon economy

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# Contact

Dr. Eva Schmid

Policy Advisor for Power Grids and Low-Carbon Policy

[schmid@germanwatch.org](mailto:schmid@germanwatch.org)

Tel. +49 (0)30 / 28 88 356-83

Germanwatch e.V.

Stresemannstraße 72

D-10963 Berlin