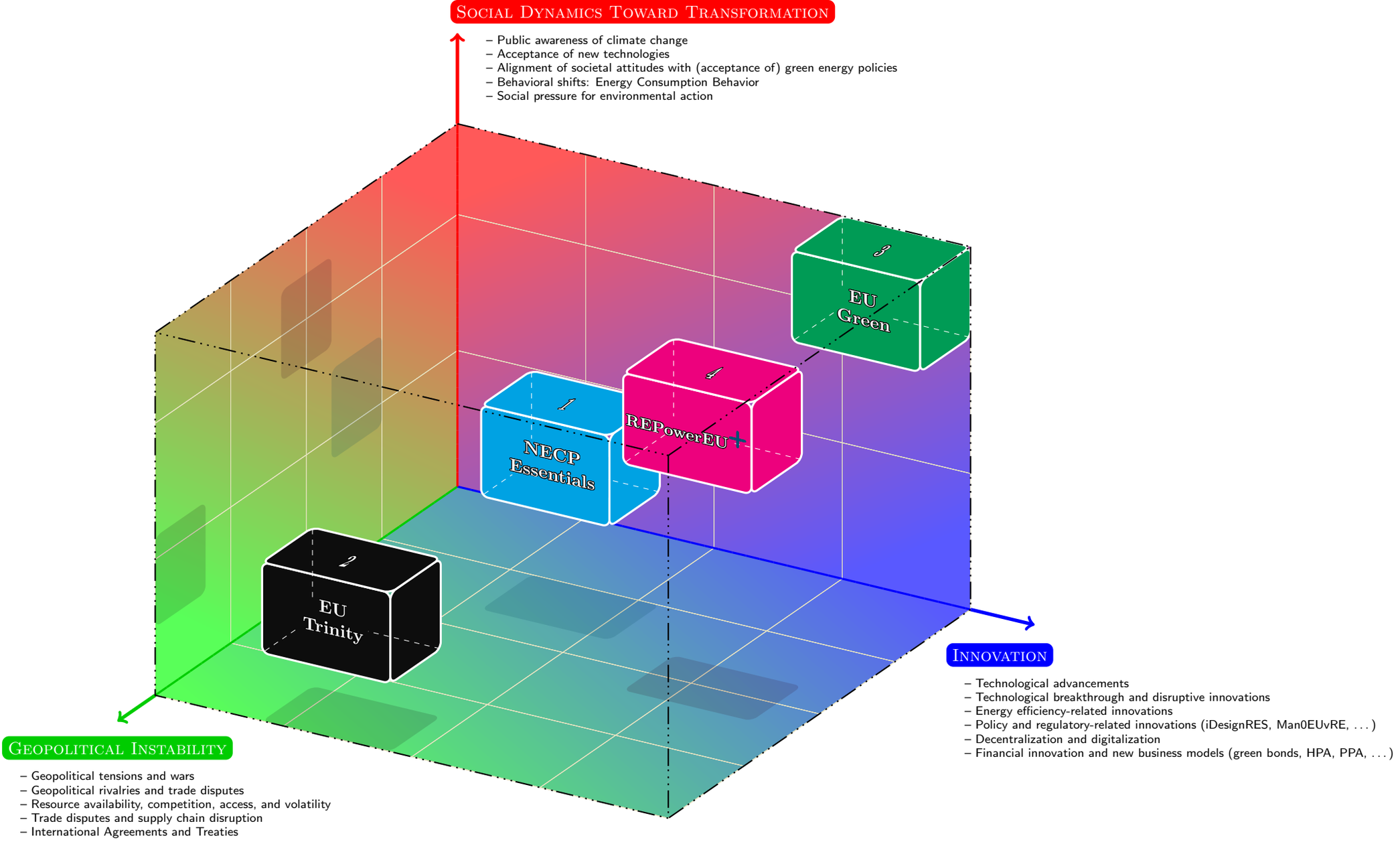
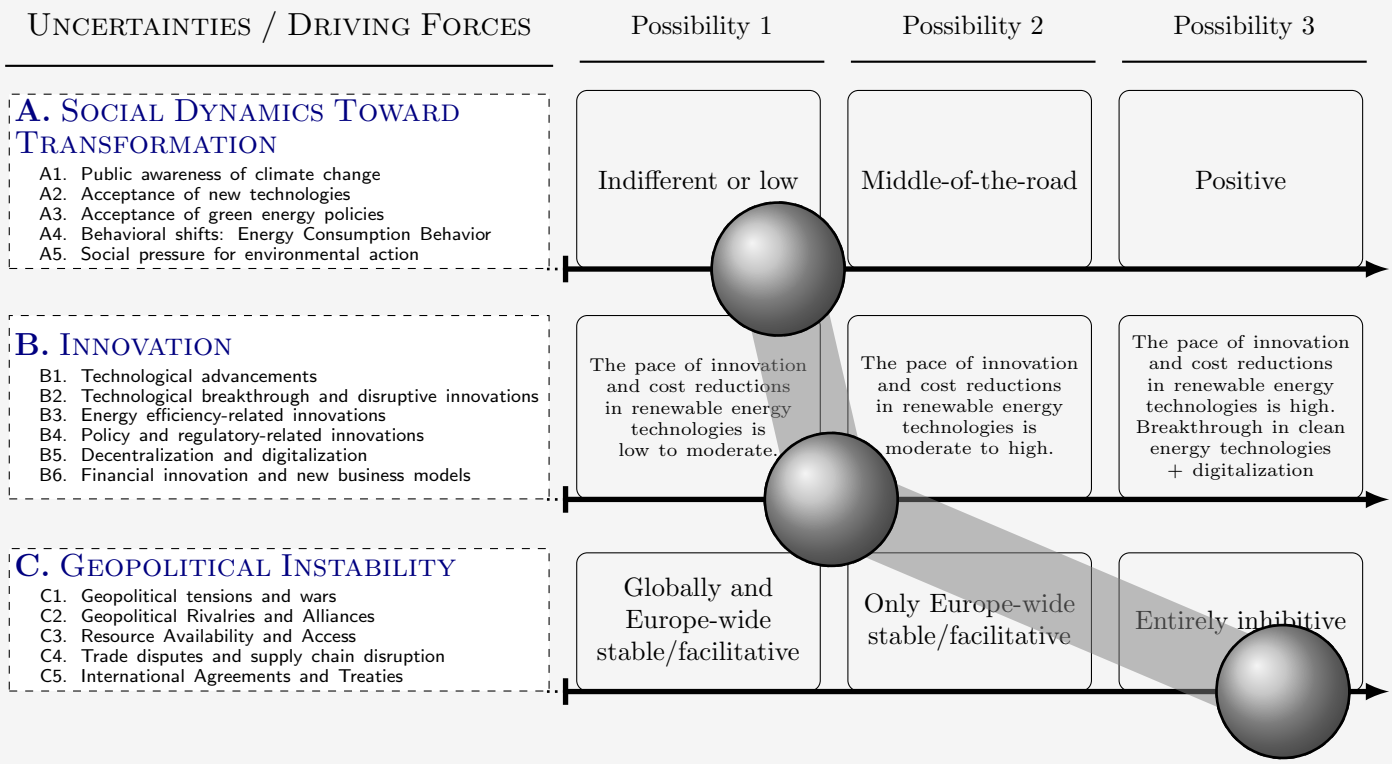


The three-dimensional graph illustrates three key uncertainties. These key uncertainties were discussed in the first scenario workshop and are finalized. Four scenarios have been developed based on these key uncertainties as follows:

1. **Current Trends**: Continuation of current trends without significant change (*NECP Essentials*).
2. **Pessimistic Scenario**: Challenges or negative developments that hinder desired outcomes (*EU Trinity*).
3. **Optimistic Scenario**: Positive developments that favor desired outcomes (*EU Green*).
4. **Paradigm Shift Scenario**: A partially explorative scenario focusing on achieving energy independence in the EU (*REPowerEU+*).

Based on the status of the key uncertainties in each scenario, the corresponding narratives and their areas of focus are developed.



Areas of focus

- **Impact of Internal Divisions, Global Instability, and Neutral Public Attitude on EU Climate Targets:**

  How will increasing internal divisions among EU member states, in the context of persistent global geopolitical instability, affect the achievement of EU energy and climate targets? How much will it impact the pace of renewable energy integration?

- **EU Green Deal Achievement under Fragmented Governance**

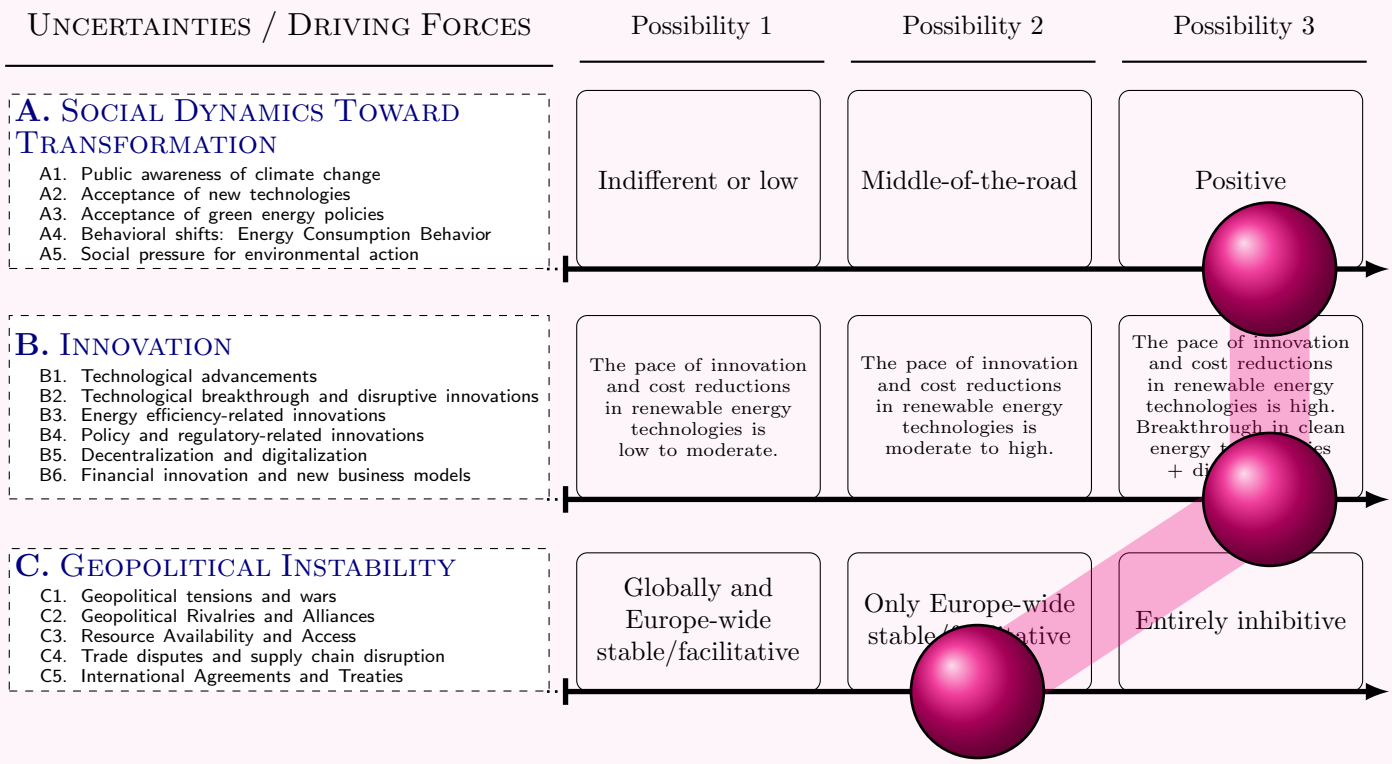
  If the EU is ineffective in achieving climate targets under fragmented governance, what are the risks and implications for the overall pace of decarbonization across Europe? Additionally, what non-renewable generation technologies (gas, coal, nuclear, etc.) will remain significant in 2050 in this scenario?

- **Economic Implications and the Cost of Decarbonization Without EU Coordination**

  What additional costs might arise, and how might they manifest in different member states when attempting to achieve carbon neutrality in the absence of a coordinated strategy?

Narrative: EU Trinity

In the *"EU Trinity"* scenario, Europe faces a challenging energy transition characterized by public indifference, moderate technological innovation, and severe geopolitical instability outside its borders. This environment leads to cautious, incremental energy policies focused on short-term stability rather than transformative change. The adoption of clean technologies by consumers (e.g., EVs, heat pumps, renovation of buildings) progresses very slowly due to societal indifference. Similarly, technological advancements in renewable energies are limited, with countries making only modest improvements to existing technologies and lacking major breakthroughs. Internally, the focus on national priorities over collective action leads to fragmented EU policies regarding energy transition. For instance, prioritizing national interests impacts the integration of energy markets, disrupts the cross-border flow of energy carriers, and results in untapped potential due to market fragmentation within the EU. As a result, decarbonization efforts are uneven across Europe, with some countries making significant progress in integrating renewable energy sources, while others lag due to limited capabilities and resources. This scenario highlights Europe's struggle for energy resilience, driven by disjointed national efforts within a fragmented governance framework. Consequently, Europe is unlikely to meet the EU legislation target of full decarbonization by 2050.

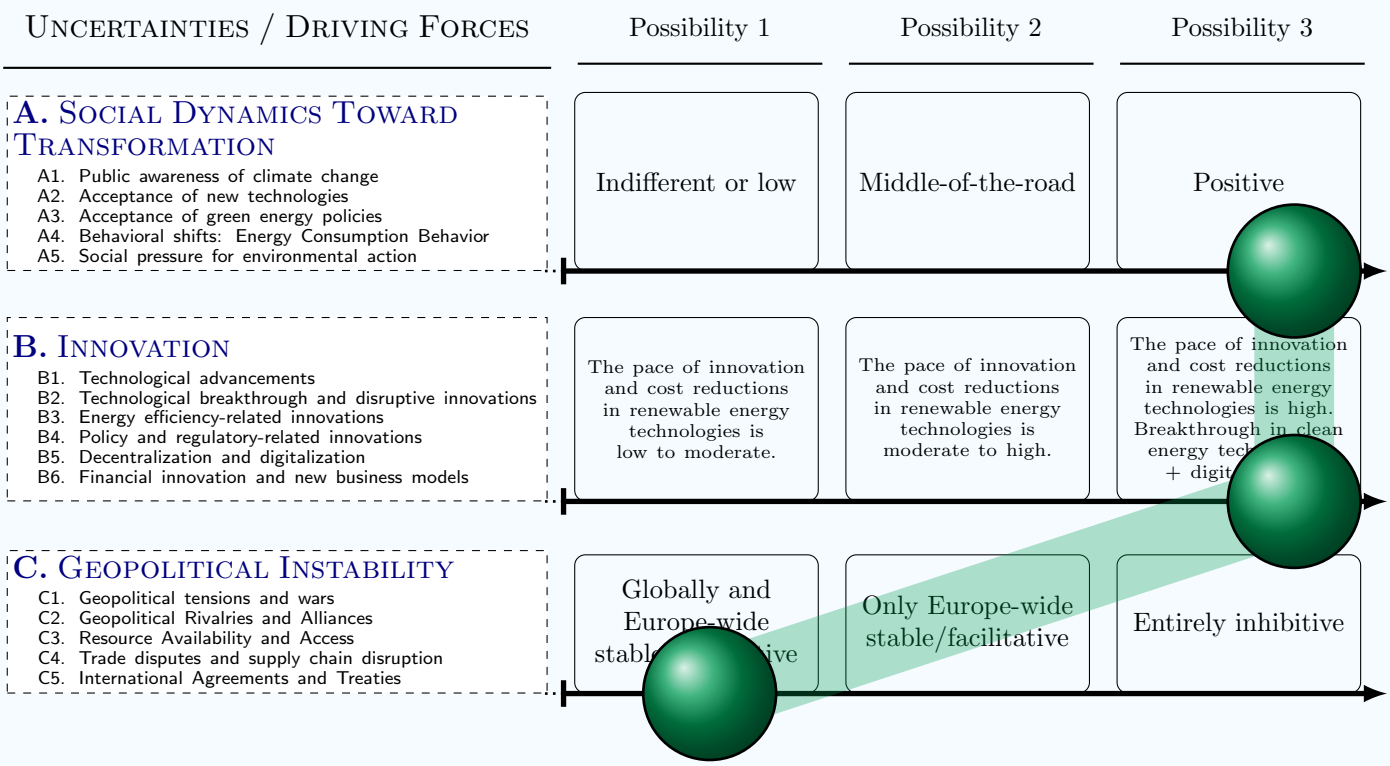


Areas of focus

- **Vision of a Self-Sufficient, Independent European Energy System:**
  Is it feasible to fully decarbonize Europe's energy system by 2050 while achieving complete energy independence? What will a (almost) fully self-sufficient European energy system look like in 2050? What steps should be followed from this step forward to secure the vision of a self-sufficient, independent European energy system by 2050?
- **Long-Term Energy Security and Sustainability:**
  What strategies can be implemented to secure a sustainable, cost-effective, and long-term energy supply for the EU, reducing dependency on external sources such as Russia?
- **Cost-Effective Energy Independence for European Climate Targets:**
  What level of energy independence is both cost-effective and sufficient to achieve European climate targets while eliminating reliance on unreliable resources (primary energy resources and critical raw materials)?

Narrative: REPowerEU+

In the *"REPowerEU+"* scenario, the European Union launches an ambitious journey towards energy security and sustainability, set against a backdrop of persisting and escalating global geopolitical tensions outside the EU. Despite these external pressures, the EU remains cohesive and united, channeling its collective effort towards achieving energy independence. This unity is reinforced by widespread public support for transformative energy policies and advanced technological innovations. The positive trend in renewable energy integration is supported by accelerated innovation in renewable energy technologies, leading to breakthroughs and cost reductions. However, progress is partly constrained by the relocation of production facilities within Europe due to geopolitical rivalries and challenges. By focusing on enhancing its own energy capabilities, the EU strengthens its energy independence, effectively insulating itself from global instabilities. By 2050, the EU aims to set a global benchmark in renewable energy adoption, establishing a resilient and integrated energy system that not only meets its climate targets but also ensures robust energy autonomy despite the challenging international environment!

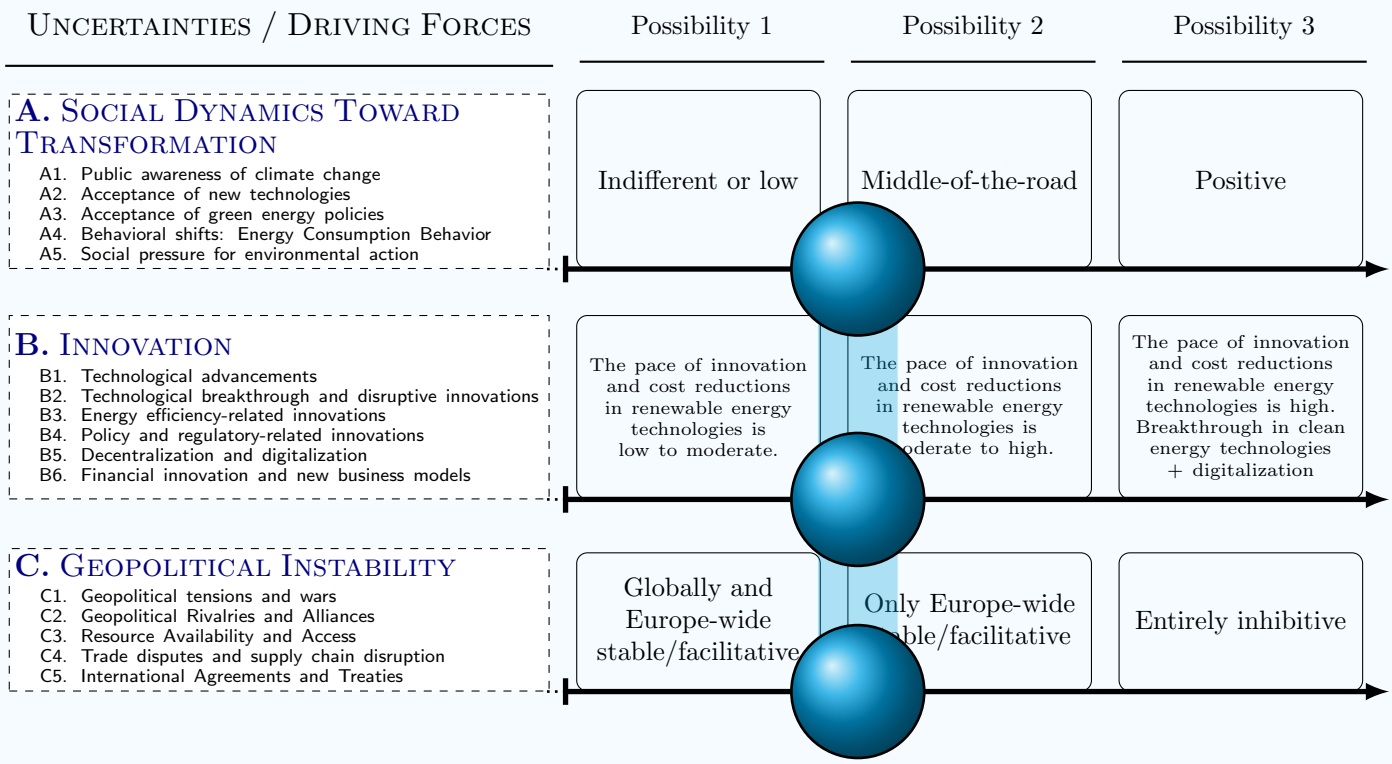


Areas of focus

- **Global Cooperation and European Climate Targets:**
  How does global cooperation facilitate the achievement of European climate targets, and what are the benefits of this cooperation for Europe's energy transition?
- **Overall Positive Situation and Green Shift:**
  How feasible is it for Europe to achieve carbon neutrality before 2050 given favorable uncertain factors? Additionally, how does a generally favorable environment for the green shift impact the cost of energy transition?
- **Technological Innovation and Energy Transition:**
  How could emerging technologies driven by high levels of innovation influence the technology mix and the pathway for Europe's energy transition?

Narrative: EU Green

In the *"EU Green"* scenario, Europe undergoes a transformative shift towards a fully decarbonized energy system, driven by strong societal support and robust political will. Innovations in clean energy technologies, such as CCS, hydrogen, and potentially nuclear fusion, along with digitalization, accelerate the decarbonization process, enhancing efficiency and reducing energy consumption. This reduction is further supported by societal commitment, as consumers adopt more efficient and climate-friendly solutions, such as heat pumps and EVs. A stable geopolitical environment, both within and outside Europe, facilitates this transition, with global cooperation playing a crucial role. Nations worldwide commit to decarbonization, fostering an interconnected and supportive international framework. The combination of public endorsement, technological breakthroughs, and stable political climates leads to a successful and accelerated renewable energy transition in the EU. This scenario demonstrates how collective determination and cutting-edge innovation can effectively address climate change, securing a sustainable energy future and establishing Europe as a model for global energy transformation.



Areas of focus

- **Assessing National Target Trajectories:**

  Do the current NECP targets adequately support the realization of a climate-neutral Europe by 2050? What outcomes can we expect from the current trajectory, given existing EU and national policies? How can the NECPs be optimized to ensure the achievement of decarbonization goals?

- **Refining NECP Trajectories:**

  What adjustments are needed to NECP trajectories from 2030 onwards to align with European climate goals? What additional measures, such as technology innovation and support, societal change, or geopolitical considerations, are required to achieve the net-zero transition?

Narrative: NECP Essentials

In the *"NECP Essentials"* scenario, the focus is on aligning with national energy and climate policies, particularly the latest NECPs, national long-term strategies, hydrogen strategies, and other relevant European targets. The trajectory is based on trends and projections from NECPs up to 2040, with extensions toward 2050. These extensions rely on the policies and ambitions set out in the NECPs for 2040, with minimal additional policies or measures. Current trends and the existing environment govern the energy transition in the EU. Public sentiment is generally positive, fostering moderate political will for a green shift. The level of innovation and new initiatives remains modest, concentrating primarily on enhancing existing technologies. Exogenous stress levels, including geopolitical instability, remain unchanged, resulting in an ambivalent approach to energy independence within the EU.