WORLD ENERGY COUNCIL | ESTONIA

Energeetika trilemma

Teaduste Akadeemia energeetikakonverents

30.05.2022

Ülevaade

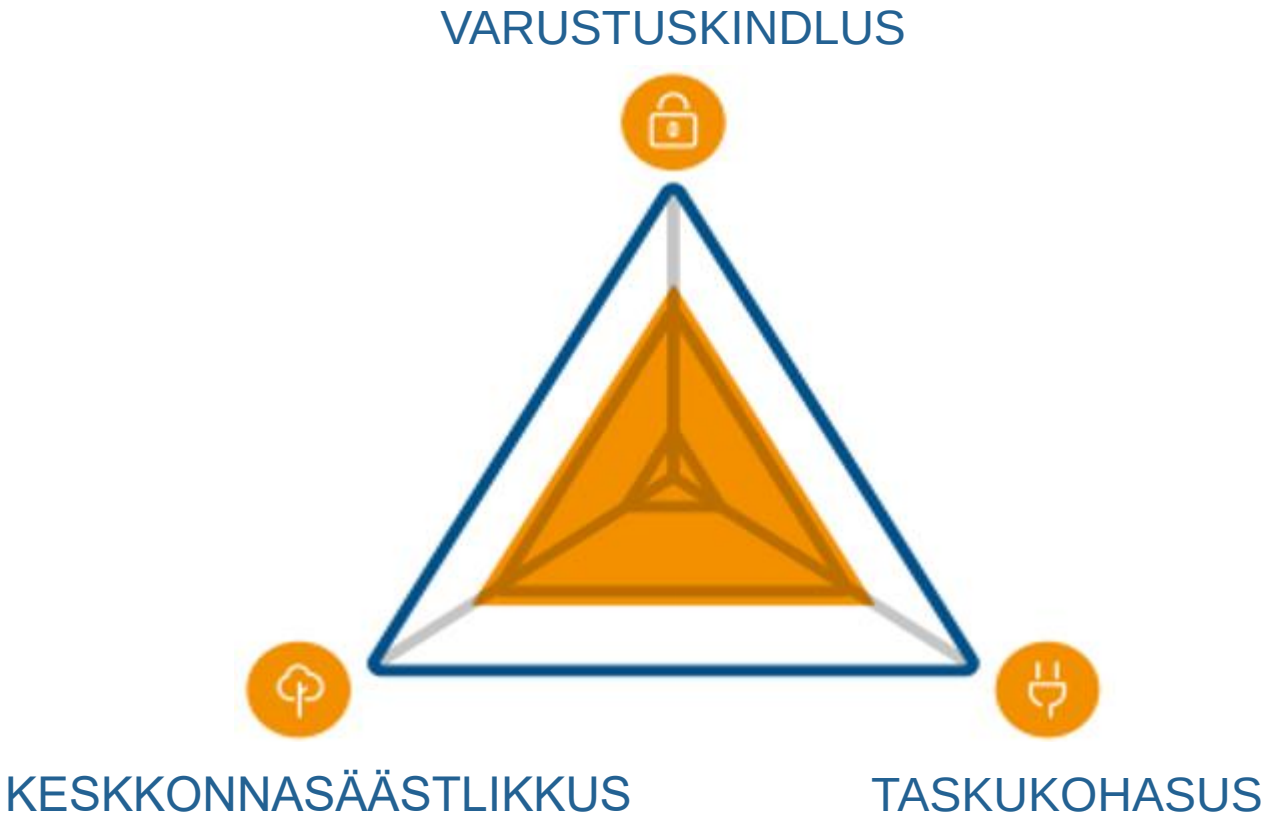
1. Mis on energeetika trilemma?;
2. Globaalse trilemma metoodikast ja raportist;
3. Trilemma süvauuringu projektist;

1. Energeetika trilemma mõõdikud

VARUSTUSKINDLUS
Näitab riigi võimekust tagada katkematu energiavarustus praegu ja tulevikus, ning saada hakkama süsteemi häiringutega minimaalse mõjuga energiatarnetele

TASKUKOHASUS
Hindab riigi võimekust pakkuda kõigile kodu- ja äritarbijatele piiramatut ligipääsu mõistlikult ja õiglaselt hinnastatud energiale

KESKKONNASÄÄSTLIKKUS
Väljendab riigi energiasüsteemi suutlikkust leevendada ja vältida keskkonna ning kliimamuutusi tekitavaid mõjusid



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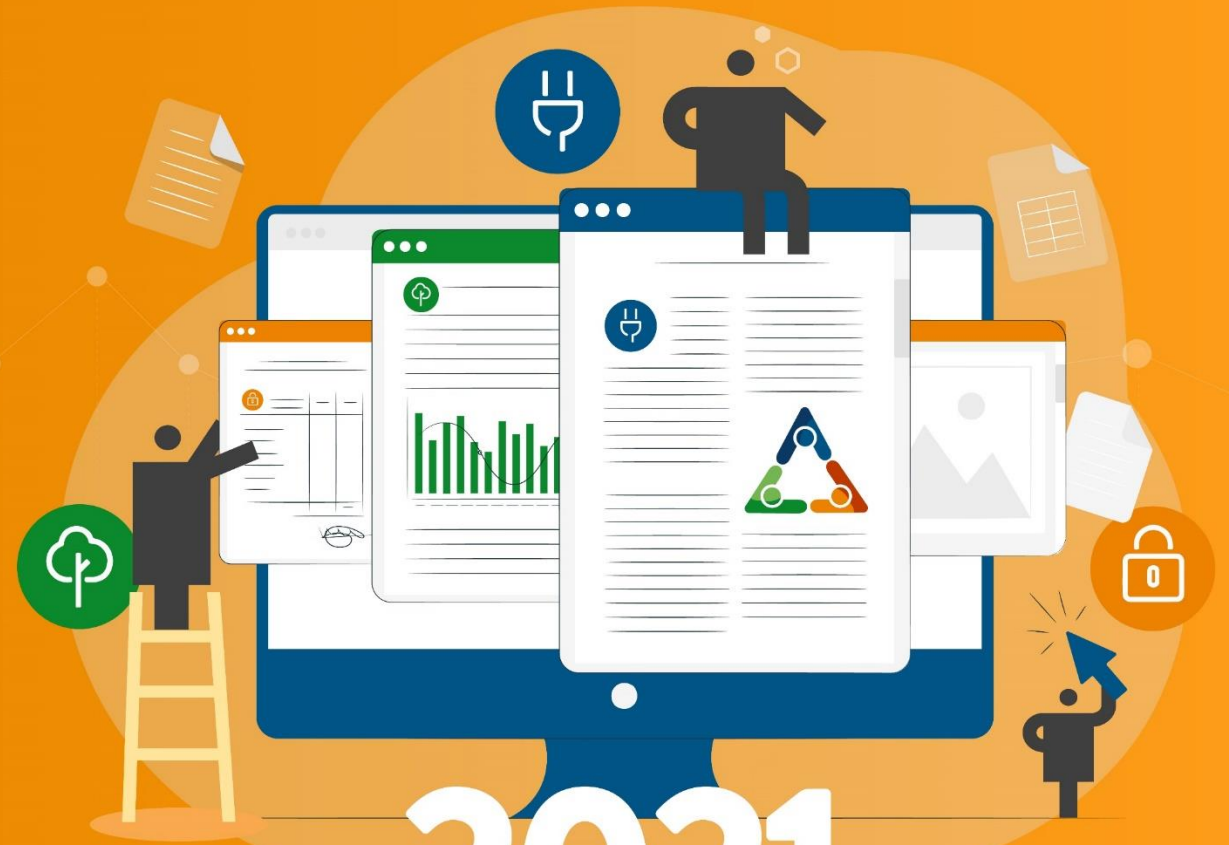
World Energy **Trilemma Index**



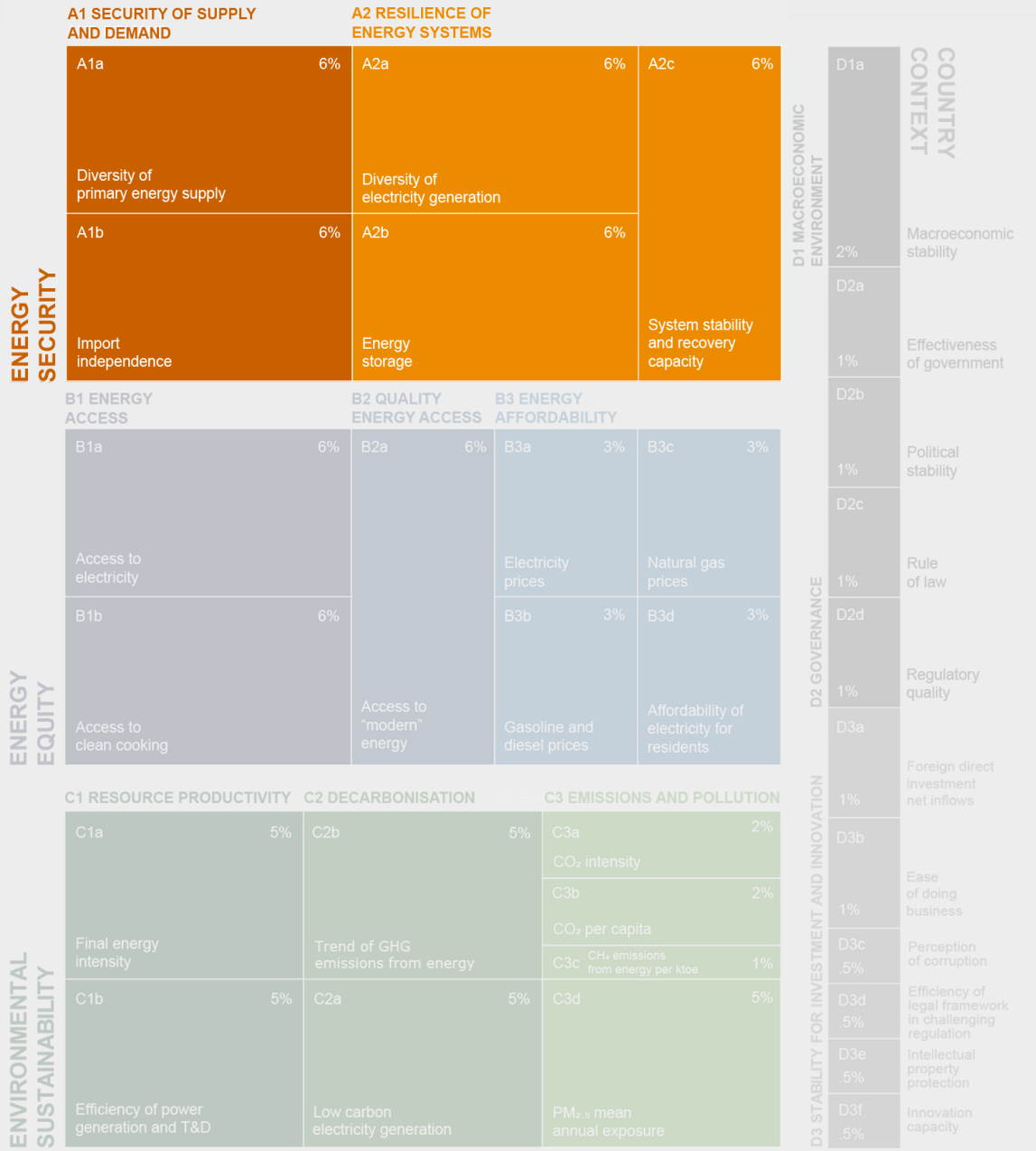
2021

In partnership with Oliver Wyman

2. Globaalse raporti metoodikast
A. Varustuskindlus

- **A1. Security of supply and energy demand** refers to the ability of a country to meet current and future energy demand. It involves a country's capacity to access the necessary energy resources and its ability to deliver the energy required by its population and economy.
  - **A1a. Diversity of primary energy supply**
  - **A1b. Import dependence**

- **A2. Resilience of energy systems** measures the resilience of infrastructure in terms of its robustness and ability to recover operations and minimise interruptions to service. Resilience also implies the ability to withstand extraordinary events and disturbances to supply, which implies a diversity of plentiful resources and sources.
  - **A2a. Diversity of electricity generation**
  - **A2b. Energy storage**
  - **A2c. System stability and recovery capacity**

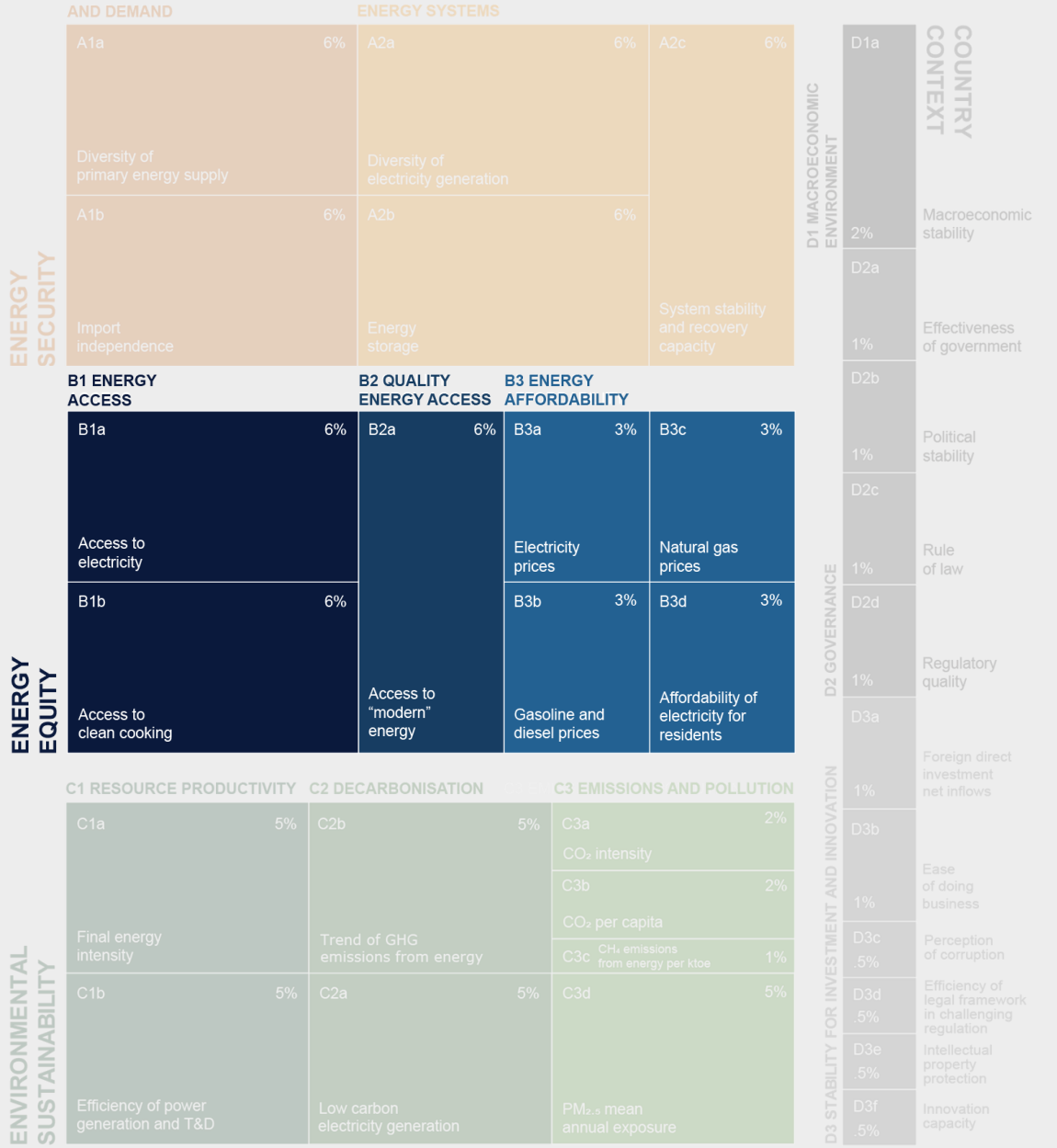


2. Globaalse raporti metoodikast
B. Taskukohasus ja kättesaadavus

- **B1. Energy access** captures a country's ability to provide access to modern energy services in terms of access to electricity and clean cooking facilities as defined by the UN Sustainable Development Goal 7: Sustainable Energy for All.
  - **B1a. Access to electricity**
  - **B1b. Access to clean cooking**

- **B2. Quality energy access** reflects the availability of prosperity-enabling levels of energy to population, an abundance of supply which can enable prosperous modern livelihoods.
  - **B2a. Access to "modern" energy**

- **B3. Affordability** quantifies the affordability and cost competitiveness of energy and energy services for domestic and industrial uses in terms of unit prices, and in the context of total income per capita.
  - **B3a. Electricity prices**
  - **B3b. Gasoline and Diesel prices**
  - **B3c. Natural gas prices**
  - **B3d. Affordability of electricity for residents**

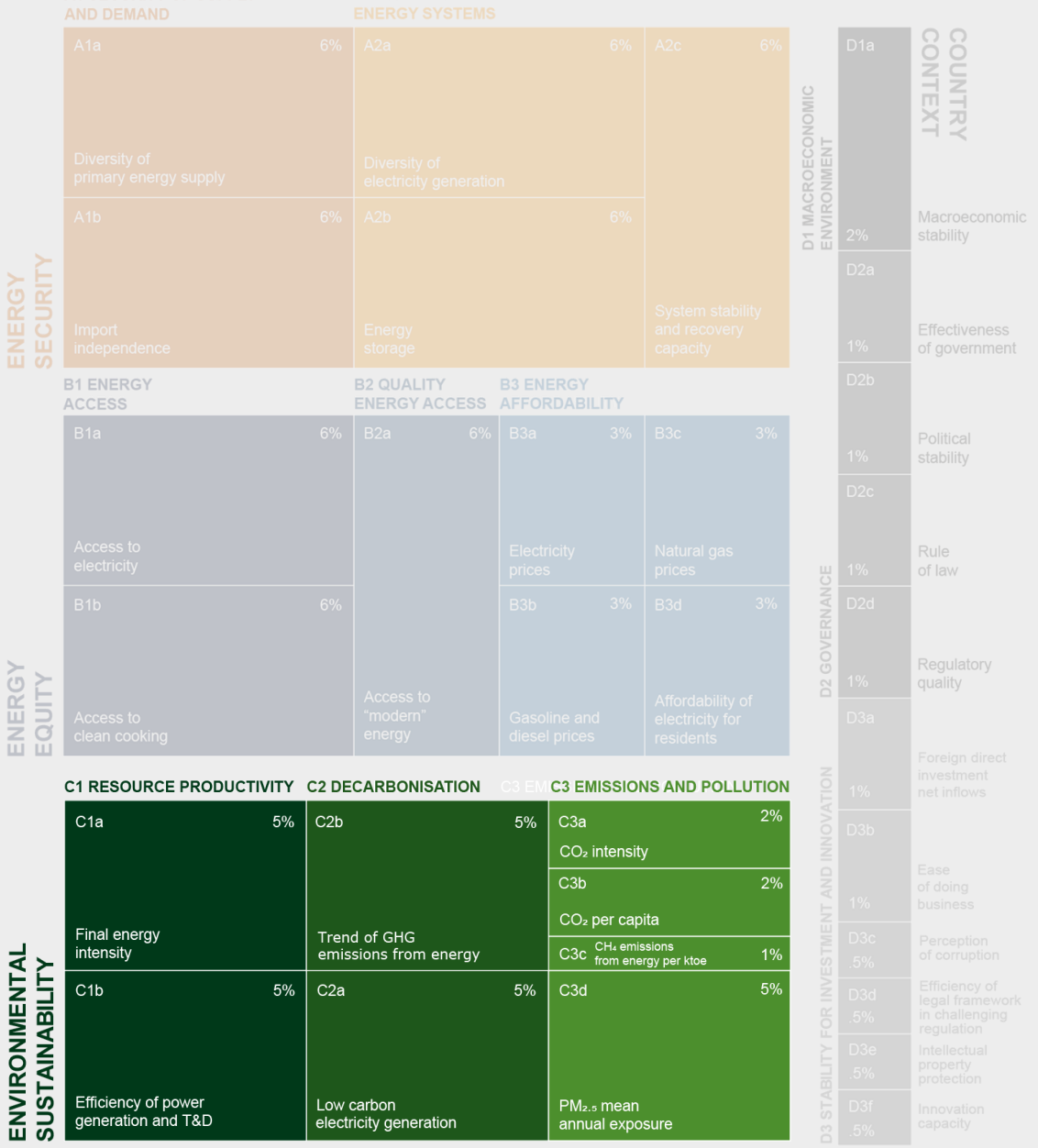


2. Globaalse raporti metoodikast
C. Keskkonnasäästlikkus

- **C1. Energy resource productivity** measures the efficient use of energy and energy resources across sectors as well as the efficacy of energy infrastructure in avoiding wasted energy.
  - **C1a. Final energy intensity**
  - **C1b. Efficiency of power generation and T&D**

- **C2. Decarbonisation** describes a country's capacity to generate electricity from low-carbon sources and manage its greenhouse gas emissions.
  - **C2a. Low carbon electricity generation**
  - **C2b. Greenhouse gas emissions trend**

- **C3. Emissions and pollution** measures CO_2 and methane emissions related to countries' energy production and use, as well as the exposure to harmful pollutants.
  - **C3a. CO_2 intensity**
  - **C3b. CO_2 emissions per capita**
  - **C3c. CH_4 emissions from energy (hydrocarbons in supply)**
  - **C3d. $PM_{2.5}$ mean annual exposure**



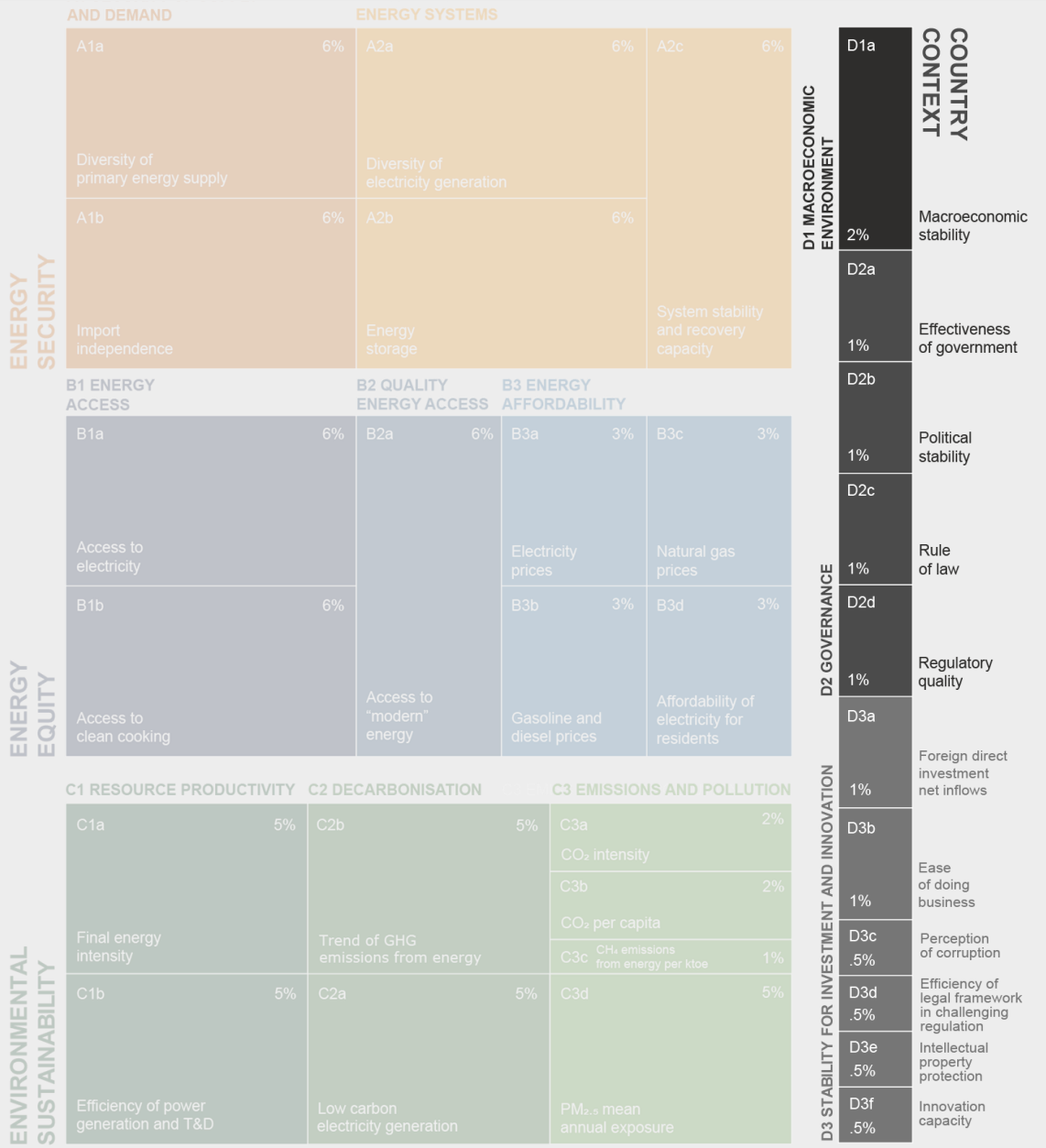
2. Globaalse raporti metoodikast

D. Riigi ülevaade

- **D1. Macroeconomic environment** describes the capacity of a country to sustain an enabling environment for proactive delivery of energy policy goals.
  - **D1a. Macroeconomic stability**

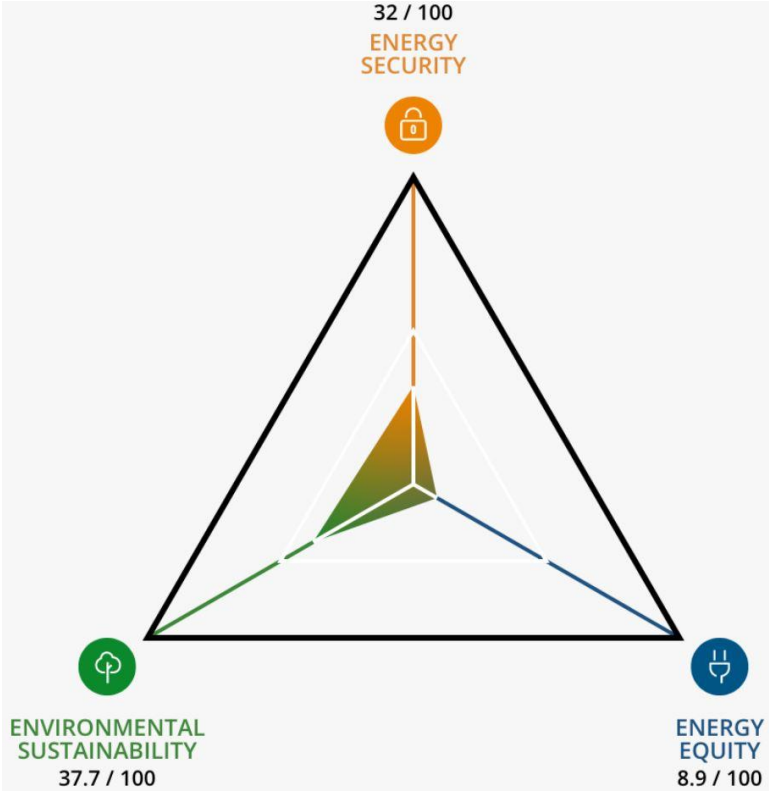
- **D2. Governance** reflects the effectiveness of government, political stability, rule of law and regulatory quality of a country.
  - **D2a. Effectiveness of government**
  - **D2b. Political stability**
  - **D2c. Rule of law**

- **D3. Stability for investment and innovation** measures the capacity of a country to attract investments and stimulate R&D and innovation.
  - **D3a. Foreign direct investment, net inflows**
  - **D3b. Ease of doing business**
  - **D3c. Perception of corruption**
  - **D3d. Efficiency of legal framework in challenging regulations**
  - **D3e. Intellectual property protection**
  - **D3f. Innovation capability**

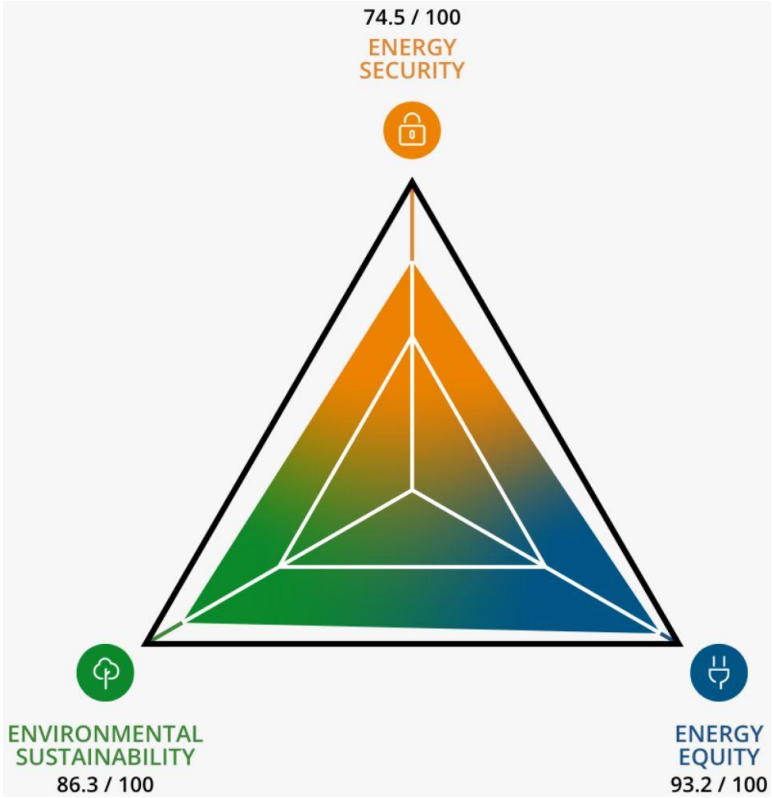


2. Halb vs hea

Trilemma 2021, Niger

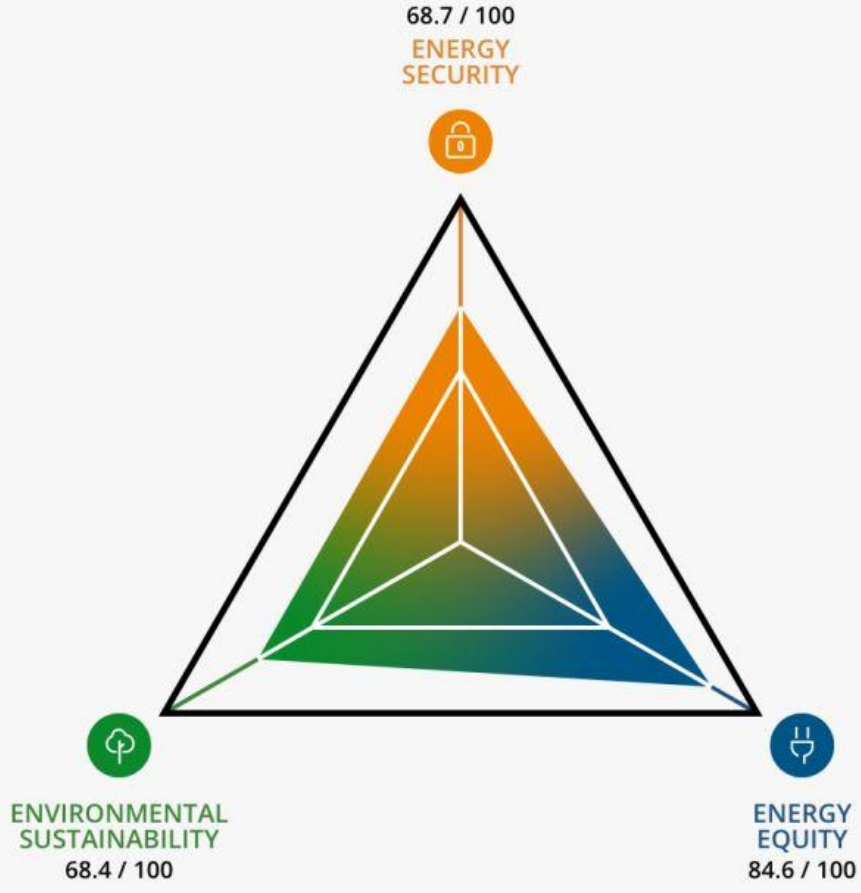


Trilemma 2021, Rootsi



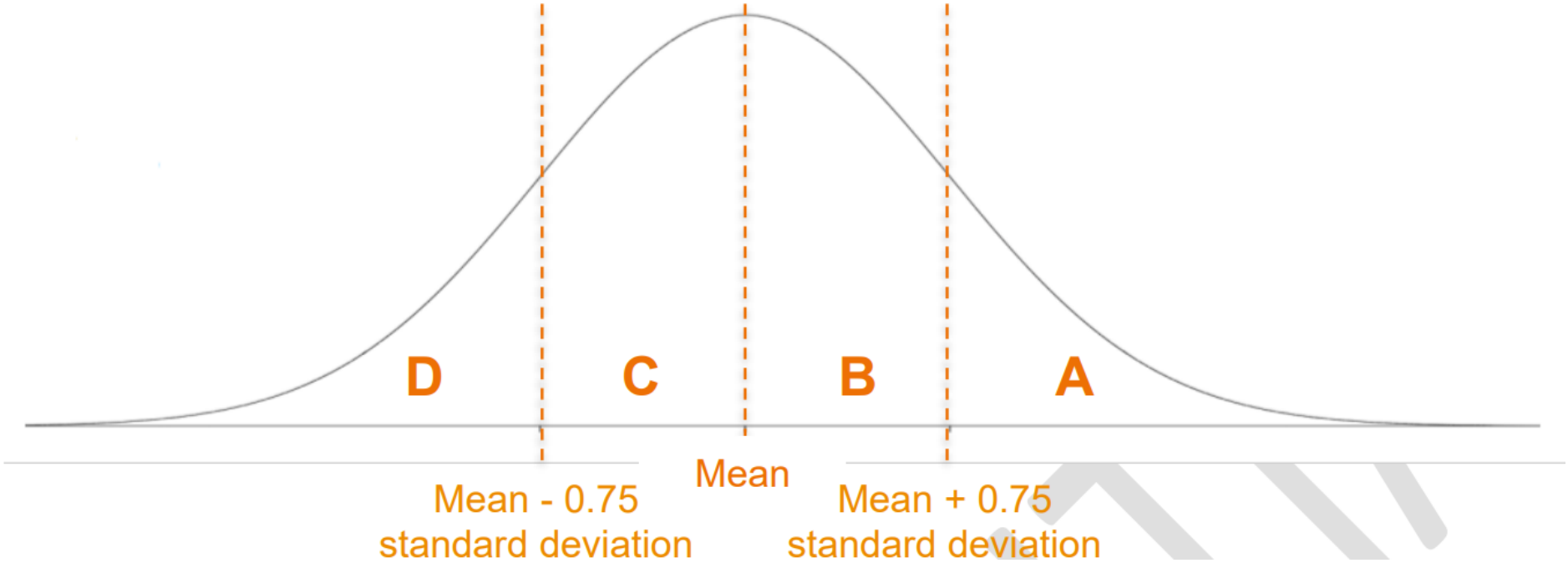
2. Eesti trilemma 2021

Koht: **#20** Trilemma tulemus: **73,9** Hinne: **ABB**



2. Hinde kalkuleerimine

- **Grade A**: countries with a dimension score in top 25th percentile;
- **Grade B**: countries with a score between 75th and 50th percentile;
- **Grade C**: countries with a score between 50th and 25th percentile;
- **Grade D**: countries with a score in bottom 25th percentile.



3. Trilemma süvauuringu projektist

- Luua ja viia läbi Eesti trilemma süvaanalüüs;
- Võtta arvesse Eesti energeetika keskkonna eripärasid ning kajastada detailsemaid andmeid.
- Juhtkomisjonis esindaja Keskkonnaministeeriumist, Majandus- ja kommunikatsiooniministeeriumist, Riigikantseleist, Statistikaametist, Eesti Pangast, Eesti Energiast, Tallinna Tehnikaülikoolist;
- Süvauuringut teostavad ka Läti ja Leedu;

3. Trilemma süvauuringu projektist jätk.

- Struktuur:
  - Eesti energeetikasektori koond trilemma ning võrdlus Läti ja Leeduga;
  - Energia tarbimise põhine trilemma (elekter, gaas, transpordikütus, soojus) + tuleviku vaade;

- Valmib: sügis-talv 2022

Aitäh!