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ODYSSEE-MURE

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“ODYSSEE-MURE,
Monitoring EU Energy Efficiency First Principle and Policy Implementation”
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The European Energy Efficiency Scoreboard

*Barbara Schlomann and Wolfgang Eichhammer
Fraunhofer ISI*

OVERVIEW

- European Energy Efficiency Scoreboard: Methodology
- European Energy Efficiency Scoreboard: Results 2020
- Combination of scoreboard and other ODYSSEE-MURE tools for a detailed country analysis: example of Switzerland
- Update of the Scoreboard for the year 2021

WHAT IS THE ODYSSEE-MURE ENERGY EFFICIENCY SCOREBOARD?

- Benchmarking tool to compare the impacts of energy efficiency policies and energy efficiency developments amongst European countries.
- Intended to paint a well-rounded picture of how a country is performing with respect to energy efficiency, relative to its peers in Europe.
- First energy efficiency scoreboard to account for quantitative impacts of policies (output-based scoring).
- It accounts for several decades of statistical data as well as future impacts of current energy efficiency measures.
- Cooperation with the European Council for an Energy Efficient Economy eceee

WHY THIS SCOREBOARD?

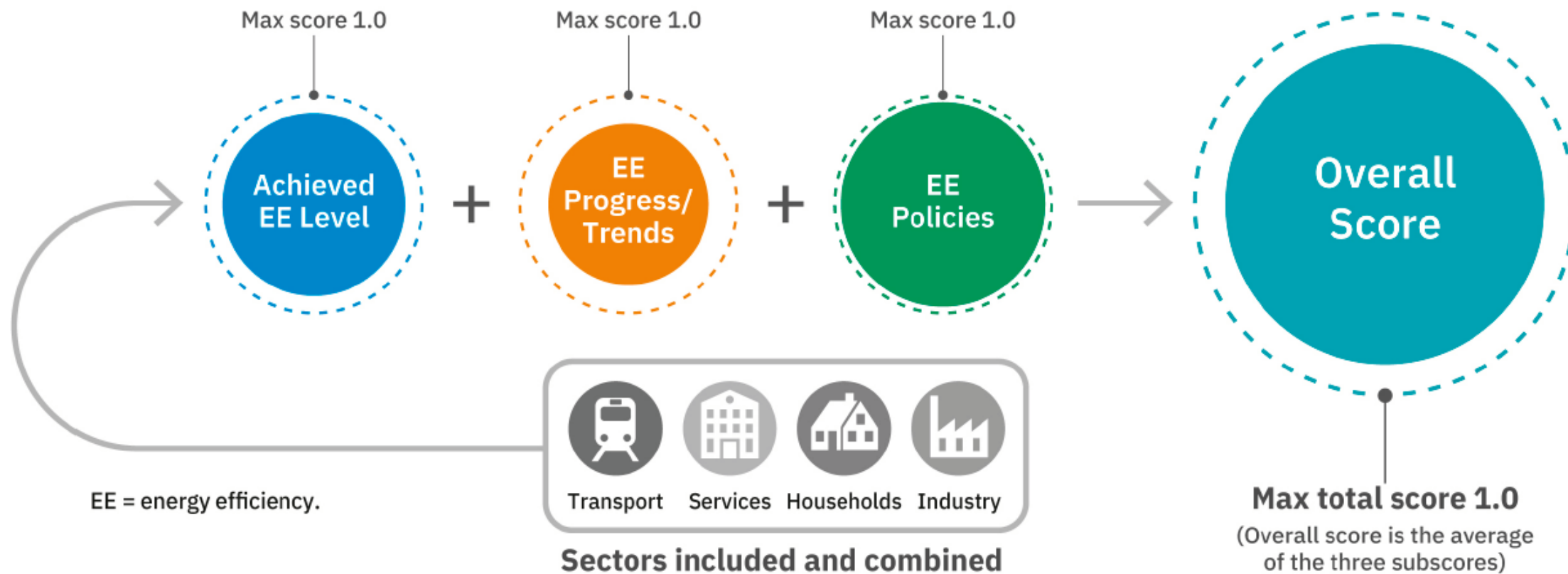
- **Raise the profile** of energy efficiency
- **Increase transparency** about progress and impacts of energy efficiency policy
- **Facilitate learning** – highlight successes and areas for improvement.

The unique aspects of this scoreboard are:

- It uses **indicators** that are adjusted for structural and climatic factors
- It accounts for **quantitative effects** of policies (and not only counts number)
- It considers impacts from the **past**, the **present**, and even **future** implications
- It weighs **various evidence-based parameters** into **one single score**

By weighing various parameters, and by looking back and to the future, the score gives a more fair and realistic description of development than simple comparisons of energy intensities.

HOW DOES THE ODYSSEE-MURE SCORING METHOD WORK?



THE SCORE “LEVEL” – ASSESSING TODAY’S PERFORMANCE LEVEL

The Level Score answers the question “How is my country **currently** performing with respect to energy efficiency?”

Quantitative measure of a country’s performance at the present time, influenced by autonomous developments, energy prices and policies in place. Accounts for all major sectors of the economy (Industry, Transport, Households, and Services).

The scoring is based on **adjusted** and mainly **physical indicators** for energy efficiency (and not on simple energy intensities), such as:

- energy use per m2 and building type (household, office...)
- share of public transportation in total land passenger transport
- specific energy consumption for industrial branches

Note: The “Level” parameter is based on top-down statistical EE indicators in the ODYSSEE database



THE SCORE “TREND” – A LOOK AT PROGRESS SINCE 2000

The Trend score answers the question “How much **progress** has the country achieved in the area of energy efficiency?”

The Trend score determines progress using the same set of energy efficiency indicators as selected for the “Level” score since the year 2000.

Dynamic parameter that takes development and past actions into account.

Note: The “Trend” parameter is based on top-down statistical EE indicators in the ODYSSEE database



THE “POLICY” SCORE – QUANTIFYING FUTURE SAVINGS FROM TODAY’S POLICIES

The Policy Score answers the question “What **future impacts** can I expect from **recent policies** enacted in my country?”

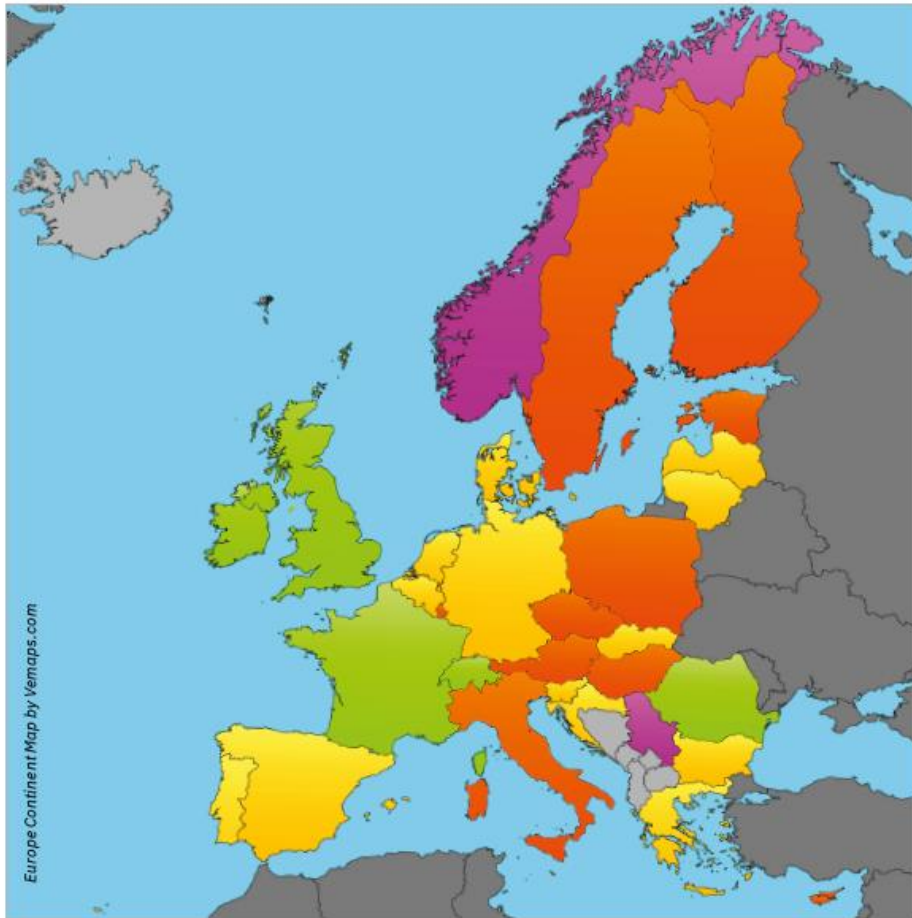
This score forecasts the energy-saving impacts of more recent policies from a given starting year, e.g., 2015, until a target year (e.g., until 2030). It converts policy impacts into a quantitative or semi-quantitative score.




Bottom-up evaluation of policies, based on the energy savings expected to be achieved in each sector compared to the sectoral energy consumption.

Note: Policy impacts are gathered in the MURE Database from quantitative and semi-quantitative measure impact evaluations in a target year, e.g., 2030



THE SCOREBOARD COVERS 31 COUNTRIES: EU, NORWAY, THE UK, SERBIA AND SWITZERLAND



-  **Upper value**
Score above 0.70 [5 countries]
-  **Middle value**
Score in the range 0.41–0.69
[13 countries]
-  **Lower value**
Score below 0.40
[13 countries including Norway and Serbia with incomplete data]

SCOREBOARD RESULTS: EUROPE'S 2020 ENERGY EFFICIENCY CHAMPIONS

Best top Overall Score – ranking top



*Level – overall
(all sectors) ranking top 5*

Rank	Country	Score
1	Switzerland	0.92
2	UK	0.80
3	Ireland	0.78
4	Romania	0.77
5	France	0.72



*Trend – overall
(all sectors) ranking top 5*



*Policy – overall
(all sectors) ranking top 5*

Rank	Country	Score
1	Lithuania	1.0
2	Switzerland	0.86
3	Denmark	0.79
4	Spain	0.79
5	Portugal	0.77

Rank	Country	Score
1	Romania	1.0
2	Ireland	0.96
3	UK	0.91
4	Switzerland	0.90
5	Slovakia	0.89

Rank	Country	Score
1	France	1.0
2	Switzerland	1.0
3	Finland	0.95
4	Ireland	0.86
5	Germany	0.82

SWITZERLAND: OVERALL TOP SCORING COUNTRY 2020

	Level	Trend	Policy	Combined
Overall	0.86	0.90	1	0.92
Industry	1	0.33	1	0.78
Transport	0.63	0.95	0.75	0.75
Households	0.90	0.54	1	0.81
Services	0.66	0.78	1	0.81

WHY DID SWITZERLAND SCORE SO WELL – AND WHAT CAN BE IMPROVED?

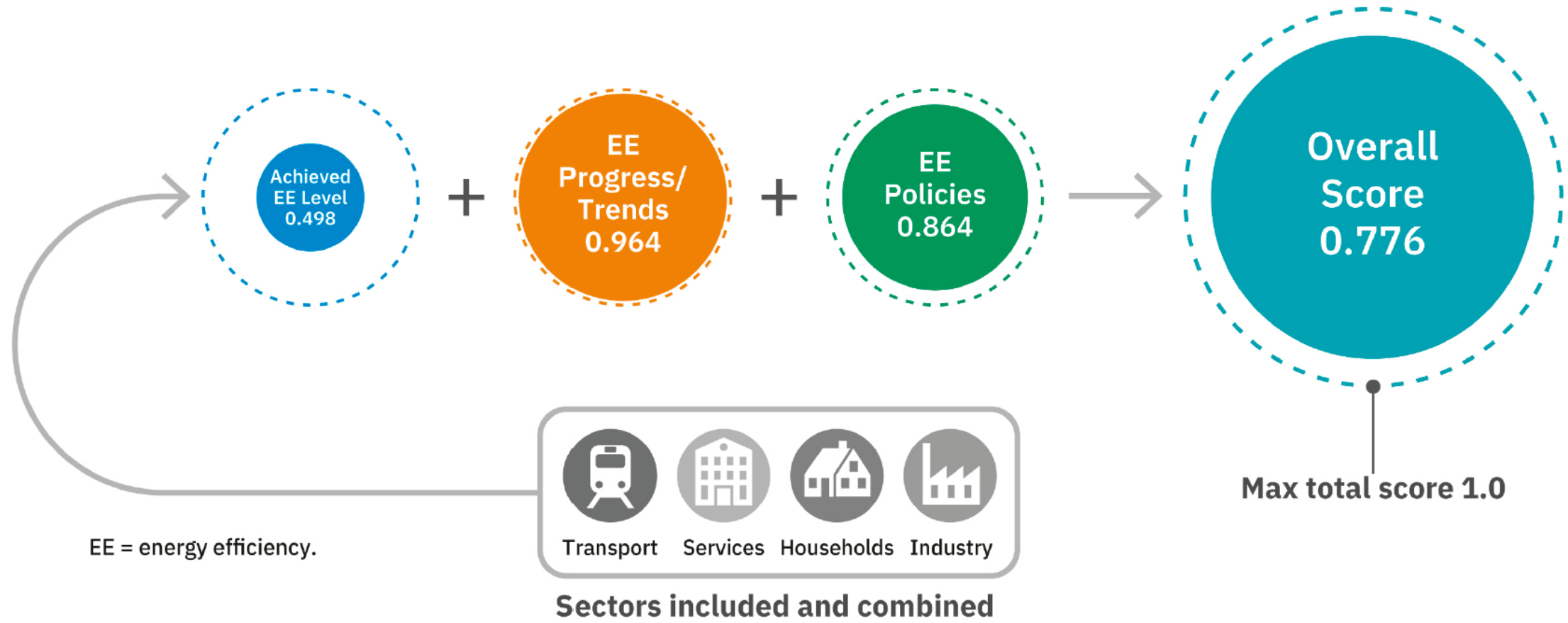
- **Top 5** in all aspects – Level, Trend, and Policies (as the only country)
- Top score for **Industry-Level**
- Very strong **Policy scores** overall – especially Industry, Households, and Services

Room for improvement?

- Relatively weak **Trend** score in **Industry** and **Households** (i.e. slow improvement over time)
- Currently strong **Policies** in both of those sectors indicate that Trend should improve.



IRELAND: EU'S TOP SCORING COUNTRY 2020

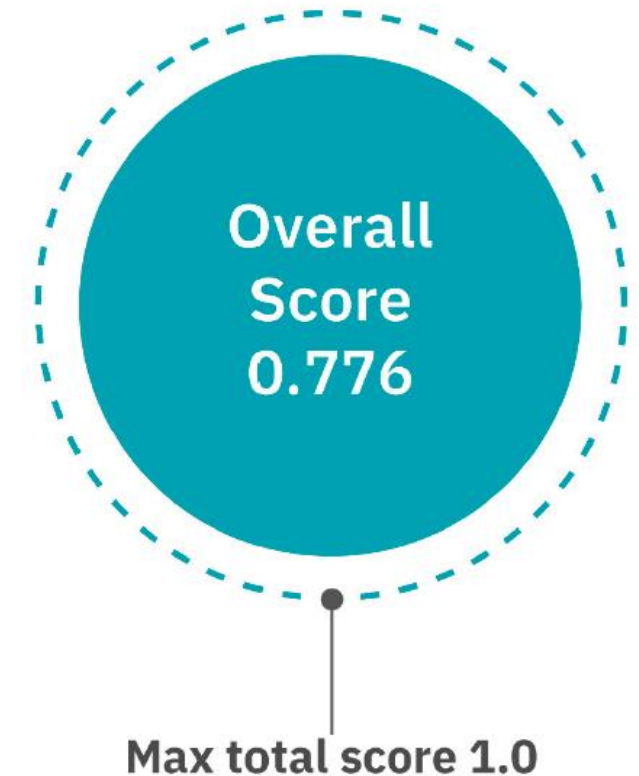


WHY DID IRELAND SCORE SO WELL – AND WHAT CAN BE IMPROVED?

- High efficiency **Level** in **Industry** (Rank 1) and **Households** (Rank 3)
- Rank 2 in **Trend** – particularly strong progress in **Household** sector
- Rank 3 in **Policy** – especially due to some high impact measures in **Transport** and **Services**

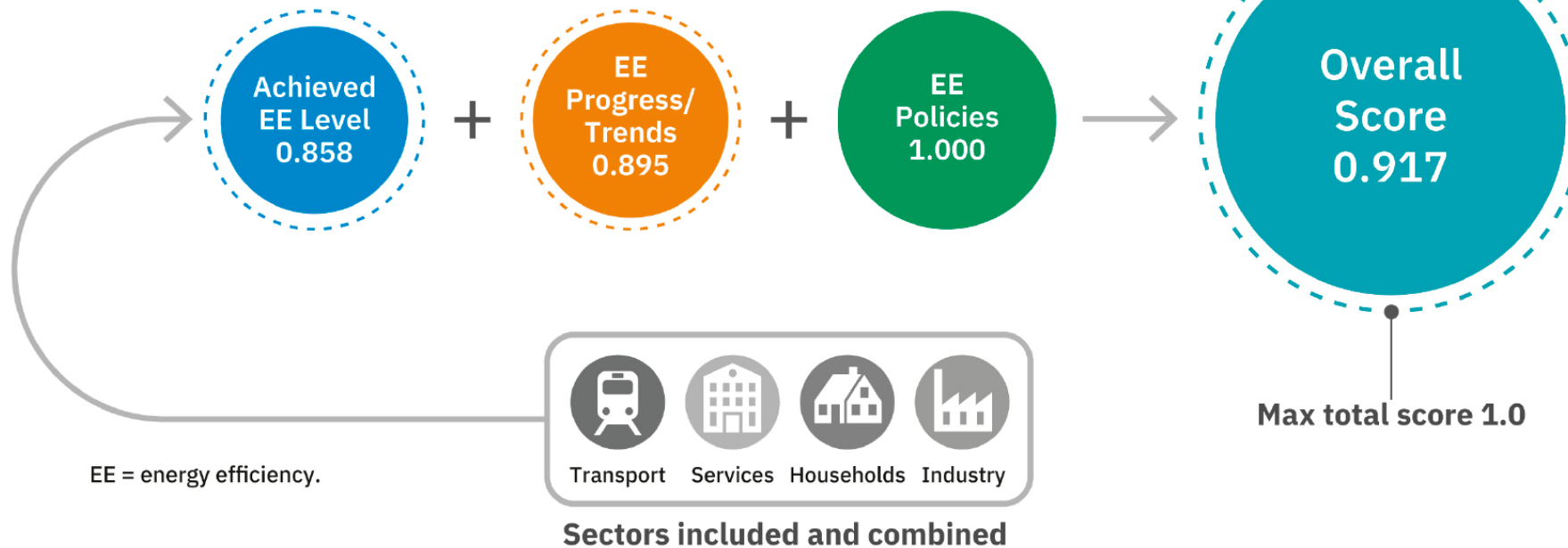
Room for improvement?

- Relatively weak **Level** score in **Transport** and **Services** (rank 23)
- Currently strong **Policies** in both of those sectors indicate that Level should improve.

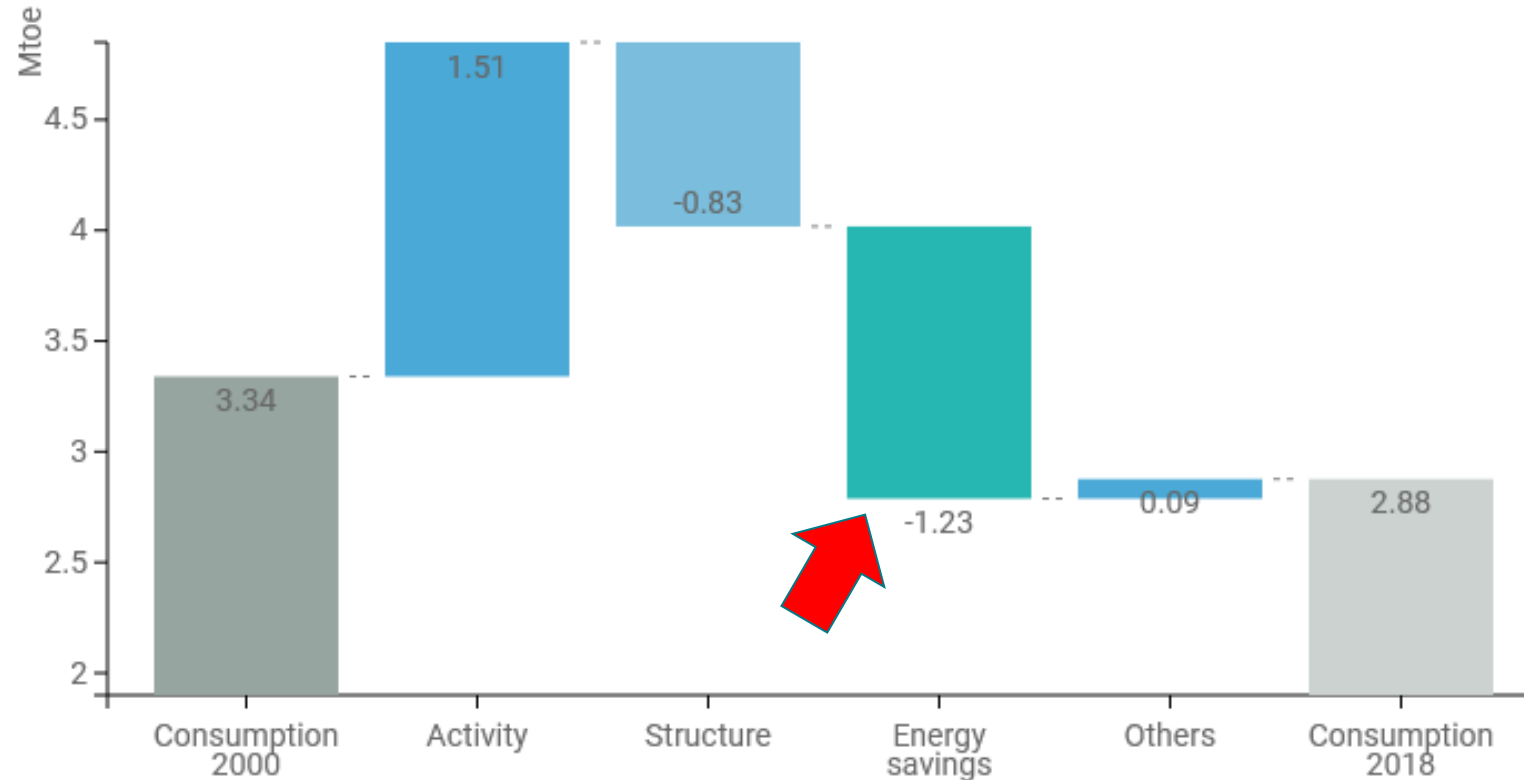


THE SCOREBOARD AS A STARTING POINT FOR A DETAILED COUNTRY ANALYSIS WITH ODYSSEE-MURE TOOLS: EXAMPLE OF SWITZERLAND

	Level	Trend	Policy	Combined
Overall	0.86	0.90	1	0.92
Industry	1	0.33	1	0.78



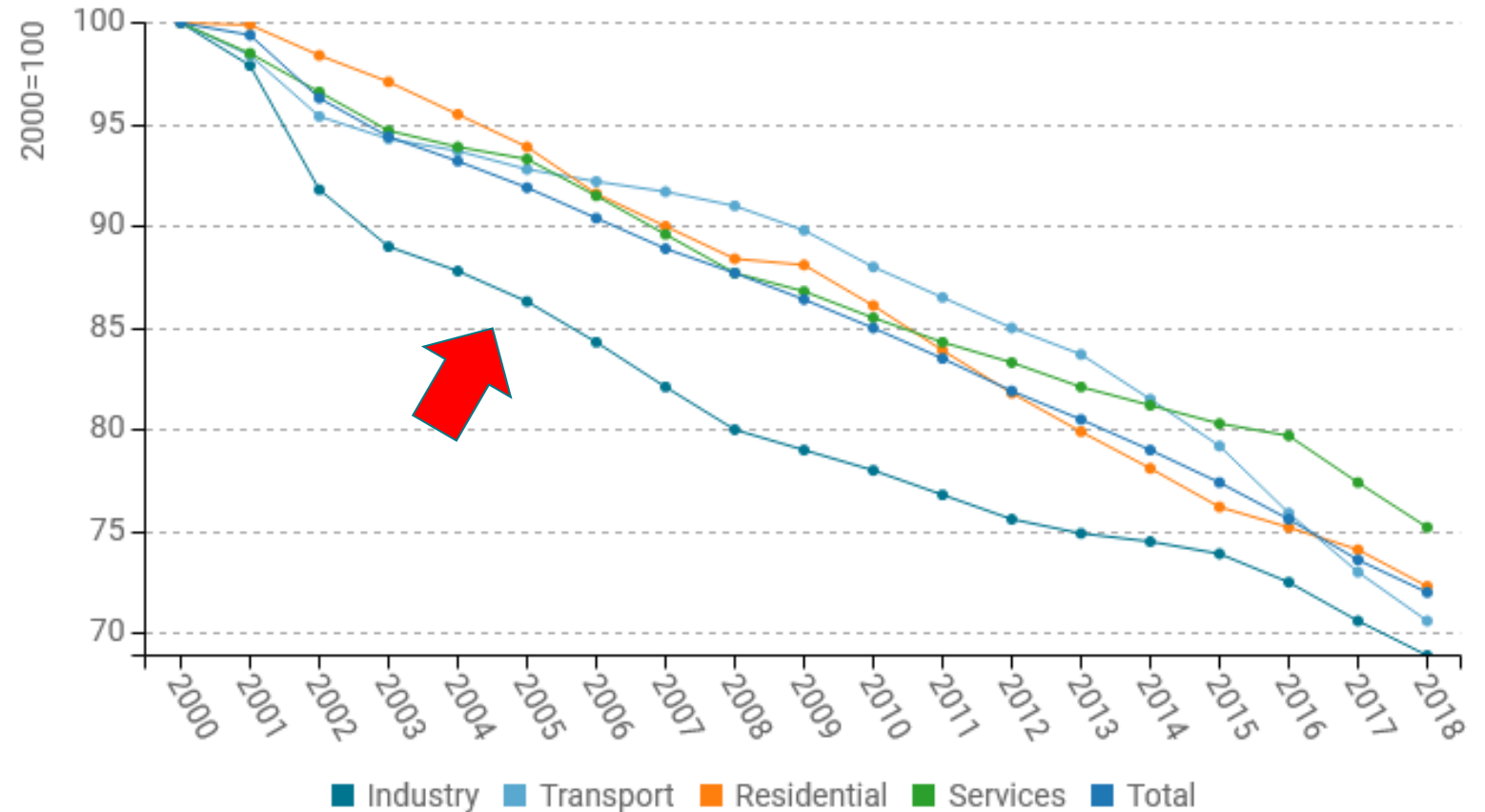
SWITZERLAND: MAIN DRIVERS OF THE ENERGY CONSUMPTION VARIATION IN INDUSTRY



Source: ODYSSEE

SWITZERLAND: TECHNICAL ENERGY EFFICIENCY INDEX

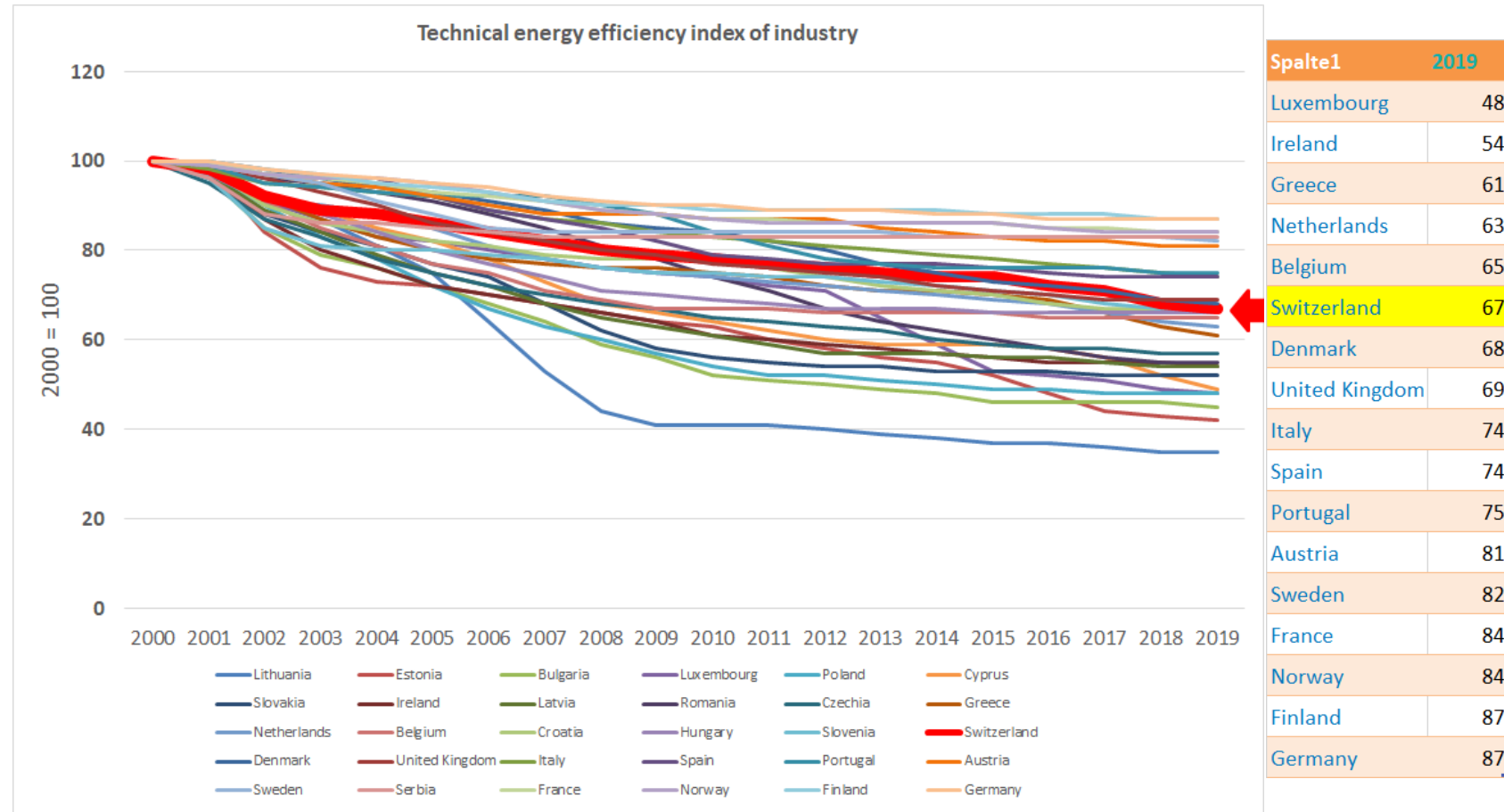
- Overall nation-wide energy efficiency of Switzerland improved at the rate of **1.7% p.a.**, as measured by the ODEX (28% total improvement) from 2000 to 2018.
- The energy efficiency of the industry sector improved at a rate of **2% p.a.**, making it the fastest improving sector in Switzerland.



Source: ODYSSEE

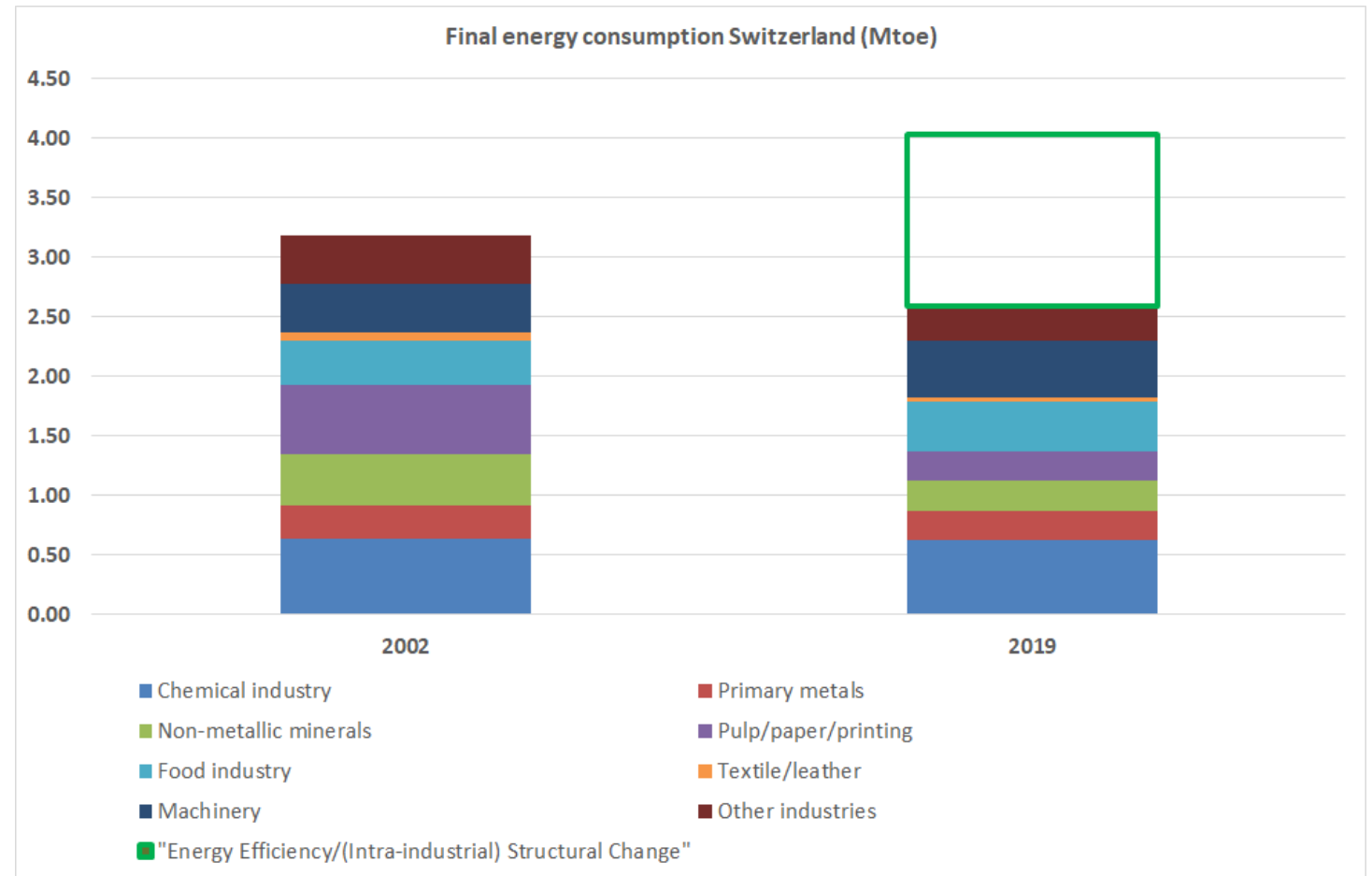
SWITZERLAND: TECHNICAL ENERGY EFFICIENCY INDEX

- In terms of energy efficiency trends in industry (measured by the ODEX) Switzerland did well...
- ...but other countries performed better (though it was easier for Eastern countries to improve trends)
- Among the more mature European countries in Europe Switzerland performed quite well.



SWITZERLAND: WHICH TECHNOLOGIES HAVE CONTRIBUTED TO THE PROGRESS OF EE IN INDUSTRY?

- In just under 20 years, Switzerland has saved **about one third of the energy** it would otherwise have needed.
- Significant contributions came from the **chemical sector (thermal applications and cross-cutting technologies)** and from **other industries**.



SWITZERLAND: IMPORTANT ENERGY EFFICIENCY MEASURES IN INDUSTRY

Code	Title	Type	Starting Year	kt CO2 (2030)	PJ(2030)
IND-CH1051	Emission Reduction Target Agreements (Zielvereinbarung zur Emissionsverminderung / Convention d'objectifs à réduire les émissions / Impegno congiunto di riduzione delle	Others	2013	113	2.02
IND-CH1052	Technology Fund (Technologiefonds / Fonds de technologie / Fondo per le tecnologie)	Financial	2015	low impact	
IND-CH1053	Competitive Tenders for Energy Efficiency (Wettbewerbliche Ausschreibungen / Appels d'offres publics / Gare pubbliche)	Financial	2010	188	3.35
IND-CH1054	CO2 Levy (CO2-Abgabe / Taxe sur le CO2 / Tassa sul CO2)	Fiscal	2008	344	6.14
IND-CH4287	Emission Trading System (Emissionshandelssystem / Système d'échange de quotas d'émission / Sistema di scambio di quote di emissioni)	Market-based Instruments	2008	535	9.55
				(in Italics: estimate with emission factor of natural gas)	

Measures	Description	Expected savings, impact evaluation	More information available
Emissions trading system	The Swiss ETS covers around 50 installations from energy intensive industries, around 10% of Swiss greenhouse gas emissions. The Swiss ETS copied to a great part the European emissions trading rules and is linked to the EU ETS since 2020.	By 2020: estimated mitigation impact of 0.4 MT of CO2 relative to reference scenario	Link
Emission reduction target agreements	Greenhouse-gas intensive companies can be exempted from the CO2 levy if they commit to reduce their emissions based on an emission reduction target agreement.	By 2020: estimated mitigation impact of 0.1 MT of CO2 relative to reference scenario	Link

UPDATE OF THE SCOREBOARD FOR THE YEAR 2021

- The scoreboard results shown before reflected the status of the ODYSSEE and MURE databases in the year 2020.
- During the last weeks, the scoreboard was updated based on the most recent data in the two databases. The updated “**2021 Energy Efficiency Scoreboard**” is now online:
<https://www.odyssee-mure.eu/data-tools/scoring-efficiency-countries.html>
- Main methodological change: trend and policy scores are now based on the reference year 2010 instead of 2000
- Planned for the new project: measure impacts will be counted until year 2030

FIRST RESULTS OF THE 2021 SCOREBOARD

Overall results of the 2021 Scoreboard

OVERALL: OVERALL ENERGY EFFICIENCY SCORE

The overall energy efficiency score is obtained as an average of the three scores obtained for "energy efficiency level", "energy efficiency progress" and "energy efficiency policies" (i.e. one third weighting).



Estonia is the biggest improver in 2021, mainly due to a progress in the policy score.

Result of 2020
Scoreboard

Rank	Country	Score
1	Switzerland	0.92
2	UK	0.80
3	Ireland	0.78
4	Romania	0.77
5	France	0.72

CONTACT

Wolfgang EICHHAMMER

Head Competence Centre Energy Policy and Energy Markets
Fraunhofer Institute for Systems and Innovation Research ISI
Breslauer Strasse 48 | 76139 Karlsruhe | Germany

Phone +49 721 6809-158 | Fax +49 721 6809-272

mailto: wolfgang.eichhammer@isi.fraunhofer.de

<http://www.isi.fraunhofer.de>

Twitter: @FraunhoferISI

Barbara Schlomann

E-mail: Barbara.Schlomann@isi.fraunhofer.de

Phone: +49 721 6809-136