

The potential impact of energy policies on energy costs

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World Energy Model Overview



Source: International Energy Agency (2021) World Energy Model Documentation. August 2021, p, 12. Available: https://www.iea.org/reports/world-energy-model/about-the-world-energy-model



Energy intensity improvement rate

Energy intensity improvement rate and contributions, by category, historical and under the 1.5°C Scenario, 2018 to 2050



Source: IRENA (2021), World Energy Transitions Outlook: 1.5°C Pathway, International Renewable Energy Agency, Abu Dhabi, p. 70. Available: https://www.irena.org/publications/2021/Jun/World-Energy-Transitions-Outlook



Share of new electricity generating

FIGURE S.1 Share of capacity, 2001-2020

Annual capacity installations (GW/yr) Share of new electricity generating capacity (%) New capacity renewables (GW) Renewable share (%) New capacity non-renewables (GW)

Based on IRENA's renewable energy statistics.

capacity

Source: IRENA (2021), World Energy Transitions Outlook: 1.5°C Pathway, International Renewable Energy Agency, Abu Dhabi, p. 18. Available: https://www.irena.org/publications/2021/Jun/World-Energy-Transitions-Outlook



Factors influencing energy costs





Market Cycles





Smart charging enables EVs to provide flexibility



Source: Electric-vehicle smart charging innovation landscape brief, p. 7. Available: *https://irena.org/-/media/Files/IRENA/Agency/Publication/2019/Sep/IRENA_EV_smart_charging_2019.pdf?la=en&hash=E77FAB7422226D29931E8469698C709EFC13EDB2*



Main conclusions I

Local approach, actively involving municipalities, allows more correct identifying of the potential of geographical sites in achieving climate neutrality objectives, reducing the total costs of the country.

The aggregation service, promoting self-consumption, energy communities, as well as the participation of energy users in providing local generation, has a great potential for reducing energy costs towards sustainable economy.

Electromobility infrastructure cost reduction has the potential to use the interaction of different sectors, for example, real-time charging price applications, moving the user to less busy charging stations, the installation of solar charging stations in car parks and offices, transfer of excess electricity of electric cars to the network, restricting charging roaming, etc.

As the future challenges of natural gas as fossil energy, moving towards climate neutrality objectives, **it is significant to assess the economic justification for future projects**. For example, to evaluate economically justified solutions for the installation of connections for biogas for the transmission or distribution network.



Main conclusions II

It is important to carry out a careful evaluation by planning a wider use of hydrogen in the energy system.

Future **persistence assessments against cyber threats should be treated with caution**, as the false sense of security in itself is a major vulnerability.

The digitization of energy systems has a great potential to effectively speed up efforts to achieve carbon neutrality to promote the achievements of data, analytics, and systems, and this can significantly increase the overall energy infrastructure efficiency and energy use with significantly reduced costs.



Paldies par uzmanību!

Thank you!



