Renewable Energy Policies in Hungary: Exploring Opportunities for South Korean SMEs

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Introduction

In an era where climate change and environmental sustainability are at the forefront of global discussions, nations are re-evaluating their energy policies and exploring renewable alternatives. Hungary, a landlocked country in Central Europe, is no exception. With its ambitious goals and strategic policies, Hungary is steadily emerging as a leader in renewable energy and decarbonisation efforts. This article delves into Hungary's renewable energy policies and the opportunities they present for South Korean Small and Medium Enterprises (SMEs) seeking to establish a foothold in the European market. Furthermore, it examines the investment and support schemes that facilitate the growth of renewable energy in Hungary. The article also critically analyses the challenges and potential of renewable energy in Hungary's decarbonisation efforts. Finally, it explores the mutual benefits and learning opportunities for both Hungary and South Korea in the renewable energy sector, highlighting the significance of international collaboration in tackling global environmental challenges.

Hungary's Transition to Net-Zero: The 2050 Target and National Energy Strategy

Hungary, like many countries around the world, is taking significant steps towards reducing its carbon footprint and transitioning to a more sustainable energy system. In June 2020, Hungary adopted a new law making the net-zero emission target by 2050 a binding obligation[1]. This commitment is part of a broader change in the country's energy and climate policies.

The National Energy Strategy of Hungary has been updated to include an outlook until 2040. The strategy focuses on clean, smart, and affordable energy while strengthening energy independence and security, and decarbonising energy production. Renewable energy and nuclear electricity, along with the electrification of end-use sectors, are identified as the key drivers towards achieving the 2050 target. Hungary expects substantial investments in the power sector, notably for the construction of two new nuclear power generating units. Renewable energy production has increased significantly in Hungary, but growth in the sector has slowed. The introduction of a new support system for electricity from renewable sources could get progress back on track. However, measures that limit wind power developments are likely to have a negative impact on the.

Hungary's greenhouse gas emissions have declined as the economy has become less carbon-intensive. Nonetheless, the country could adopt more ambitious targets for emission reductions to 2030 because the target of cutting emissions 40% from 1990 levels laid out in the new climate law will require much larger emission cuts in the following decades to reach net-zero in 2050[2].

In the context of Central and Eastern European countries, energy sufficiency in the residential building sector is an area of focus. Research focusing on Lithuania and Hungary suggests that limiting per capita heated floor area could lead to reductions in final energy demand, changes in the energy production mix, lower greenhouse gas emissions, and savings on new energy generation capacity[3]. This indicates that energy sufficiency measures, combined with energy efficiency upgrades, can play a significant role in achieving net-zero emissions.

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[1] https://iea.blob.core.windows.net/assets/9f137e48-13e4-4aab-b13a-dcc90adf7e38/Hungary2022.pdf
[2] https://www.sciencedirect.com/science/article/pii/S2211467X22000177
[3] https://www.mdpi.com/2071-1050/14/23/16162

It is important to note that achieving net-zero emissions by 2050 is not just about reducing greenhouse gas emissions but also about transforming the energy system. This transformation will likely entail an infrastructure transformation in all sectors of the economy, embracing renewable energy, electricity, and low-carbon fuels.[4]

In conclusion, Hungary's transition to net-zero by 2050 is a multifaceted approach involving legal commitments, updates to the National Energy Strategy, investments in renewable and nuclear energy, and considerations of energy sufficiency. The country is part of a global movement towards sustainability, and its efforts in transitioning to a cleaner energy system are commendable[5].

Investment and Support Schemes for Renewable Energy

Investment and support schemes for renewable energy in Hungary are part of a broader European effort to reduce dependence on fossil fuels and promote environmental sustainability. Across Europe, the rising costs of fossil fuels and environmental concerns have led to significant investments in renewable energy sources such as wind power and solar photovoltaics[6]. These investments are often supported by incentive programs that include fixed and market premium feed-in tariffs. Feed-in tariffs are long-term contracts that guarantee renewable energy producers a set price for the energy they generate, and these prices are often updated to account for inflation. Such schemes have been highly effective in increasing investments and the installation of new renewable energy capacities across Europe.

In Hungary, as in other European countries, the support for renewable energy is aligned with the broader goals of the European Union (EU) to transition to a low-carbon economy[7]. The EU has been instrumental in providing funds and support for renewable energy projects in member states, including Hungary. For instance, a recent study by Wojciech Florkowski and Joanna Rakowska on the distribution of EU funds for renewable energy deployment in Poland, which is in the same region as Hungary, revealed that EU cohesion funding played a crucial role in overcoming the barriers to renewable energy utilization, such as high initial investment costs[8]. Similar support schemes are likely to be in place in Hungary.

Moreover, the EU has been encouraging the adoption of innovative technologies to enhance the transparency and efficiency of renewable energy support schemes. One such technology is blockchain, which can be used to improve the transparency of Guarantees of Origin (GOs) for renewable electricity supplies[9]. GOs are certificates that prove that a certain amount of electricity was produced from renewable sources. However, traditional GOs have faced issues such as lack of transparency and complexity. Blockchain technology can address these issues by providing a transparent and automated system for tracking the origin of renewable electricity. This, in turn, can incentivize producers to invest in renewable energy and support the sustainability commitments of corporations and governments.

In conclusion, Hungary is part of a larger European movement towards renewable energy, supported by various investment and support schemes[10]. These schemes, often backed by the European Union, include feed-in tariffs and funding for renewable energy projects. Additionally, the adoption of innovative technologies such as blockchain is enhancing the efficiency and transparency of these support schemes. As Europe continues to move towards a sustainable energy future, it is expected that Hungary will continue to benefit from and contribute to these efforts.

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[4] https://www.mdpi.com/2071-1050/15/6/5587
[5] https://rekk.hu/downloads/academic_publications/rekk_policybrief_hu_2020_02.pdf
[6] https://www.mdpi.com/2071-1050/15/5/4471
[7] https://www.mnb.hu/letoltes/20210121-financing-the-hungarian-renewable-energy-sector.pdf
[8] https://www.mdpi.com/2071-1050/14/24/17007
[9] https://www.mdpi.com/2071-1050/15/1/258
[10] https://www.oecd-ilibrary.org/sites/9789264298613-en/index.html?itemId=/content/publication/9789264298613-en

Challenges and Potential: The Role of Renewable Energy in Hungary's Decarbonisation Efforts

Hungary's transition to renewable energy is an essential component of its decarbonisation efforts. However, the country faces several challenges in this regard. One of the significant challenges is the high dependency on fossil fuels, particularly coal and natural gas. The government has made a commitment to phase out coal use for electricity generation by 2030, and if possible, by 2025. This is a bold step, but transitioning from coal to renewable energy sources requires significant investments and the development of alternative energy supplies.

Another challenge is the relatively low levels of energy efficiency progress in buildings and transport. Energy efficiency is crucial for reducing carbon emissions, and Hungary needs to accelerate its efforts in this area. The National Clean Development Strategy (NCDS) of Hungary acknowledges the importance of energy efficiency, but more concrete steps are needed to achieve significant progress[11].

Moreover, Hungary has remarkable growth in renewable energy, particularly in solar photovoltaics (PV), due to the introduction of new renewable energy tenders (METÁR)[12]. However, the country still has untapped potential in developing geothermal and wind power. A faster progress in renewable energy deployment may allow Hungary to close its last coal-fired power plant ahead of time and mitigate possible delays in new projects such as the Paks II Nuclear Power Plant[13].

Additionally, the country is exploring innovative technologies such as carbon capture, utilisation and storage (CCUS), and hydrogen production. These technologies are expected to become available after 2030 but before 2040 and can play a significant role in achieving net-zero emissions. However, the development and deployment of these technologies require substantial investments and policy support.

Despite these challenges, Hungary has significant potential in renewable energy. The country's geographical location and natural resources make it suitable for the development of various renewable energy sources, including solar, wind, and geothermal energy. The government's commitment to phasing out coal and increasing investments in renewable energy is a positive step towards decarbonisation[14].

Furthermore, Hungary is part of the European Union, which has ambitious targets for renewable energy and decarbonisation. Being part of the EU provides Hungary with access to funds and support for renewable energy projects. The EU's REPowerEU plan[15] and the Fit for 55 package[16] are some of the initiatives that can support Hungary in its decarbonisation efforts.

In conclusion, while Hungary faces challenges in transitioning to renewable energy, it also has significant potential. The government's commitment to phasing out coal, coupled with the support from the European Union and the development of innovative technologies, can help Hungary overcome these challenges and play a significant role in the global effort to reduce carbon emissions and combat climate change.

Conclusion

Hungary's commitment to renewable energy and decarbonisation presents a golden opportunity for South Korean companies looking to establish a presence in Europe. With its strategic location in Central Europe, Hungary serves as a gateway to the European market. The country's ambitious targets for renewable energy, coupled with support schemes and investments, create a conducive environment for businesses in the

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[11] https://unfccc.int/sites/default/files/resource/LTS_1_Hungary_2021_EN.pdf
[12] https://www.mekh.hu/information-on-the-renewable-energy-support-system
[13] https://paks2.hu/en/web/paks-2-en/
[14] https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Feb/IRENA_REmap_EU_2018.pdf?rev=4241f3f988254b7c8ac9b0cc004bbee1
[15] https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en
[16] https://www.consilium.europa.eu/en/policies/green-deal/fit-for-55-the-eu-plan-for-a-green-transition/

renewable energy sector. South Korean companies, known for their technological prowess and innovation, can leverage Hungary's growing renewable energy market to introduce cutting-edge solutions and products.

Furthermore, Hungary's legal commitment to achieving net-zero emissions by 2050 and its National Energy Strategy reflect a long-term vision that aligns with global sustainability goals. This commitment can be particularly appealing to South Korean companies that share similar sustainability values and are looking to align their business practices with global trends.

Additionally, Hungary's exploration of innovative technologies such as carbon capture and hydrogen production can offer collaborative opportunities for South Korean companies, which are also at the forefront of technological advancements in these areas. Such collaborations can lead to the development of new solutions that can be scaled not only in Europe but also globally.

On the other hand, South Korea may also learn from some of Hungary's practices in renewable energy and decarbonisation. The adoption of a legal framework for net-zero emissions, as seen in Hungary, can provide a strong foundation for South Korea's climate policies, respectively. South Korea, which is also heavily reliant on fossil fuels, can take cues from Hungary's phase-out of coal and investment in renewable energy sources. This can help South Korea in diversifying its energy sources, improving energy security, and reducing carbon emissions.

In conclusion, Hungary's strategic location, commitment to renewable energy, and innovative approach to decarbonisation make it an ideal destination for South Korean companies to establish their European presence. Simultaneously, Hungary's practices can offer valuable insights for South Korea in its journey towards a sustainable and low-carbon future. The synergy between the two countries can foster technological advancements, economic growth, and contribute to global sustainability efforts.