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TOPIC: Comparison of electromobility in Iceland and the Czech Republic

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**PROJECT: Comparison of energy potential of Iceland and the
Czech Republic**

DATE: 1/ 8/2021 – 31/ 8/ 2022

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Introduction

- By electric car we mean a vehicle that is powered by electricity
- Partly, this term also includes hybrid vehicles (using multiple propulsion systems)
- The purpose of electric cars, together with renewable energy, is to mitigate climate change, environmental impact and achieve zero local emissions.



Positives

- Zero local emissions (advantage mainly in cities)
- Possibility to use renewable resources
- Easier implementation of autonomous driving and smart systems in the future
- Cheaper transportation

Negatives

- Higher acquisition costs
- Lower range on a single charge
- Lack of charging stations and charging time
- With the transition to electric cars, electricity consumption will increase significantly
- Battery life

Czech Republic

- Approximately 10,000 passenger electric cars, 6,300 motorcycles, 106 buses and 730 trucks (out of a total of 6.13 million registered vehicles)
- Over 1,841 charging points at 944 stations and their number is still growing
- Compared to 2020, the number of newly registered electric cars increased by 43.3%, which still represents only 1.74% of the number of newly registered vehicles



Iceland

- 6,500 fully electric and 9,700 hybrid electric cars (a total of 16,000 out of 357,000 vehicles, which makes 4.5%)
- 269 charging points at 73 stations and their number is still growing
- 45% of newly registered vehicles are powered by alternative fuels (in 2014 it was only 3%)
- Lots of recharging points are free of charge (at shops, at work)



Enviromental impact

- The operation of the vehicle itself, not counting its production and maintenance, is as clean as the energy sources that power it
- Approximately 17% of the electricity produced in the Czech Republic is from renewable sources
- In Iceland it is about 99%
- Old batteries are a big concern, but we could recycle them with more than 95% efficiency, but due to the small number of batteries, this is not yet the case
- When we compare the whole life cycle of electric and internal combustion cars, the emissions of electric cars in the EU are 17-30% lower



Society view

- Thanks to cheap electricity and subsidies for electric cars, they are very popular in Iceland
- Iceland's efforts to become carbon neutral by 2040 also help to promote electromobility
- On the other hand, the Czech Republic has one of the slowest developments of electromobility and the popularity of electric cars in the EU, thanks to its higher purchase price and higher electricity price.

Technical viability

- Battery technology is improving and the current range is around 500 km
- From the point of view of our distribution network, the only problem is fast chargers, which represent a high short-term load
- The Czech transmission system will be able to handle the increasing number of electric cars, but it will take decades before millions of them will be in operation and the transmission system is constantly being improved
- Iceland does not feel this problem due to its small population and the amount and price of electricity it produces



Conclusion

- So we can see that electric cars are doing much better in Iceland than in the Czech Republic
- This is due to the availability of these vehicles in Iceland thanks to subsidies and a better economic situation, but also the good availability of electricity and a lower population
- On the other hand, the Czechs are rather conservative in this matter, which is also helped by the fact that new electric cars are financially unaffordable for most people.

Thanks for you attention