State policies and investment incentives for the development of the electric car industry in Hungary

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STATE POLICIES ON THE BUILDOUT OF ELECTRIC CAR PRODUCTION IN CEE COUNTRIES

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Key Takeaways

- Development policies in CEE countries have basically focused on *job creation*, *economic growth*, *micro and macro regional economic catching-up*, with increasing FDI attractiveness (Zavarská et al, 2023).
- In the process of technology transition related to the EU agenda, countries have focused *on attracting foreign investors* (Pavlínek, 2023).
- We did not find examples where financial resources were specifically *targeted at domestic companies*. The strategic vision for domestic companies was to *strengthen cooperation with international companies*.
- The strategies confirmed that subsidiaries in Hungary have only a *"supply role"* (Sturgeon and Florida 2000, Humphrey and Memedovic 2003, Nunnenkamp 2005, Barta 2012), the *"assembly-based hierarchy"* resulted a centrum-periphery geographical pattern where Hungary belongs to the peripheral states (Lung 2007, Pavlínek 2015).

Outline of the research

Industrial development	Main points
Strategies	1. Governmental aims and objectives (detected in different strategical papers)
Investments (implementation of investment incentives and state aid as well as spendings financed by the central and local governments)	2. Incentives for companies/industries
	3. Utilization of EU possibilities for support (like RRF, TCTF, Regional aid for less developed areas, etc)
Realization of production and feedbacks	4. Extent of implementation of aims given in 1st point.

BEV industry strategy in Hungary

- *No comprehensive public strategy* for the development of the BEV industry;
- It is only in the last 5 years that development of BEV production have been given greater emphasis in state documents for the development of road vehicle production. The Irinyi Plan (2016), puts it this way regarding the future of electromobility: "...*neither the infrastructure nor the vehicles using it have been implemented so far, so far, the breakthrough development that ensures the long-term future of the industry*" (Irinyi Plan 2016, p 56.).
- Governmental aims and objectives can be found in *8 strategic documents*. The only exception to this is the *National Battery Industry Strategy* (approved in 2021), which is something specially concerning EV battery sector;

	National Energy Strategy	National Electromobility Strategy	National Energy and Climate Plan	National Battery Industry Strategy	Recovery and Resilience Plan	Industrial and Technological Action Plan 2024-2030	Competitiveness strategy for 2024-2030
domestic production	X	X		X		X	X
domestic development (R&D)	X	X		X			X
increasing the competitiveness of domestic companies, connecting to global chains		X		X		X	X
competitive and sustainable vehicle manufacturing/production				X			
minimizing community (government, local) development costs				X			
adaptation to labour market conditions				X			
the existence of advanced logistics connections				X			
circular economy: recycling, multiple (re)-use			X	X	X	X	
skilled labour force						X	X

Strategies for the automotive industry

2012 National Energy Strategy

technological modernization and the diversification of propulsion together with the renewal of the domestic transport sector, and in this regard highlights the *domestic development (R&D) and production of alternative propulsion*.

2016 Irinyi plan

The automotive industry is identified as one of the activities to be developed (increase both the production of PCs and CVs). In the context of bus manufacturing, *technological change and public procurement (national or EU-funded) can be a breakthrough point for domestic companies* in the specialised vehicle manufacturing (fire trucks, garbage trucks) and bus manufacturing sectors. *Non-reimbursable support* was provided to Hungarian-owned Evopro for the development and production of electric buses, and to Chinese-owned BYD for the establishment of an electric bus assembly plant in Komárom.

2019 Revised National Electromobility Strategy (Jedlik Ányos Plan 2.0)

Policy proposals for the vehicle industry are formulated, in which they refer to the 2016 Irinyi plan. Expansion of vehicle manufacturing capacities and supplier circles. Expanding the range of products produced by related technologies. Increase in *industry R&D&I* (new research and development resources can be obtained for these). As well as *strengthening the international network of industry players*.

2021

The National Battery Industry Strategy 2030

6 goals:

1). Application of sustainable solutions for battery use in the energy supply, transport and industrial sectors. 2). Development of a competitive and sustainable battery value chain in Hungary. 3). Prioritizing research and development is the Hungarian battery value within a chain. 4). Meeting labour needs in the battery value chain. 5). Creating a sustainable and circular economy by extracting and recycling raw materials used for battery production

3 important principles:

- the least number of network developments (water, wastewater, gas and electricity) must be implemented

- access to international logistics routes is ensured

- sufficient quantity and quality/qualified workforce is available

2023

National Energy and Climate Plan (revised in 2023) research, innovation and competitiveness, the "transportation greening program" is mentioned. National Laboratories Program to strengthen cooperation within the industry

National Laboratory for Renewable Energies. Here, the so-called in addition to the development of low-footprint energy technologies, the recycling of fuel cells and new-generation Li-ion batteries and the examination of their manufacturing technology aspects are included.

2022 **Recovery and Resilience Plan**

Handling, recycling and reprocessing of batteries that have reached the end of their life cycle.

2024 **Hungary's industrial and technological action plan for the period 2024-2030**

The main strategic objectives are to increase the *competitiveness of domestic suppliers*; to support *technological change in the automotive industry*; to *promote environmental thinking and to ensure the availability of a skilled workforce*. Establishment of the *Automotive Transformation Cluster* (by 30 April 2024). The law also stipulates that a feasibility study for the *establishment of a competence centre for the battery industry* must be carried out by 30 June 2024.

2024 **Competitiveness Strategy for 2024-2030**

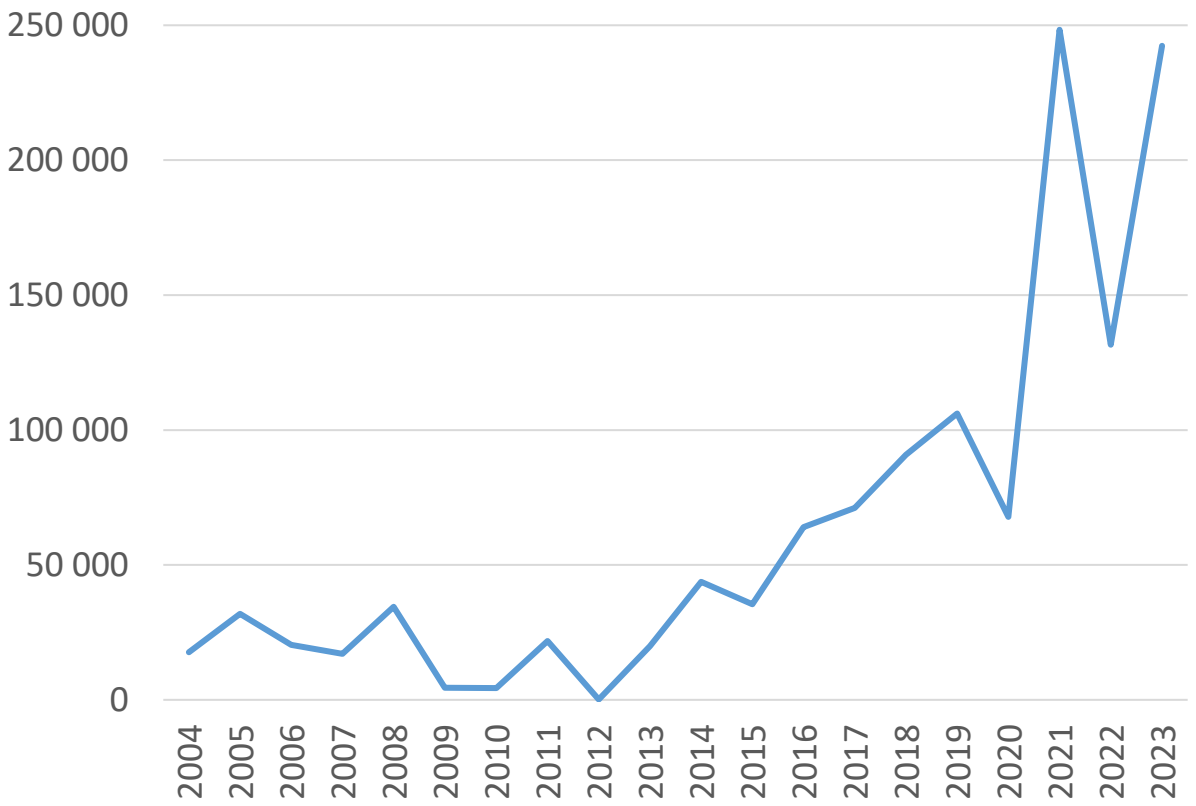
The 3 general objectives are to develop indigenous suppliers; to *strengthen R&D&I*; to establish *closer links with companies*; and to develop so-called *national champions*.

Does not elaborate or explain the vision, but only lists key words. *Hungary will become an East-West connection point, where testing and manufacturing will be the dominant processes.*

Hungary is expected to become the leading country in Europe for electromobility-related systems. To achieve this vision, the strategy aims to increase the competitiveness of domestic suppliers; promote the uptake of alternative propulsion vehicles; and environmental thinking, and create a skilled workforce.

Direct incentive system
Individual Government Decision (EKD)

- between 2004 and 2023, the state supported 426 projects – more than one third of the projects are directly related to the automotive industry;
- from the financial side: automotive industry receiving 47 percent (!) of all subsidies;
- electromobility-related / electric battery production (Asian) plays a leading role in FDI and EKD (*Kovács, 2023*);



Main data of the investments granted support between 2004-2023

	Investments in bn EUR	Direct state subsidies in bn EUR
Total	49.5	3.2
Automotive	26.3	1.5
Automotive as % of total	53	47

Source: Own collection based on EKD data

SK, Samsung, CATL, BMW and BYD factories

„Indirect” incentive system

- indirect incentives also play a significant role i.e. additional infrastructure developments, reclassification to „priority investments”, or simplified regulations (*Győrffy, 2023*);
- the amount of indirect subsidies is at least 50% of the direct subsidy (*Éltető, 2023*);
- additionally, the Hungarian state has spent nearly **1 billion euros** on the infrastructure development of the three existing battery factories in recent years (*g7.hu, 2023*);

Implementation

domestic production	Production of BEV, production of main parts
domestic development (R&D)	More than 90 percent of the 426 projects supported by EKD are production increases Hungary is not an innovation centre but a manufacturing site (*Győrffy 2023*)
increasing the competitiveness of domestic companies, connecting to global chains	There is no domestic R&D in the battery value chain (*Czirfusz 2022*) In-house suppliers, no technology transfer (*Éltető 2023*)
competitive and sustainable vehicle manufacturing/production	Sustainability in terms of resources (labour force, energy, other used materials) Due to the labour shortage, ensuring the number of employees presents companies with significant challenges (*Czirfusz 2022*)
minimizing community development costs	Additionally, the Hungarian state has spent nearly 1 billion euros on the infrastructure development of the three existing battery factories in recent years (*g7.hu 2023*)
adaptation to labour market conditions	Hungary's new Guest Workers Act
the existence of advanced logistics connections	Advanced express/highway network
circular economy: recycling, multiple (re)-use	In the SWOT analysis of the National Battery Industry Strategy, possible environmental damage is not even mentioned at the level of risk.

Contradictions in politics and policymaking

- strategies do not sufficiently take into account the dangers of the chemical industry (i.e. battery industry);
- regulation is in the interest of companies (the state captures itself) e.g. „act on the acceleration and simplification of the implementation of priority investments significant for the national economy”;
- no effective control and punishment mechanism (during the operation) or influenced by politics;
- the development of technology is an extensive growth instead of an increase in added value;
- the development of battery plants on this scale was not at the request of German companies established here (*24.hu, 2024*)

THANK YOU FOR YOUR ATTENTION

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