POLAND DRIVES E-MOBILITY
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Dear Readers,

we present the report entitled “Poland drives e-mobility!” which we developed with a special dedication to the opportunities brought forth by the Polish e-mobility market for Dutch business and partners.

With over 50,000 electric vehicles and over 4400 charging points the Polish market is still in a very nascent stage of development in terms of sustainable transport. Moreover, Poland represents one of the largest markets for light and heavy duty transportation, along with significant challenges in these sectors. Out of the 30,000 vehicles of more than 3.5 tons of gross vehicle mass registered in Poland in 2021, only 4 were zero emission units. The grid and energy mix also stand on the eve of enormous investment and change.

This is reflected however by promising opportunities, such as the subsidy and support mechanisms deployed by the Polish public administration. These include the “My EV” program of ca. EUR 147 million available to support EV buyers and a subsidy program of ca. EUR 183 million for EV Charging and H2 refueling infrastructure both launched in 2021/2022. On top of this, Poland is the leading global lithium-ion battery manufacturer and it offers potential for investment in terms of charging solutions, software solutions, energy storage innovation, RES technologies and as well as market that is on the cusp of the most robust development.

The challenges and matching solutions which can be offered with bilateral profit by the Dutch sustainable transport sector are thus apparent. It seems that now is the best time to begin exploring the opportunity and with this thought we launch the report and it’s findings at the New Mobility Congress in Łódź in September 2022. The Polish market drives e-mobility, but may do so faster with the cooperation of Dutch industry leaders.

Enjoy the read.

Maciej Mazur
Managing Director, PSPA
Vice-President, AVERE
**LIST OF ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>EV</td>
<td>Electric vehicle</td>
</tr>
<tr>
<td>BEV</td>
<td>Battery electric vehicle</td>
</tr>
<tr>
<td>PHEV</td>
<td>Plug-in hybrid electric vehicle</td>
</tr>
<tr>
<td>FCEV</td>
<td>Fuel cell electric vehicle</td>
</tr>
<tr>
<td>CNG</td>
<td>Compressed natural gas</td>
</tr>
<tr>
<td>LNG</td>
<td>Liquefied natural gas</td>
</tr>
<tr>
<td>ICE</td>
<td>Internal combustion engine</td>
</tr>
<tr>
<td>E-bus</td>
<td>Electric bus</td>
</tr>
<tr>
<td>DC</td>
<td>Direct current</td>
</tr>
<tr>
<td>AC</td>
<td>Alternating current</td>
</tr>
<tr>
<td>Li-ion</td>
<td>Lithium-ion</td>
</tr>
<tr>
<td>GWh</td>
<td>Gigawatt hour</td>
</tr>
<tr>
<td>OEM</td>
<td>Original equipment manufacturer</td>
</tr>
<tr>
<td>GVW</td>
<td>Gross vehicle weight</td>
</tr>
<tr>
<td>TSL</td>
<td>Transport spedition logistic</td>
</tr>
</tbody>
</table>
The automotive branch is one of the key engines driving the Polish economy.

EUR 36 billion
The automotive industry production value

10.5%
Share of the automotive industry in the industrial production

8.0%
Share of the automotive industry in GDP

397,000
Total sector employment
→ 3rd place in the European Union

210,000
Employment in manufacture of motor vehicles, trailers and semi-trailers
→ 7.6% share in total industry employment

Sources of data: „Automotive industry Q2 / 2022“ PZPM / KPMG, „Automotive industry in Poland 2021-2022“ SDCM, „How will e-mobility change the Polish labour market? Green sectors of the future“ by PSPA and BCG, AutomotiveSuppliers.pl, IBRM Samar, KPMG, Polish Investment and Trade Agency (PFR Group), GUS, Eurostat
PRODUCTION IN 2021:

- **Passenger cars**: 260,500
  - 3rd place in the CEE region

- **Utility cars**: 173,400

- **Buses**: 5,200

**Share in total exports of goods in Q1 2022**: 10.4%

**Value of export in Q1 2022**: EUR 8.29 billion

**Number of companies operating in the sector (with at least 50 employees)**: 342

**Number of new passenger and delivery cars registered in 2021**: 553,257

Sources of data: „Automotive industry Q2 / 2022“ PZPM / KPMG, „Automotive industry in Poland 2021-2022“ SDCM, „How will e-mobility change the Polish labour market? Green sectors of the future“ by PSPA and BCG, AutomotiveSuppliers.pl, IBRM Samar, KPMG, Polish Investment and Trade Agency (PFR Group), GUS, Eurostat
**MADE IN POLAND – AUTOMOTIVE SECTOR**

**BUS PRODUCTION FACILITIES**
- Solaris – Bolechowo
- Volvo Buses – Wrocław
- MAN Bus – Starachowice
- Autosan – Sanok
- Scania – Słupsk

**CAR PRODUCTION FACILITIES**
- Stellantis – Tychy
- Volkswagen – Poznań
- Volkswagen – Września
- Opel – Gliwice
- MAN – Niepołomice
- Triggo – Warszawa
- Melex – Mielec
- AMZ-Kutno – Kutno
- Automet – Sanok
- Jelcz – Jelcz-Laskowice

**SELECTED AUTOMOTIVE COMPONENTS PRODUCTION FACILITIES**
- Mercedes-Benz – Jawor
- Stellantis – Bielsko-Biała
- Opel – Tychy
- Toyota – Wałbrzych/Jelcz-Laskowice
- Volkswagen – Poznań/Polkowice
- Inter Groclin Auto – Grodziek Wielkopolski
- ZF Friedrichshafen – Bielsko-Biała/Czechowice-Dziedzice/Częstochowa/Gliwice/Wrocław
- Ronal Group – Wałbrzych/Jelcz-Laskowice
- Michelin – Olsztyn
- Bridgestone – Poznań/Stargard/Wolsztyn/Żarów
- Goodyear – Dębica
- Kirchhoff Automotive – Gliwice/Mielec/Gniezno
- Magna – Dąbrowa Górnicza/Kędzierzyn-Koźle/Tychy/Swarzędz
- Valeo – Skawina/Zielonki/Chrzanów/Czechowice-Dziedzice
- Lear Corporation – Tychy/Jarosław/Legnica/Bieruń/Mielec
- Boryszew Group – Tychy/Chełmek/Toruń/Ostaszewo
SELECTED AUTOMOTIVE COMPONENTS
PRODUCTION FACILITIES (cont.)

- CK Holdings (Magneti Marelli) – Sosnowiec/Bielsko-Biała
- Brembo – Dąbrowa Górnicza/Częstochowa
- Hutchison – Żywice/Lódz/Dębica
- Autopart S.A. – Mielec
- ZAP Sznajder Batterien S.A. w Warszawie – Piastów
- Pilkington Automotive Poland – Sandomierz/Chmielów
- Saint-Gobain Innovative Materials Polska – Żary/Dąbrowa Górnicza
- Knauf Industries – Nowa Wieś Wrocławska
- Wirthwein Polska – Łódź
- AC S.A. – Białystok
- BorgWarner – Jasionka
- Federal-Mogul – Gorzycy
- Bosch – Mirków
- Denso – Tychy
- Bury Technologies – Mielec
- MA Polska – Tychy, Kielce
- Aptiv – Gdańsk, Jeleśnia
- Delphi Technologies – Błonie
- Exide Technologies – Poznań
- Faurecia – Grójec/Gorzów Wlkp./Legnica/Wałbrzych/Jelcz-Laskowice
- Gedia – Nowa Sól
- Sanok Rubber Company – Sanok
- Nexteer – Tychy/Gliwice
- Kuźnia Polska – Skoczów
- Global Steering Systems – Opole
- Tru-Flex – Ujazd
- Adient – Siemianowice/Żory/Skarbińerz/Świebodzin/Bierun
- Kimball Electronics – Tarnowo Podgórne
- Leoni – Kostierzyn
- Mahle – Krotoszyn
- Polmotors – Mazańcowice
- GKN Driveline – Oleśnica
- NGK – Gliwice/Dąbrowa Górnicza
- Autoliv – Jelcz-Laskowice
- NSK – Kielce/Wałbrzych
- Pro-Cars Group – Tychy
- SE Bordnetze – Gorzów Wlkp.
- Sitech – Polkowice/Głogów/Września
- Spinko – Leszno
- Tenneco – Poznań/Rybnik/Gliwice
- Neapco – Praszka
- Sumiriko – Wolbrom/Zagórz/Sosnowiec
- Teknia – Kalisz/Rzeszów
- Gestamp – Wrocław/Września
- TI Poland – Wapienica/Wyszków/Jasien/Bielsko-Biała
- Superior Industries Poland – Stalowa Wola
- Erko – Olsztyn (under construction)
- Harting – Bydgoszcz
### NUMBER OF ELECTRIC PASSENGER CARS (BEV + PHEV)

- **VI 2021**: 26,985
- **VI 2022**: 48,883
- **Increase**: +81%

### NUMBER OF PASSENGER BEVs

- **VI 2021**: 13,119
- **VI 2022**: 23,698
- **Increase**: +81%

### NUMBER OF PASSENGER PHEVs

- **VI 2021**: 13,866
- **VI 2022**: 25,185
- **Increase**: +82%

### NUMBER OF NEWLY REGISTERED PASSENGER CARS (NEW AND USED)

- **I- VI 2021**: 8,249
- **I- VI 2022**: 11,595
- **Increase**: +41%

Source of data: E-Mobility Index by PSPA and PZPM

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**Other related information:**

- **NUMBER OF PASSENGER BEVs**
  - VI 2021: 13,119
  - VI 2022: 23,698
  - Increase: +81%

- **Número of Passenger PHEVs**
  - VI 2021: 13,866
  - VI 2022: 25,185
  - Increase: +82%

- **Número of New Passenger Cars (New and Used)**
  - I- VI 2021: 8,249
  - I- VI 2022: 11,595
  - Increase: +41%

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**Source of data:** E-Mobility Index by PSPA and PZPM

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**Diagram elements:**

- **VI 2021**: 26,985
- **VI 2022**: 48,883
- **Increase**: +81%

- **VI 2021**: 13,119
- **VI 2022**: 23,698
- **Increase**: +81%

- **VI 2021**: 13,866
- **VI 2022**: 25,185
- **Increase**: +82%

- **I- VI 2021**: 8,249
- **I- VI 2022**: 11,595
- **Increase**: +41%
### Number of Electric Buses

- **VI 2021:** 532
- **VI 2022:** 762
- **Increase:** +43%

### Number of Electric Motorcycles and Mopeds

- **VI 2021:** 10,544
- **VI 2022:** 14,464
- **Increase:** +37%

### Number of Public Charging Stations

- **VI 2021:**
  - DC: 504
  - AC: 1,017
  - Total: 1,521
- **VI 2022:**
  - DC: 1,588
  - AC: 644
  - Total: 2,232
- **Increase:** +47%

Source of data: E-Mobility Index by PSPA and PZPM
The largest factory of lithium-ion batteries in Europe is located in Poland.

EV CONSTRUCTION
COMPONENT PRODUCTION FACILITIES

- Valeo Siemens eAutomotive – Czechowice-Dziedzice
- Ningbo Tuopu Group – Poznań (planned)
- Mitsui High-tec – Skalbmierz
- Korea Electric Terminal – Zabrze
- Maflow – Boryszew
- Medcom – Warszawa
- APTIV – Jeleśnia
- Bspl. – Skawina
- Bosch – Mirków
- Toyota Motor Manufacturing Poland – Wałbrzych

EV’S MADE IN POLAND

- Volkswagen Poznań – Września
- Triggo – Warszawa
- Melex – Mielec
- Stellantis – Tychy, Gliwice (planned)
- Izera – Jaworzno (planned)
- Frugal – Wrocław
- Velex – Częstochowa

E-BUS PRODUCTION FACILITIES

- Solaris – Bolechowo
- Volvo Buses – Wrocław
- MAN Bus – Starachowice
- Scania Production – Słupsk
- ARP E-vehicles – Sołec Kuj.
- Autosan – Sanok
Active investment projects:

- **Number**: 24
- **Value**: EUR 5 billion
- **Employment**: approx. 7,000

Source of data: PAIH

### CELLS, LITHIUM-ION BATTERIES AND BATTERY COMPONENTS FACILITIES

- LG Energy Solution – Biskupice Podgórzne
- Northvolt – Gdańsk
- Daimler – Jawor
- BMZ – Gliwice
- Umicore – Nysa
- Guotai Huarong – Godzikowice
- LS EV Poland – Dzierżoniów
- Impact Clean Power Technology – Warszawa
- Johnson Matthey – Konin
- Capchem – Śrem
- PCC Rokita i Shida – Brzeg Dolny
- SK IE Technology – Dąbrowa Górnicza
- Exide Technologies – Poznań
- SK Nexilis – Stalowa Wola (planned)

### EV CHARGING STATIONS

- Garo Polska – Szczecin
- Ekoenergetyka-Polska – Nowy Kisielin (near Zielona Góra)
- Enelion – Gdańsk
- PRE Edward Biel – Piekary
- Kolejowe Zakłady Łączności – Bydgoszcz
- EC Engineering – Kraków
- Phoenix Contact E-Mobility – Rzeszów
- ZPUE – Włoszczowa
- GreenCell – Kraków
- Z.U.P. EMITER – Limanowa

### EV POWERTRAIN COMPONENT PRODUCTION FACILITIES

- MEDCOM – Warszawa

Status as of November 2021
Leading to the e-mobility transition – the roadmap for development of e-mobility in Poland
## Effects of the Electromobility Development Program

Adopted documents and legal regulations:

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Electromobility Development Plan in Poland</strong></td>
<td>It defines the benefits associated with the widespread use of electric vehicles and identifies the economic and industrial potential of this area.</td>
</tr>
<tr>
<td>Adopted by the government on 16/03/2017</td>
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<tr>
<td>Adopted by the government on 29/03/2017</td>
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<tr>
<td><strong>Act on Electromobility and Alternative Fuels</strong></td>
<td>It creates a comprehensive legal framework by stimulating the development of e-mobility and promoting the use of alternative fuels in the transport sector in Poland.</td>
</tr>
<tr>
<td>It came into force on 22/02/2018</td>
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</tr>
<tr>
<td><strong>Electromobility financial support system</strong></td>
<td>It creates financing instruments for the development of e-mobility by i.e. introducing subsidies for the purchase of electric cars and charging infrastructure.</td>
</tr>
<tr>
<td>It came into force in 2021</td>
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</table>
Act on Electromobility and Alternative Fuels

Date of entry into force: 22/02/2018

Privileges for drivers
Statutory incentives for purchasing zero-emission vehicles

- Exemption from excise duty
- Tax privileges for electric vehicle users – PIT/CIT
- Possibility of electric vehicles using bus lanes
- Possibility of parking EVs free-of-charge in paid zones in city centres
- Unlimited entry of electric vehicles to Clean Transport Zones
- Exemption of zero-emission buses from tolls on national roads

Amendments to the law regarding e-mobility in 2021 (selected regulations):

→ Facilitating the installation of chargers in multi-family buildings
→ Facilitating the implementation of Clean Transport Zones
→ Introducing the obligation to provide energy infrastructure in buildings and connection capacity for charging stations
→ Acceleration of the installation of high-power charging stations
Obligations of public entities

The administration statutorily supports the development of ecological transport

**CENTRAL AUTHORITIES**

In the fleet of general and central state administration bodies, fully electric vehicles must constitute:

- **AS OF 01/01/2022** At least 10%
- **AS OF 01/01/2023** At least 20%
- **AS OF 01/01/2025** At least 50%

**LOCAL GOVERNMENT UNITS**

- **OVER 50,000 RESIDENTS**

The share of fully electric vehicles in the fleet of vehicles in use in the office must constitute:

- **AS OF 01/01/2022** At least 10%
- **AS OF 01/01/2023** At least 20%
- **AS OF 01/01/2025** At least 30%

The share of fully electric vehicles or vehicles powered by CNG and LNG in the performance of public tasks, excluding public collective transport, must constitute:

- **AS OF 01/01/2022** At least 10%
- **AS OF 01/01/2023** At least 20%
- **AS OF 01/01/2025** At least 30%
- **AS OF 01/01/2028** At least 30%

They provide or commission public transport services using zero-emission buses in the number of:

- **AS OF 01/01/2021** At least 5%
- **AS OF 01/01/2023** At least 10%
- **AS OF 01/01/2025** At least 20%
- **AS OF 01/01/2028** At least 30%
# Programs of National Fund for Environmental Protection and Water Management

## My EV (Mój Elektryk)

### Subsidies for natural persons

<table>
<thead>
<tr>
<th>Financing</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase</td>
<td>PLN 100,000,000 (EUR ca. 21,000,000)</td>
</tr>
</tbody>
</table>

**Vehicle Category**: M1

**Max. vehicle price**: PLN 225,000 (EUR ca. 48,000) / No limit (for the Large Family Card holders)

**Max. amount of the subsidy**: PLN 18,750 (EUR ca. 4,000) / PLN 27,000 (EUR ca. 5,700 for the Large Family Card holders)

### Subsidies for entrepreneurs, local governments and other institutional entities

<table>
<thead>
<tr>
<th>Financing</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase / Leasing / Rent</td>
<td>PLN 600,000,000 (EUR ca. 126,000,000)</td>
</tr>
</tbody>
</table>

**Vehicle Category**: M1

**Max. vehicle price**: PLN 225,000

**Max. amount of the subsidy**: PLN 18,750 (EUR ca. 4,000, no average annual mileage required) / PLN 27,000 (EUR ca. 5,700 for annual average milage > 15,000 km)

**Vehicle Category**: N1

**Max. amount of the subsidy**: PLN 50,000 (EUR ca. 11,000, up to 20% of eligible costs, no average annual mileage required) / PLN 70,000 (EUR ca. 15,000, up to 30% of eligible costs, for annual average milage higher than 20,000 km)

**Vehicle Category**: L1e-L7e

**Max. amount of the subsidy**: PLN 4,000 (EUR ca. 850, up to 30% of eligible costs)
PROGRAM
**Green Public Transport**
(Zielony Transport Publiczny)

Maximum level of support

<table>
<thead>
<tr>
<th>Mode</th>
<th>Percentage of Eligible Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric bus</td>
<td>80%</td>
</tr>
<tr>
<td>Hydrogen bus</td>
<td>90%</td>
</tr>
<tr>
<td>Trolleybus</td>
<td>80%</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>50%</td>
</tr>
</tbody>
</table>

Beneficiaries

- Operators and organizers of public collective transport, including local government units

Duration

- 2035 (expenses)

PROGRAM
**Support for electric vehicle charging infrastructure and hydrogen refueling infrastructure**
(Wsparcie infrastruktury do ładowania pojazdów elektrycznych i infrastruktury do tankowania wodoru)

Maximum level of support for charging stations with power of at least

<table>
<thead>
<tr>
<th>Power Range</th>
<th>Percentage of Eligible Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 kW</td>
<td>25%</td>
</tr>
<tr>
<td>50 kW to less than 150 kW</td>
<td>30% (45% in the case of smaller municipalities)</td>
</tr>
<tr>
<td>150 kW</td>
<td>50%</td>
</tr>
</tbody>
</table>

Beneficiaries

- Local government units, entrepreneurs, cooperatives, housing communities, individual farmers

Duration

- 2038
POLISH SPECIALIZATION – ELECTRIC BUSES

**LEGISLATIVE SUPPORT**

- **Act on Electromobility and Alternative Fuels**
  - Imposes obligations in the field of rolling stock electrification on Polish local governments:
    - 2021: 5% of e-buses
    - 2023: 10% of e-buses
    - 2025: 20% of e-buses
    - 2028: 30% of e-buses
  - Introduces the exemption of zero-emission buses from tolls on national roads

**FINANCIAL SUPPORT**

- **Program of National Fund for Environmental Protection and Water Management**
  - **Green Public Transport**
    - 2,500,000,000 to finance the purchase of electric and hydrogen city buses

- **European Funds**
  - **Regional Operational Programs**
  - **Operational Program Eastern Poland**
  - **The Infrastructure and Environment Program**
Polish electric bus market

No 1
Poland’s share of exports of e-Buses in EU

2017: 10%
2021: 24%

The number of electric buses increased 35 times in Polish cities

2016: 22
2022*: 762

The number of cities using electric buses increased 9 times

2016: 5
2022*: 45

Increase in the number of registrations of electric buses in Poland

I-VI 2019: 31
I-VI 2020: 67 +255%
I-VI 2021: 100
I-VI 2022: 110

Leading producers of e-buses in EU 2021

1. Solaris
2. BYD-ADL
3. Mercedes
4. Yutong
5. Iveco Bus
6. BYD
7. Volvo Buses
8. Irizar
9. VDL
10. MAN

* Status as of June 2022

Sources of data: E-Mobility Index by PSPA and PZPM, sustainable-bus.com, PSPA, Polish Economic Institute, Chatrou CME Solutions
POLISH SPECIALIZATION – CHARGING INFRASTRUCTURE

**LEGISLATIVE SUPPORT**

- Act on Electromobility and Alternative Fuels

<table>
<thead>
<tr>
<th>Number of residents</th>
<th>&gt; 1,000,000</th>
<th>&gt; 300,000</th>
<th>&gt; 150,000</th>
<th>&gt; 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of vehicles</td>
<td>≥ 600,000</td>
<td>≥ 200,000</td>
<td>≥ 95,000</td>
<td>≥ 60,000</td>
</tr>
<tr>
<td>Number of vehicles per 1,000 residents</td>
<td>≥ 700</td>
<td>≥ 500</td>
<td>≥ 400</td>
<td>≥ 400</td>
</tr>
</tbody>
</table>

**MINIMUM NUMBER OF CHARGING POINTS AT PUBLIC CHARGING STATIONS IN POLISH COMMUNES**

| Number of charging points | 1,000 | 210 | 100 | 60 |

**FINANCIAL SUPPORT**

- Programs of National Fund for Environmental Protection and Water Management
  - Support for electric vehicle charging infrastructure and hydrogen refueling infrastructure – public and private charging infrastructure
  - Green Public Transport – public transport charging infrastructure
Number of public charging stations

- **AC**: 1,588 (71%)
  - European average: 86%
- **DC**: 644 (29%)
  - European average: 14%

Number of passenger electric cars (BEV) per public charging point

- **Poland**: ca. 5.8
  - European average: ca. 7.5

Share of charging stations with the power of:

- **Up to 7 kW**: 2%
- **8-11 kW**: 10%
- **12-22 kW**: 59%
- **23-50 kW**: 21%
- **> 50 kW**: 8%

Sources of data: PSPA "Polish EV Outlook 2022"; IEA

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Polish Alternative Fuels Association | pspa.com.pl
Poland’s place in lithium-ion battery supply chain rank
(manufacturing capacity of electrolyte salts and solutions, anodes, cathodes, separators and cells)*

2020/2025

**EUROPE**

1st

**WORLD**

4th

Poland – European center of li-ion batteries production

- Strategically located
- Great base of qualified workers
- Favourable conditions for business
- State’s support for investors

* Source: BloombergNEF
Companies from the battery sector investing in Poland

**LG Energy Solution Wrocław**
- **Lithium-ion batteries for electric cars**
  - The largest plant producing li-ion batteries in Europe
  - One of the largest plant producing li-ion batteries in the world
  - The largest foreign investment in Poland
- **Location:** Biskupice Podgórne
- **Year of commencement:** 2016
- **Target annual capacity:** > 70 GWh
  (up to 115 GWH in 2025)
  - Enough to supply 500,000 electric cars with li-ion batteries each year
- **Total employment:** > 10,000

**Sources of data:** eib.org, PSPA
11 GROWING SOCIAL AWARENESS

Year by year, drivers in Poland are becoming increasingly interested in electric vehicles

**EV trend**
In 2021, the upward trend related to the interest of Poles in purchasing an electric vehicle was maintained

32.3%
As many as 32.3% of Poles declare that they will realistically consider buying a vehicle with electric drive in the near future, getting acquainted with the market offer in this area (period of 3 years)

**Retreat from Diesel**
The popularity of Diesel engines is declining – from 38% in 2017 to 16.3% in 2021

94.5%
The vast majority (94.5%) of EV users in Poland are satisfied with their electric vehicles

**Preferred price**
The price range for which most respondents would like to buy an electric car is PLN 100,000-150,000

**Infrastructure**
The development of e-mobility depends on the pace of expansion of the charging infrastructure. 46.3% of survey participants would like to charge their electric car at their place of residence, 20.4% at work, 32.7% while performing other activities (e.g. while shopping), and 0.6% elsewhere

**Electromobility – the future of the transport sector**
79.5% of Poles believe that electric cars will replace combustion vehicles in the future

**Growing popularity of e-mobility**
More and more Poles had the opportunity to drive an electric car

**Growing ecological awareness**
More and more Poles recognize the positive impact of EV on the environment
Zero-emission public transport

- Poles move around the city using public transport services: 56.8%
- Poles using public transport choose this form of transport at least once a week: 69.8%

How often do Poles use public transport?

- Everyday: 16.2%
- 3-5 times a week: 33.6%
- Once a week: 20.0%
- Several times a month: 21.5%
- Less often: 8.8%

Main reasons why Poles do not want to use public transport

- Owning a private car: 43.0%
- Not a comfortable form of getting around: 15.0%
- Travel time is too long: 13.4%
- Public transport is too poorly developed: 10.9%
- COVID-19 pandemic: 9.8%
- Other reason: 7.9%

Source of data: “New Mobility Barometer 2021/2022” by PSPA
Polish universities educate engineers in the electromobility sector

Elektromobilni.pl

The largest educational campaign devoted to electromobility in the CEE region run by the Polish Alternative Fuels Association (PSPA) and the National Centre for Climate Change (KOZK)

Green license plates

From January 1, 2020, battery-electric vehicles (BEV) and hydrogen vehicles (FCEV) in Poland receive green registration plates facilitating the identification of a zero-emission vehicle on the road
**HOW WILL E-MOBILITY CHANGE THE POLISH LABOUR MARKET?**

**WILL LABOUR SHORTAGE BE AN ISSUE?**

**Number of employees** (2020, in thousands)

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>Core automotive</th>
<th>Adjacent industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEMs</td>
<td>397</td>
<td>30</td>
<td>28</td>
</tr>
<tr>
<td>ICE-focused suppliers</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-ICE suppliers</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance and Repair</td>
<td>63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment &amp; Services</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy production</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy infrastructure</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycling</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ICE – internal combustion engine; OEM – original equipment manufacturer

**The development of electromobility in Poland may contribute to the creation of up to 6,000 new jobs**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Production volume</th>
<th>Sales volume</th>
<th>BEV car parc</th>
<th>Public charging</th>
<th>Private charging</th>
<th>Net job impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pessimistic scenario</td>
<td>604k</td>
<td>584k</td>
<td>751k</td>
<td>95k</td>
<td>450k</td>
<td>-17k</td>
</tr>
<tr>
<td>Intermediate scenario</td>
<td>621k</td>
<td>604k</td>
<td>905k</td>
<td>95k</td>
<td>543k</td>
<td>-5k</td>
</tr>
<tr>
<td>Ambitious scenario</td>
<td>660k</td>
<td>626k</td>
<td>1,023k</td>
<td>95k</td>
<td>1,110k</td>
<td>+6k</td>
</tr>
</tbody>
</table>

2030 figures shown

Source of data: "How will e-mobility change the Polish labour market? Green sectors of the future" report by BCG & PSPA

Polish Alternative Fuels Association | pspa.com.pl
INVESTMENT POTENTIAL OF THE E-MOBILITY INDUSTRY IN POLAND
INVESTMENT POTENTIAL OF THE E-MOBILITY INDUSTRY IN POLAND

FORECAST FOR THE DEVELOPMENT OF E-MOBILITY IN POLAND

The Polish e-mobility sector is currently at the initial stage of development. Due to the size of the Polish automotive market and the significant potential for its electrification, this is an opportunity for Dutch e-mobility companies implementing investments in Poland. Already in 2024, BEV's share of the new passenger vehicles market in Poland may reach over 10%, i.e. higher than the EU average in 2021.

Electric vehicle fleet in Poland

<table>
<thead>
<tr>
<th>Year</th>
<th>BEV</th>
<th>PHEV</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>2022</td>
<td>40.3k</td>
<td>41.1k</td>
<td>81.4k</td>
</tr>
<tr>
<td>2025</td>
<td>290.5k</td>
<td>220.2k</td>
<td>510.7k</td>
</tr>
</tbody>
</table>

Network of charging points in public stations in Poland

<table>
<thead>
<tr>
<th>Year</th>
<th>AC + DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>1.8k</td>
</tr>
<tr>
<td>2022</td>
<td>5.5k</td>
</tr>
<tr>
<td>2025</td>
<td>41.9k</td>
</tr>
</tbody>
</table>

Source of data: "Polish EV Outlook 2022" PSPA
Polish Alternative Fuels Association | pspa.com.pl
OPPORTUNITY 1

ELECTRIFICATION OF THE COMMERCIAL VEHICLE SECTOR

There are more than 6.2 million medium and heavy commercial vehicles on EU roads, up 1.7% compared to 2019. With around 1.2 million trucks, Poland has the largest fleet by far.

Poland as the European center of heavy road transport

One in every 5 trucks and vans with a GVW over 3.5 t in the EU is registered in Poland

Truck fleet in Europe (over 3.5 t)

<table>
<thead>
<tr>
<th>Country</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>1,184,677</td>
</tr>
<tr>
<td>Germany</td>
<td>952,285</td>
</tr>
<tr>
<td>Italy</td>
<td>921,314</td>
</tr>
<tr>
<td>Spain</td>
<td>614,147</td>
</tr>
<tr>
<td>France</td>
<td>600,283</td>
</tr>
<tr>
<td>EU</td>
<td>6,230,100</td>
</tr>
</tbody>
</table>

Source: ACEA

In 2020 Polish carriers transported almost 330 million tons of cargo

The weight of transported cargo

<table>
<thead>
<tr>
<th>Country</th>
<th>Weight (tons)</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>327,140</td>
<td>28%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>126,450</td>
<td>11%</td>
</tr>
<tr>
<td>Germany</td>
<td>106,809</td>
<td>9%</td>
</tr>
<tr>
<td>Spain</td>
<td>81,582</td>
<td>7%</td>
</tr>
<tr>
<td>Lithuania</td>
<td>61,656</td>
<td>5%</td>
</tr>
<tr>
<td>EU</td>
<td>1,188,345</td>
<td></td>
</tr>
</tbody>
</table>

Source: Eurostat, Employers’ Association “Transport and Logistics Poland”
OPPORTUNITY 1
ELECTRIFICATION OF THE COMMERCIAL VEHICLE SECTOR cont.

Poland as the European center of heavy road transport

In 2021, almost 33,000 trucks were registered in Poland – the highest figure in history

First registrations of new trucks in Poland

![Graph showing the increase in truck registrations in Poland compared to 2020.](image)

Source: PZPM based on Central Vehicle Register (CEP)

3rd place in the EU in terms of the new heavy-duty vehicles registrations

First registrations of new trucks in Europe TOP 5

<table>
<thead>
<tr>
<th></th>
<th>GVW &gt; 3,5 t</th>
<th>Change YOY</th>
<th>GVW ≥ 16 t</th>
<th>Change YOY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>78,981</td>
<td>+6%</td>
<td>55,562</td>
<td>+10%</td>
</tr>
<tr>
<td>France</td>
<td>45,030</td>
<td>+6%</td>
<td>38,787</td>
<td>+6%</td>
</tr>
<tr>
<td><strong>Poland</strong></td>
<td><strong>32,684</strong></td>
<td><strong>+58%</strong></td>
<td><strong>30,159</strong></td>
<td><strong>+65%</strong></td>
</tr>
<tr>
<td>Italy</td>
<td>24,807</td>
<td>+22%</td>
<td>20,515</td>
<td>+25%</td>
</tr>
<tr>
<td>Spain</td>
<td>20,801</td>
<td>+8%</td>
<td>17,924</td>
<td>+13%</td>
</tr>
<tr>
<td><strong>EU</strong></td>
<td><strong>289,316</strong></td>
<td><strong>+17%</strong></td>
<td><strong>240,346</strong></td>
<td><strong>+21%</strong></td>
</tr>
</tbody>
</table>

Source: ACEA

Due to the low share of electric cars in the commercial vehicle fleet, its electrification potential is very high

Delivery and heavy-duty electric vehicles

<table>
<thead>
<tr>
<th></th>
<th>I-VII 2021</th>
<th>I-VII 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleet</td>
<td>2,202</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>including: only 4 vehicles with a mass over 16 t</em></td>
<td></td>
</tr>
</tbody>
</table>

Newly registered delivery and heavy-duty electric vehicles (new and used)

<table>
<thead>
<tr>
<th></th>
<th>I-VII 2021</th>
<th>I-VII 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>221</td>
<td>707</td>
</tr>
</tbody>
</table>

+220%
OPPORTUNITY 2
EXPANSION OF THE PUBLIC CHARGING STATION NETWORK

At the end of 2021, there were only 1,932 public charging stations (3,784 points) in Poland. Considering the very dynamic development of the EV fleet and the size of the automotive market, the Polish charging infrastructure network has a great potential for expansion.

1 / Increase in the number of charging stations in Poland in 2021

2 / The pace of electrification of the car fleet in Poland is much higher than the pace of expansion of public charging stations

3 / TEN-T Network

4 / Obligations imposed by the Act on electromobility and alternative fuels

Only 211 stations (11%) are within the TEN-T network

Only 4 cities with > 100,000 residents (Gdańsk, Katowice, Koszalin and Włocławek) have met the requirement imposed by the Electromobility Act regarding the minimum number of charging points.
OPPORTUNITY 2
EXPANSION OF THE PUBLIC CHARGING STATION NETWORK cont.

5 / The AFIR project – the need to increase the power of public charging stations networks

→ Part of the "Fit for 55" package presented by the European Commission


→ It links the development of the EV fleet with the need to increase the power in the public charging infrastructure network

Installed power in relation to the size of the fleet (BEV + PHEV)

<table>
<thead>
<tr>
<th></th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFIR Basic text</td>
<td>435.8 MW</td>
<td>1383.5 MW</td>
<td>2613.1 MW</td>
</tr>
<tr>
<td>European Parliament Committee on Transport and Tourism Amendments</td>
<td>1166.7 MW</td>
<td>2773.6 MW</td>
<td>4316.1 MW</td>
</tr>
<tr>
<td>European Council Compromise proposal</td>
<td>435.8 MW</td>
<td>1383.5 MW</td>
<td>2613.1 MW</td>
</tr>
</tbody>
</table>

→ AFIR forces the necessity to increase the power in the Polish public charging infrastructure network

By 2025 6-15x  
By 2030 18-36x  
By 2035 34-56x  

6 / The AFIR project – the need to expand the charging stations network for electric trucks

Development of charging infrastructure for heavy-duty transport

<table>
<thead>
<tr>
<th></th>
<th>2025</th>
<th>2027</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core TEN-T network</td>
<td>At least 1400 kW charging power every 120 km at 15% the length of the entire TEN-T network</td>
<td>At least 2,800 kW charging power every 120 km for 40% the length of the core TEN-T network</td>
<td>Charging station every 60 km of power at least 3,500 kW with at least 2 connectors with a power 350 kW</td>
</tr>
</tbody>
</table>
| Comprehensive TEN-T network | At least 1400 kW charging power every 120 km for 40% the length of the comprehensive TEN-T network | Charging station every 100 km of power at least 1,400 kW with at least 2 connectors with a power 350 kW | Targets based on the EU Member State compromise on AFIR

Total number of charging stations in the TEN-T network dedicated to heavy-duty vehicles

Polish Alternative Fuels Association   |   pspa.com.pl
OPPORTUNITY 3
PRIVATE CHARGING STATION MARKET

Over 80% of EV drivers in Poland prefer to charge their vehicles at home or at work. Along with the forecasted dynamic development of the EV fleet (over 500,000 registered BEVs and PHEVs in total by 2025), the private charging station market will grow significantly in the coming years.

80%
Over 80% of EV drivers in Poland prefer private charging at home or at work

The potential of the Polish private charging infrastructure market
115,000 charging points by 2025

Source of data: “Polish EV Outlook”, PSPA

OPPORTUNITY 4
LITHIUM-ION BATTERY SECTOR

Lithium-ion batteries account for over 2% of total Polish exports. The value of exports in this sector increased from approximately PLN 1 billion (EUR ca. 211 million) in 2017 to nearly PLN 30 billion (EUR ca. 6.3 billion) in 2021.

Export value of lithium-ion batteries in Poland (PLN billion)

<table>
<thead>
<tr>
<th>Year</th>
<th>PLN Billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1.0 EUR ca. 211 m</td>
</tr>
<tr>
<td>2018</td>
<td>3.0 EUR ca. 633 m</td>
</tr>
<tr>
<td>2019</td>
<td>8.6 EUR ca. 1.8 bn</td>
</tr>
<tr>
<td>2020</td>
<td>17.8 EUR ca. 3.8 bn</td>
</tr>
<tr>
<td>2021</td>
<td>29.9 EUR ca. 6.3 bn</td>
</tr>
</tbody>
</table>

Source of data: Central Statistical Office
Polish Alternative Fuels Association | pspa.com.pl
OPPORTUNITY 5
SHARED MOBILITY PROJECTS

In 2021, over 25 million passenger cars were registered in Poland. One shared vehicle could replace up to 7-11 private cars. Meanwhile, there are less than 1.5 thousand electrified cars on Polish roads available in car-sharing systems. In few cities, the services of sharing scooters, bicycles and electric mopeds are also available, although the micromobility market is developing very dynamically.

1 / Car sharing

<table>
<thead>
<tr>
<th>Car sharing Operator</th>
<th>Number of HEV cars / PHEV / EV</th>
<th>% of the total fleet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panek</td>
<td>1,116</td>
<td>54%</td>
</tr>
<tr>
<td>Traficar</td>
<td>184</td>
<td>8%</td>
</tr>
<tr>
<td>HoppyGo</td>
<td>125</td>
<td>16%</td>
</tr>
<tr>
<td>4Mobility</td>
<td>6</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source of data: Mobile City Association

2 / Scooters

149 cities in Poland have scooter sharing services

2.5x increase (YoY)

3 / Bike sharing

89 cities in Poland have bike sharing services

4 / Electric Moped sharing

13 cities in Poland have electric moped sharing services
OPPORTUNITY 6
RENEWABLE ENERGY SOURCES

Although conventional power plants still dominate the Polish energy mix, the share of energy obtained from renewable sources is systematically growing. This is an opportunity for companies offering innovative solutions in the renewable energy sector.

Installed electric power

<table>
<thead>
<tr>
<th></th>
<th>Solar power plant</th>
<th>Wind power plants</th>
<th>Hydroelectric power plants</th>
<th>Conventional power plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>04'21</td>
<td>4,739.6</td>
<td>6,494.7</td>
<td>973.8</td>
<td>36,605.9</td>
</tr>
<tr>
<td>04'22</td>
<td>9,998.2</td>
<td>7,241.5</td>
<td>977.6</td>
<td>36,756.1</td>
</tr>
</tbody>
</table>

Electricity production

<table>
<thead>
<tr>
<th></th>
<th>Solar power plant</th>
<th>Wind power plants</th>
<th>Conventional power plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>04'21</td>
<td>359.5</td>
<td>1,416.5</td>
<td>11,138.0</td>
</tr>
<tr>
<td>04'22</td>
<td>701.6</td>
<td>1,735.0</td>
<td>11,486.2</td>
</tr>
</tbody>
</table>

Source of data: Energy Market Agency (ARE)
COMPARATIVE STRENGTHS OF DUTCH E-MOBILITY SECTOR
COMPARATIVE STRENGTHS OF DUTCH E-MOBILITY SECTOR

STRENGTH 1
DEVELOPED CHARGING INFRASTRUCTURE SECTOR

The Netherlands has the most dense network of charging stations in Europe. The development of infrastructure is supported by leading operators, some of which are also starting their operations in Poland.

<table>
<thead>
<tr>
<th>Year</th>
<th>Regular public + semi-public</th>
<th>Fast charging points, public + semi-public</th>
<th>All regular + fast charging points</th>
<th>Private charging points</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>32,875</td>
<td>755</td>
<td>33,630</td>
<td>68,000</td>
</tr>
<tr>
<td>2018</td>
<td>35,861</td>
<td>1,116</td>
<td>36,977</td>
<td>80,000</td>
</tr>
<tr>
<td>2019</td>
<td>4,952</td>
<td>1,262</td>
<td>50,772</td>
<td>114,000</td>
</tr>
<tr>
<td>2020</td>
<td>63,586</td>
<td>2,027</td>
<td>65,613</td>
<td>158,000</td>
</tr>
<tr>
<td>2021</td>
<td>82,876</td>
<td>2,577</td>
<td>85,453</td>
<td>221,000</td>
</tr>
<tr>
<td>2022 (May)</td>
<td>97,537</td>
<td>3,172</td>
<td>100,709</td>
<td>251,000</td>
</tr>
</tbody>
</table>

Growth 2017-2022:
- Regular public + semi-public: +152%
- Fast charging points, public + semi-public: +320%
- All regular + fast charging points: +199%
- Private charging points: +69%

Leading EV charging station operators:
- FastNed
- Allego
- MisterGreen
- Shell
- Vattenfall

FastNed – The largest player in the Dutch market
Over 200 stations in Netherlands
Dutch companies offer a wide range of electric car charging stations: from wallboxes, to ultra-fast stations and devices designed for zero-emission trucks.

**Alfen**
Charging stations: 3.7 kW – 22 kW

**Fillie**
Charging stations: Up to 22 kW

**Paccar**
Charging stations (for electric trucks): 22 kW – 350 kW

**Ecotap**
Charging stations: 11 kW – 180 kW

**EVBox**
Software Charging stations: 7.4 kW – 350 kW

**Heliox**
Charging stations: 40 kW – 600 kW

**LastMileSolutions**
Scalable, customizable and hardware-agnostic management platform for CPO’s
PRODUCTION OF ELECTRIC TRUCKS

The Netherlands aims to accelerate efforts in this field by providing grants for businesses which will decide to purchase emission-free delivery vans. Similar scheme was introduced for heavy goods vehicles. The electrification of heavy road transport is supported by companies that offer electric trucks.

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Battery Pack</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAF CF Electric</td>
<td>210 kW</td>
<td>315 kWh</td>
<td>200 km</td>
</tr>
<tr>
<td>DAF LF Electric</td>
<td>260 kW</td>
<td>282 kWh</td>
<td>280 km</td>
</tr>
<tr>
<td>Ginaf eSweeper</td>
<td>200 kW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ginaf eWaste Collect Series</td>
<td>200 kWh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ginaf Durable E-Trucks</td>
<td>130-250 kWh</td>
<td>160-300 km</td>
<td></td>
</tr>
<tr>
<td>Ginaf eCity Heavy Duty Series</td>
<td>130-250 kWh</td>
<td>150-300 km</td>
<td></td>
</tr>
<tr>
<td>Terberg eCollect</td>
<td>200 kW</td>
<td>300 kWh</td>
<td></td>
</tr>
</tbody>
</table>
Zero-emission shared mobility in the Netherlands is becoming more and more popular. This is a consequence of the strategies of car-sharing companies that intensively electrify their fleets.

### Car sharing usage by brand in the Netherlands in 2022

<table>
<thead>
<tr>
<th>Brand</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenwheels</td>
<td>30%</td>
</tr>
<tr>
<td>SHARE NOW</td>
<td>20%</td>
</tr>
<tr>
<td>SnappCar</td>
<td>19%</td>
</tr>
<tr>
<td>StudentCar</td>
<td>19%</td>
</tr>
<tr>
<td>MyWheels</td>
<td>18%</td>
</tr>
<tr>
<td>SixtShare</td>
<td>18%</td>
</tr>
<tr>
<td>ConnectCar</td>
<td>17%</td>
</tr>
<tr>
<td>FIGO Mobility</td>
<td>11%</td>
</tr>
<tr>
<td>Stapp.in</td>
<td>10%</td>
</tr>
<tr>
<td>Juuve</td>
<td>9%</td>
</tr>
<tr>
<td>Witkar</td>
<td>7%</td>
</tr>
<tr>
<td>Amber Mobility</td>
<td>6%</td>
</tr>
<tr>
<td>Turo</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>19%</td>
</tr>
</tbody>
</table>
Dutch central government aims to decrease the Netherlands' emissions of greenhouse gases to zero before 2050 and to make 16% of all energy used in the Netherlands sustainable by 2023. Dutch companies offer battery storage facilities that allow for efficient management of energy from renewable sources.
## ASSESSMENT OF THE INVESTMENT POTENTIAL IN PARTICULARLY PROSPECTIVE E-MOBILITY AREAS IN POLAND

### Scale

1 – Lowest | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 – Highest

### Area

<table>
<thead>
<tr>
<th>Potential for further development</th>
<th>Competition level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrification of heavy road transport</strong></td>
<td>/ 10</td>
</tr>
<tr>
<td>› The largest truck fleet in the EU</td>
<td></td>
</tr>
<tr>
<td>› Very low market share of eHDV</td>
<td></td>
</tr>
<tr>
<td>› Prognosis of a very dynamic development of the sector in the following years</td>
<td>/ 3</td>
</tr>
<tr>
<td>› The presence of leading concerns in the HDV segment with very limited eHDV market offer</td>
<td></td>
</tr>
<tr>
<td><strong>Expansion of the public charging station network</strong></td>
<td>/ 10</td>
</tr>
<tr>
<td>› Dynamic development of the electric car fleet</td>
<td></td>
</tr>
<tr>
<td>› Availability of subsidy programs by public administration</td>
<td></td>
</tr>
<tr>
<td>› Prognosis of a very dynamic development of the sector in the following years</td>
<td>/ 6</td>
</tr>
<tr>
<td>› The presence of Polish and foreign operators of the charging infrastructure</td>
<td></td>
</tr>
<tr>
<td><strong>Private charging station market</strong></td>
<td>/ 10</td>
</tr>
<tr>
<td>› Dynamic development of the electric car fleet</td>
<td></td>
</tr>
<tr>
<td>› An insufficiently developed network of public infrastructure encourages the purchase of private chargers</td>
<td></td>
</tr>
<tr>
<td>› Prognosis of a very dynamic sector development in the following years</td>
<td>/ 7</td>
</tr>
<tr>
<td>› The presence of Polish and foreign companies offering charging stations for private use</td>
<td></td>
</tr>
<tr>
<td><strong>Lithium-ion battery sector</strong></td>
<td>/ 10</td>
</tr>
<tr>
<td>› Existing factories are conducive to the implementation of related investments</td>
<td></td>
</tr>
<tr>
<td>› Poland’s strategic location stimulating exports</td>
<td></td>
</tr>
<tr>
<td>› Availability of investment incentives from public administration</td>
<td>/ 1</td>
</tr>
<tr>
<td>› The presence of a number of companies from the global supply chain of li-ion batteries and related components, which direct the vast majority of production to foreign markets ensuring constantly growing demand</td>
<td></td>
</tr>
<tr>
<td><strong>Shared Mobility Projects</strong></td>
<td>/ 7</td>
</tr>
<tr>
<td>› Low saturation of shared mobility services in many municipalities</td>
<td></td>
</tr>
<tr>
<td>› Industry-driven implementation of regulations supporting the development of new mobility</td>
<td></td>
</tr>
<tr>
<td>› Systematically growing costs of owning private vehicles</td>
<td>/ 4</td>
</tr>
<tr>
<td>› High rotation and market division between large entities with a stable position and aspiring start-ups</td>
<td></td>
</tr>
<tr>
<td><strong>Renewable Energy Sources</strong></td>
<td>/ 8</td>
</tr>
<tr>
<td>› The energy mix is still based on coal</td>
<td></td>
</tr>
<tr>
<td>› Efforts by public administration to limit the independence of the energy sector from imported fossil fuels</td>
<td></td>
</tr>
<tr>
<td>› Striving of public administration to diversify energy sources</td>
<td>/ 6</td>
</tr>
<tr>
<td>› The presence of Polish and foreign companies offering innovative solutions from the renewable energy sector</td>
<td></td>
</tr>
</tbody>
</table>