



ROADMAP ON *LOW CARBON EMISSION VEHICLE*

**Indonesia-Japan Automotive Seminar
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DIRECTOR GENERAL OF METAL, MACHINERY, TRANSPORTATION DAN ELECTRONIC INDUSTRIES



Outline

- I. OVERVIEW
- II. AUTOMOTIVE INDUSTRY ROADMAP
- III. LOW CARBON EMISSION VEHICLE (LCEV) PROGRAM



I. OVERVIEW



INDONESIA AUTOMOTIVE INDUSTRY OUTLOOK

CAR RATIO (2017)

87 Car per 1000 People

PRODUCTION (2018)

1,34 Million Unit

INSTALLED CAPACITY (2018)

2,25 Million Unit/Year

NUMBER OF EMPLOYEE

1,5 Million People

EXPORT (2018)

CBU: 264 Thousand unit

CKD: 82 Thousand Set

Component: 86,6 Million Pieces



INVESTMENT
2014-2017

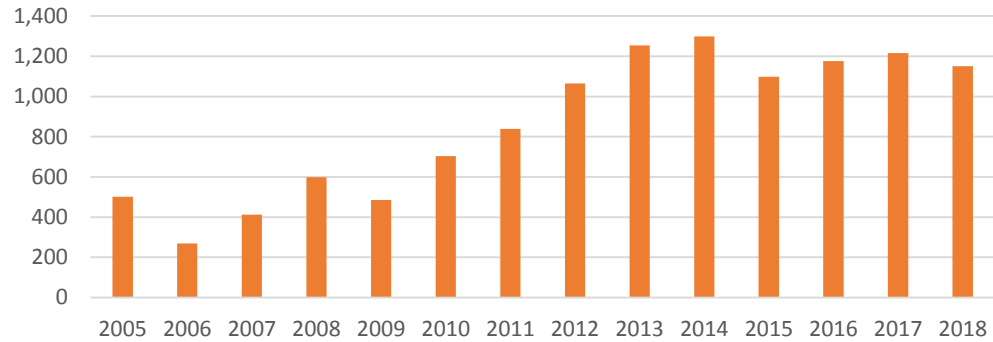
27,3 Trillion IDR



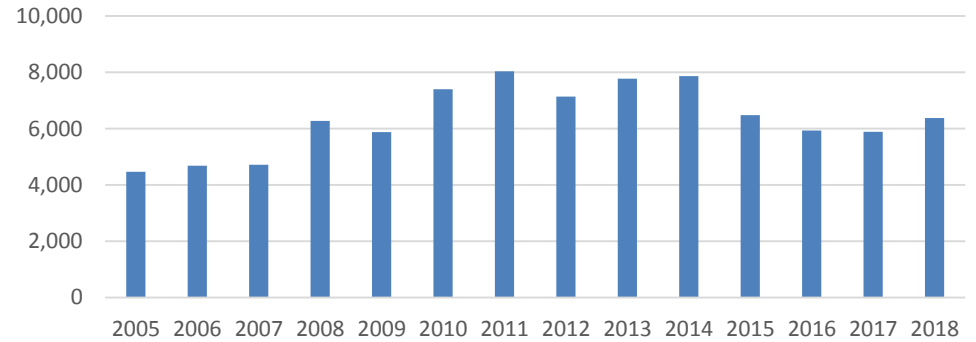


DOMESTIC WHOLESALES (2005 – 2018)

Domestic Sales of Motor Vehicle 2005 -2018 (Thousand Unit)



Domestic Sales of Motorcycle 2005 - 2018 (Thousand Unit)



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Motor Vehicle	501	269	412	599	486	703	838	1,065	1,254	1,299	1,099	1,177	1,216	1,151
Motorcycle	4,470	4,688	4,713	6,280	5,881	7,398	8,043	7,141	7,771	7,867	6,480	5,931	5,886	6,383



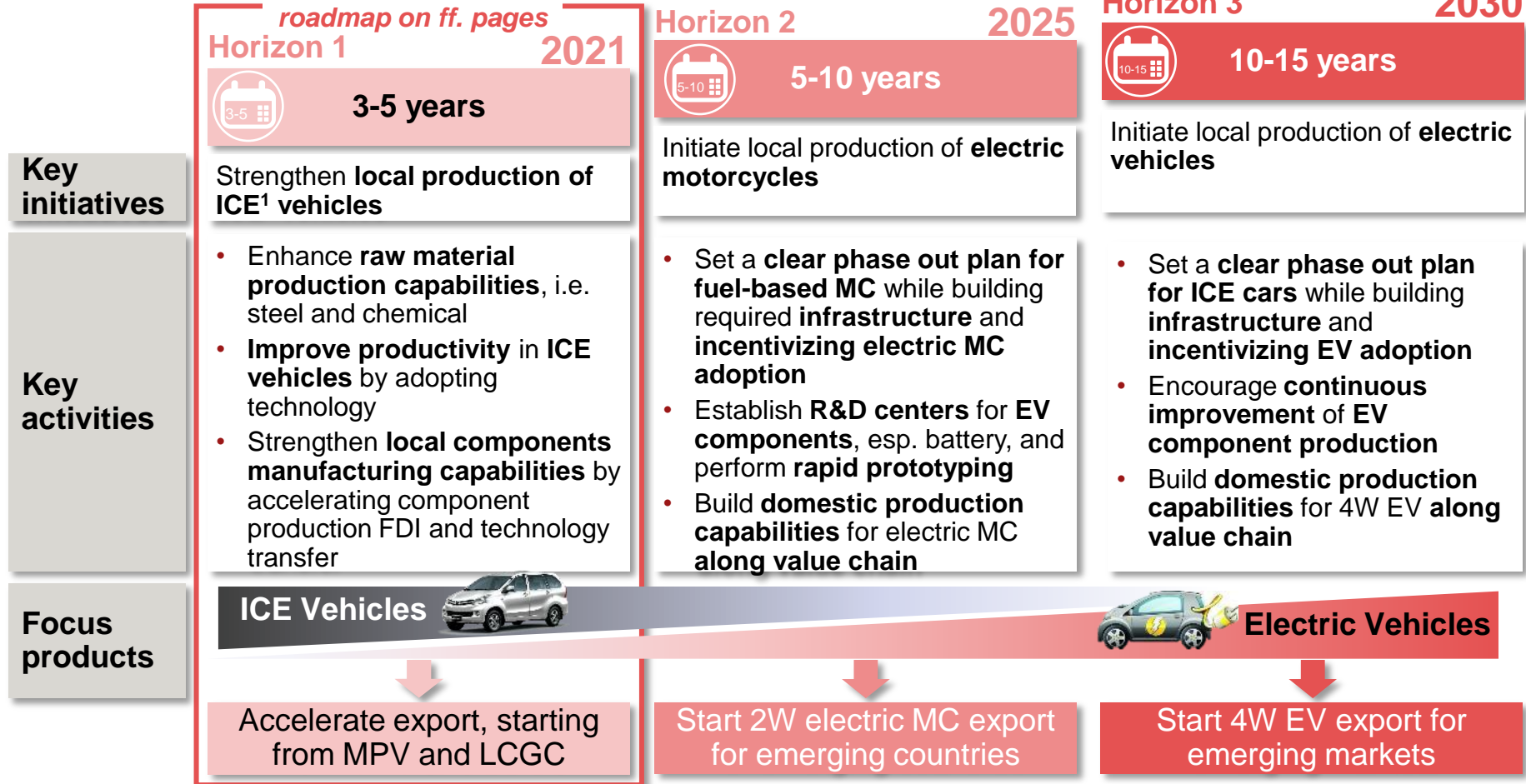
II. AUTOMOTIVE INDUSTRY ROADMAP



INDONESIA'S AUTO INDUSTRY AS REGIONAL AUTO EXPORT HUB

Indonesia Automotive 4.0

Charter & detailed roadmap on ff. pages



1. Internal Combustion Engine
Source: A.T. Kearney



INDONESIA'S AUTO INDUSTRY IN 2030



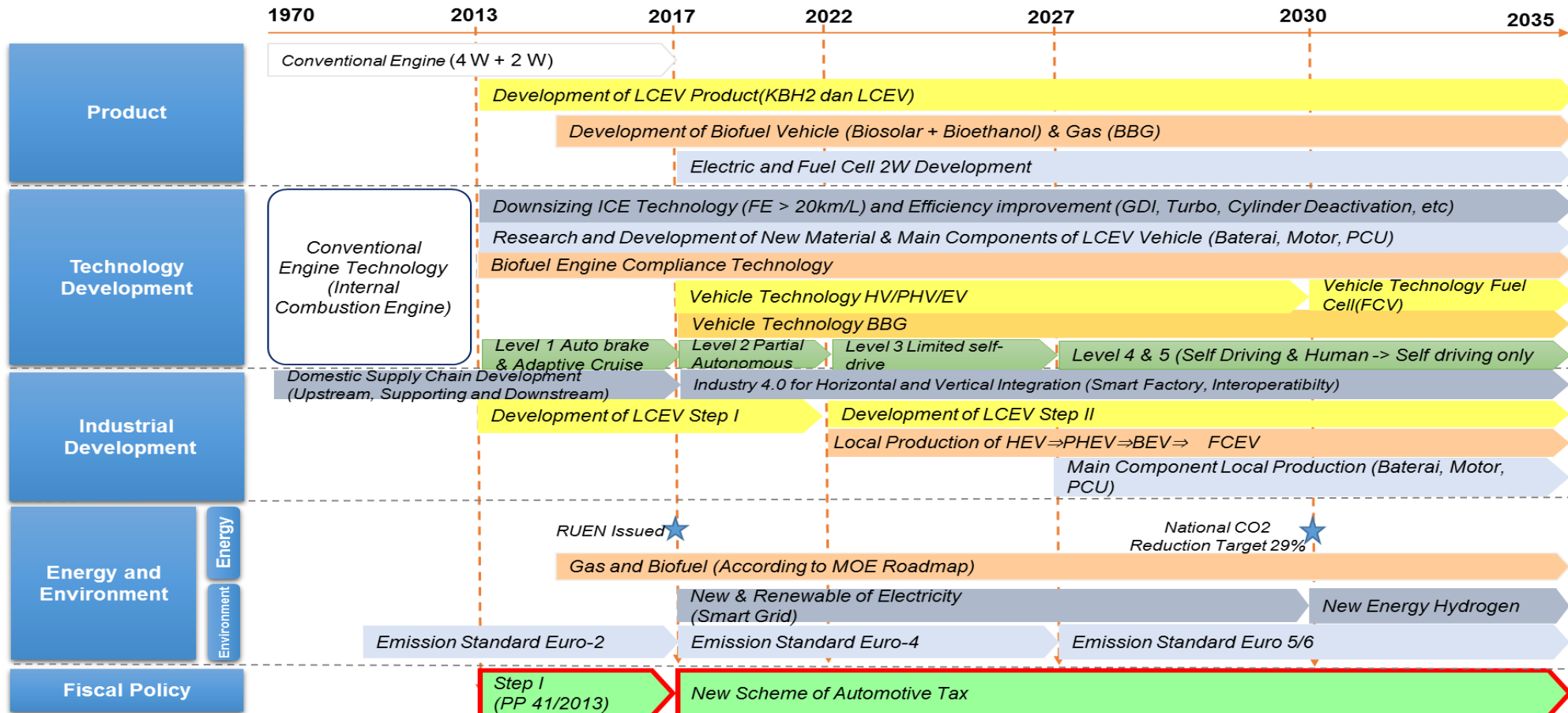


AUTOMOTIVE INDUSTRY ROADMAP

Vision : To be major player in global automotive industry

Mission : Developing reliable, competitive and sustainable automotive industry

Roadmap



Keterangan : **BBG** : Bahan Bakar Gas **HV** : Hybrid Vehicle **PHV** : Plug-In Hybrid **EV** : Electric Vehicle **FCV** : Fuel Cell Vehicle **LCEV** : Low Carbon Emission Vehicle **PCU** : Power Control Unit



QUANTITATIVE TARGETS

ITEM			2020	2025	2030	2035
MOTOR VEHICLE	Production	Total (Unit)	1.500.000	2.000.000	3.000.000	4.000.000
		Percentage LCEV(%)	10	20	25	30
		Percentage LCGC (%)	25	20	20	20
	Sales	Total (unit)	1.250.000	1.690.000	2.100.000	2.500.000
	Export	Total (unit)	250.000	310.000	900.000	1.500.000
MOTOR CYCLE	Production	Total (unit)	8.000.000	10.000.000	12.500.000	15.000.000
		Percentage Electric Motorcycle (%)	10	20	25	30
	Sales	Total (unit)	7.500.000	9.000.000	11.000.000	13.000.000
	Export	Total (unit)	500.000	1.000.000	1.500.000	2.000.000

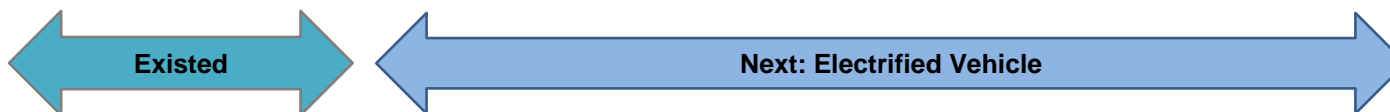


IV. LOW CARBON EMISSION VEHICLE (LCEV) PROGRAM



INTRODUCTION LOW CARBON EMISSION VEHICLE (LCEV) IN INDONESIA

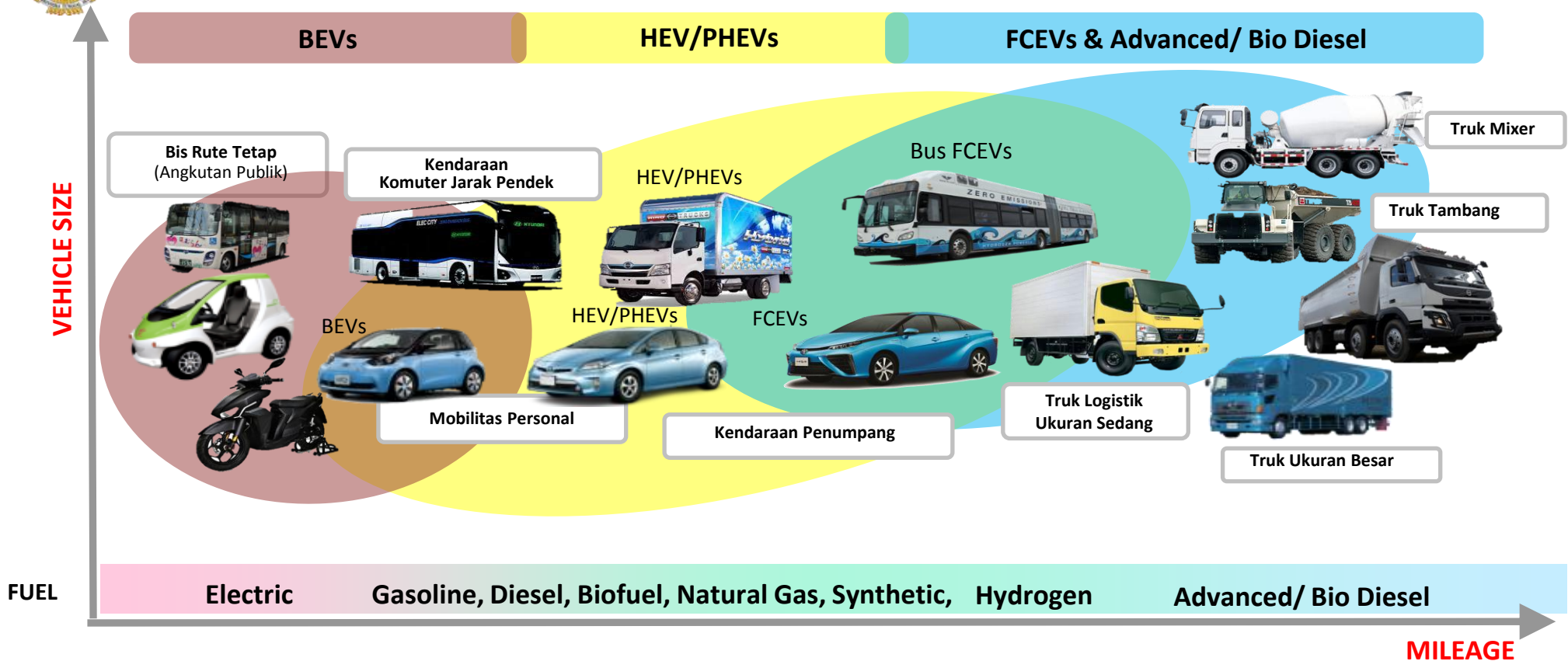
Vehicles under LCEV Scheme



	LCGC	HEV	PHEV	BEV/FCEV	FLEXY ENGINE (B100/E100)
Overview	<ul style="list-style-type: none"> Low Carbon Emission Vehicle 	<ul style="list-style-type: none"> Mostly fuel-powered, but use small battery packs to improve fuel efficiency 	<ul style="list-style-type: none"> Optimize battery powered, but use a fuel-powered generator (Range Extender) 	<ul style="list-style-type: none"> Full-electric vehicles that are completely battery powered/Fuel Cell 	<ul style="list-style-type: none"> Internal Combustion Engine designed to run on more than one level biofuel
Energy Source	<ul style="list-style-type: none"> Gasoline/Diesel 	<ul style="list-style-type: none"> Gasoline/Diesel 	<ul style="list-style-type: none"> Gasoline/Diesel Electricity 	<ul style="list-style-type: none"> Electricity/Hydrogen 	<ul style="list-style-type: none"> Gasoline or Diesel blended with Ethanol or Biodiesel
Infrastructure Requirements	<ul style="list-style-type: none"> Pump station (Available) 	<ul style="list-style-type: none"> Pump station (Available) 	<ul style="list-style-type: none"> Pump station+Charging Station (Alternative) 	<ul style="list-style-type: none"> Charging station/Hydrogen Station (Required) 	<ul style="list-style-type: none"> None



LCEV ACCORDING TO THE CHARACTERISTICS OF VEHICLES AND FUEL TECHNOLOGY



Vehicle technology must be adjusted to the characteristics of mileage, vehicle size and fuel

Note :
HEV : Hybrid Electric Vehicle, PHEV : Plug-In Hybrid Electric Vehicle, BEV : Battery Electric Vehicle, FCEV : Fuel Cell Electric Vehicle



GOVERNMENT SUPPORTS

1. **Tax Holiday** and **Tax Allowance** for a new investment or expanding to attract foreign investment and foster national industries;

11		Industri pembuatan komponen utama mesin yang mendukung industri pembuatan kendaraan bermotor listrik
90	27111A	Industri pembuatan motor listrik yang terintegrasi dengan industri pembuatan magnet
91	27111B	Industri pembuatan motor listrik yang terintegrasi dengan industri pembuatan kumparan
92	29300A	Industri baterai untuk kendaraan bermotor listrik

2. **Income tax deductions** of up to 300 percent for companies carrying out R&D activities;
3. **Tax harmonization scheme** for promoting electric vehicle industry;
4. Establish local competencies for further development such as **battery, PCU, electric motor** and **charging station**.



Thank
you

