Federal Ministry
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European
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Elektrifikacija cestovnog prometa i energetska tranzicija na lokalnoj razini

Uloga dekarboniziranog transporta u energetskoj tranziciji

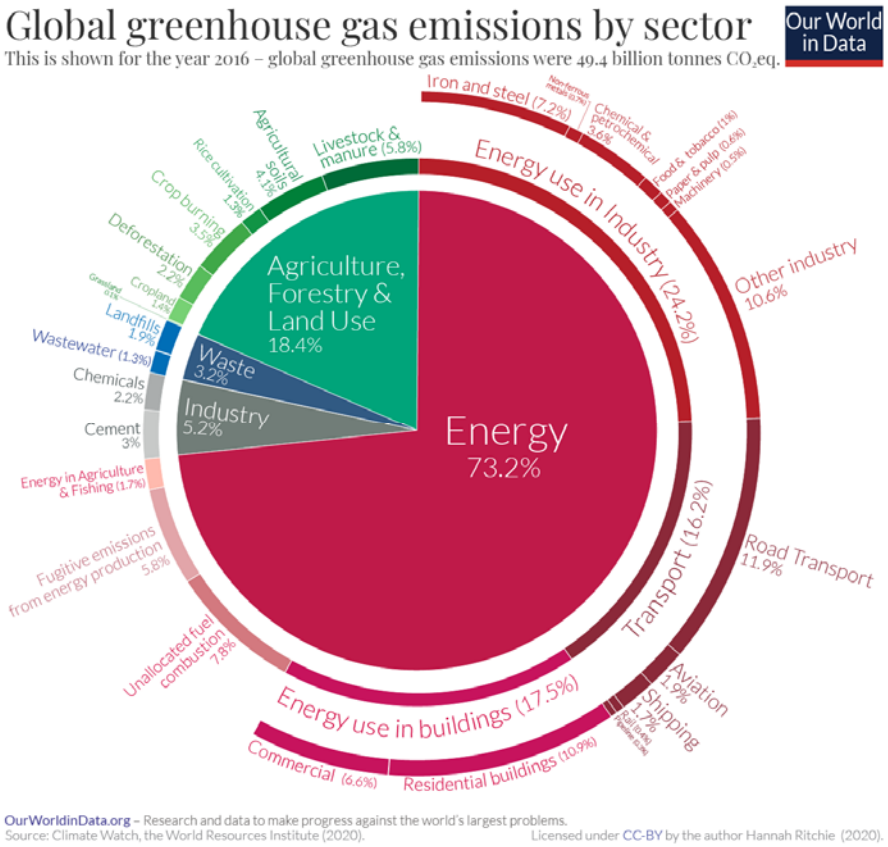
Doc. dr. sc. Vedran Kirinčić

vedran.kirincic@riteh.hr

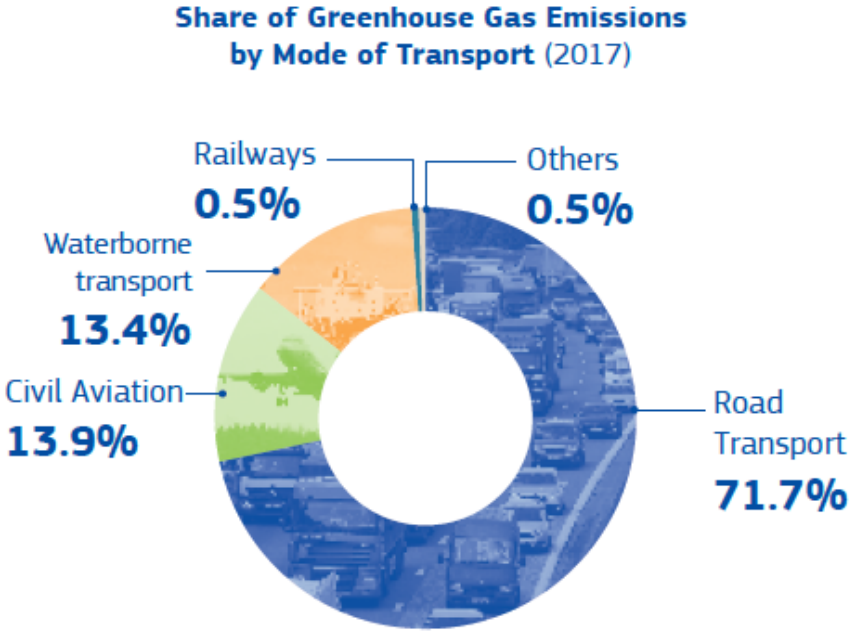
Tehnički fakultet, Sveučilište u Rijeci
https://www.linkedin.com/in/vedrankirincic/

Greenhouse gas emissions

Global



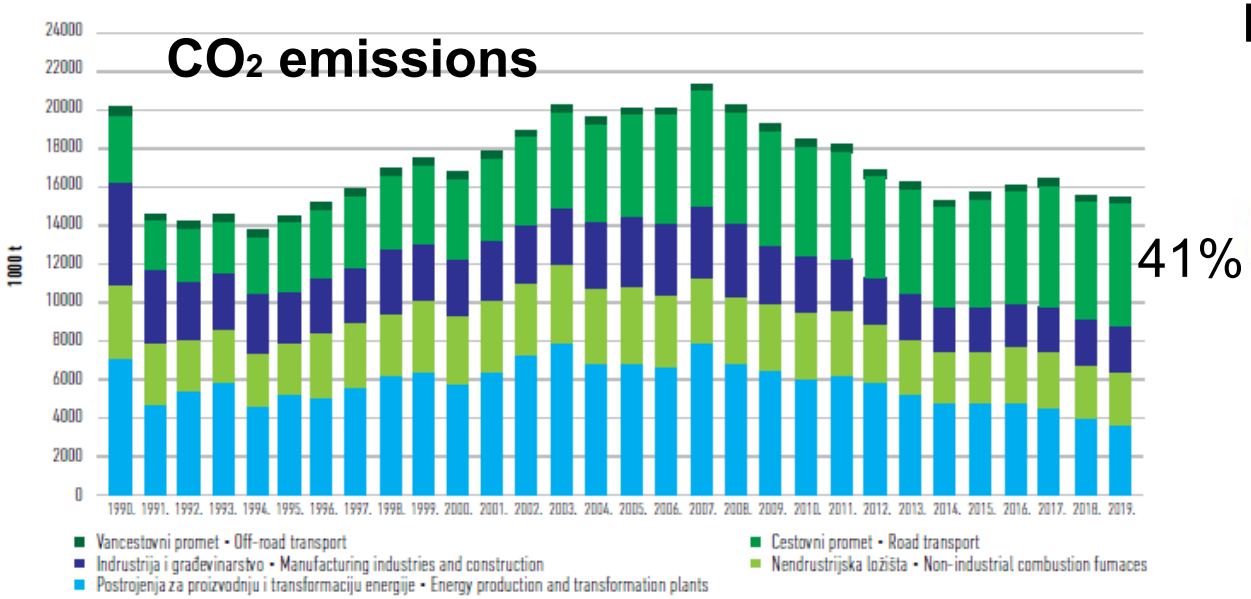
EU



Transport accounts for **a quarter of the Union's greenhouse gas emissions** and these continue to grow.

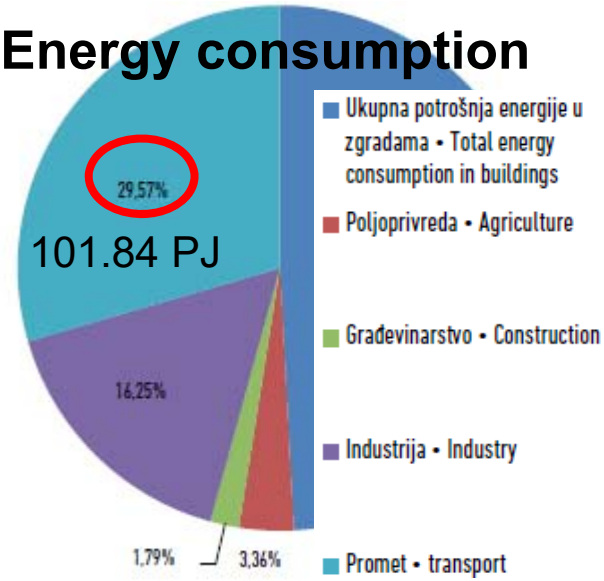
Croatia

CO_2 emissions



41%

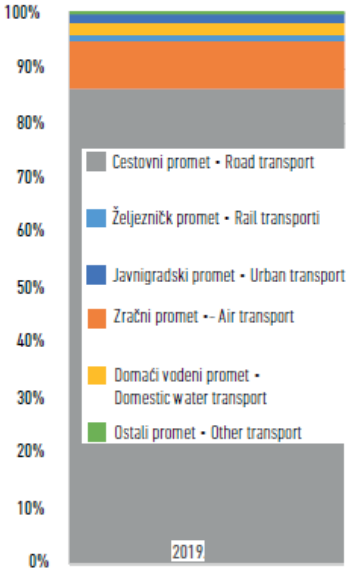
Energy consumption



Izvori: EKONERG, EIHP • Source: EKONERG, EIHP

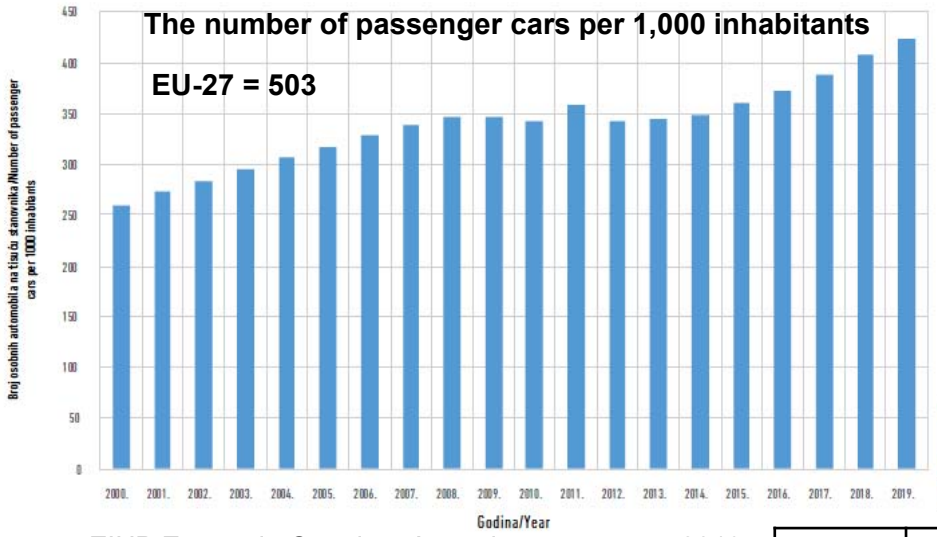
VOLUME OF ROAD TRAFFIC (NATIONAL VEHICLES), BY TYPE OF VEHICLE, Vehicle-kilometres, million	2014.	2015.	2016.	2017.	2018.
Total	**22.480**	**24.136**	**26.047**	**26.974**	**28.237**
M1: Passenger cars	18.262	19.444	20.809	21.473	22.322
M2/M3: Buses and coaches	276	304	328	335	351
N1: Goods vehicles up to 3.5t MPW	2.058	2.311	2.623	2.803	3.138
N2: Goods vehicles between 3.5t and 12t MPW	336	334	341	338	334
N3: Goods vehicles over 12t MPW	1.162	1.345	1.545	1.626	1.670
L1/L2/L6: Mopeds	148	148	142	130	126
L3/L4/L5/L7: Motorcycles	173	184	201	217	241
T5: Tractor on wheels	65	66	60	51	54

Fuel consumption by transport mode

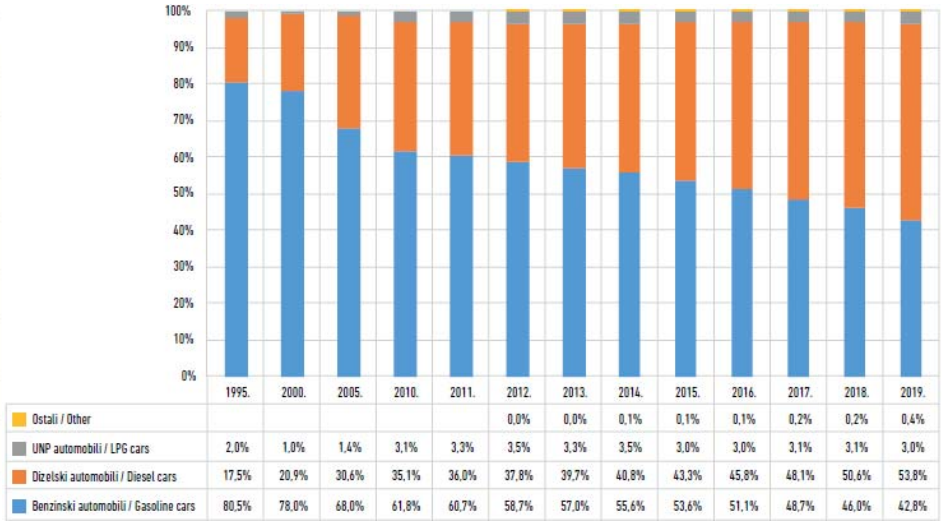


Source: EIHP Energy in Croatia – Annual energy report 2019
Croatian Bureau of Statistics, https://www.dzs.hr/Hrv_Eng/Pokazatelji/Transport%20i%20komunikacije/Transport%20-%2002%20cestovna%20infrastruktura,%20obujam%20cestovnog%20prometa.xlsx

Croatia



Structure of cars by fuel type



Source: EIHP Energy in Croatia – Annual energy report 2019

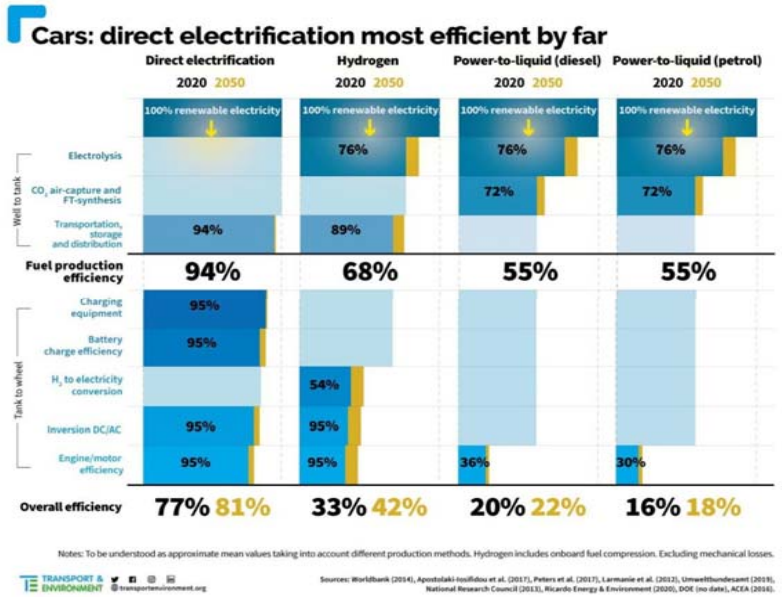
Izvor: MUP, DZS, SB, EIHP • Source: MUP, DZS, SB, EIHP

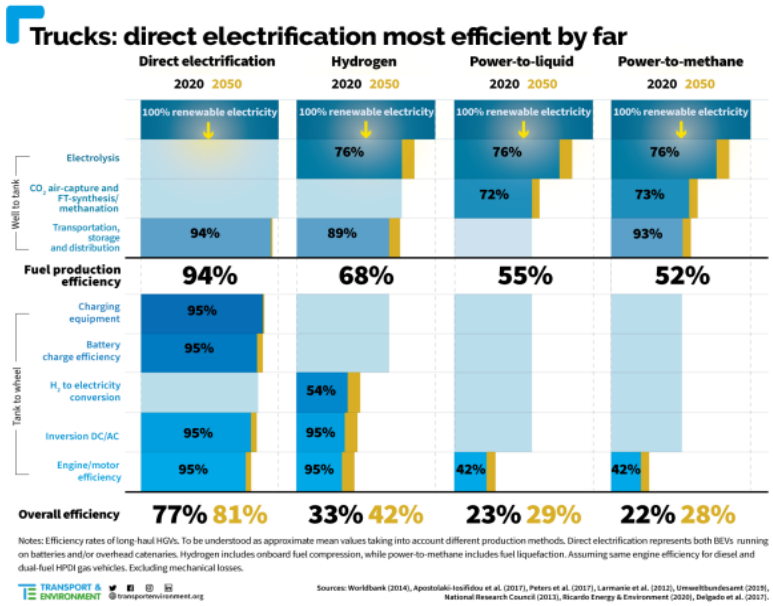
M1 km (k)	2014	2015	2016	2017	2018	2019
CVH	12.75	12.51	12.70	12.81	12.689	12.54

CO_2 emissions from energy subsectors	2014.	2015.	2016.	2017.	2018.	2019.*	2019./18.	2014.-19.
	tisuće tona			thousand metric tons			%	
Postrojenja za proizvodnju i transformaciju energije • Energy production and transformation plants	4 744	4 719	4 847	4 465	3 908	3 656	-6,4	-5,1
Neindustrijska ložišta • Non-industrial combustion furnaces	2 531	2 720	2 790	2 821	2 747	2 568	-6,5	0,3
Industrija i građevinarstvo • Manufacturing industries and construction	2 324	2 223	2 229	2 430	2 411	2 571	6,6	2,0
Cestovni promet • Road transport	5 346	5 671	5 885	6 343	6 113	6 274	2,6	3,3
Vancestovni promet • Off-road transport	234	217	221	227	228	233	2,2	-0,1
Ukupno • Total	**15 179**	**15 549**	**15 972**	**16 286**	**15 406**	**15 301**	**-0,7**	**0,2**

Final energy consumption by means of transport	2014.	2015.	2016.	2017.	2018.	2019.	2019./18.	2014.-19.
	PJ						%	
Željeznički promet • Rail Transport	1,43	1,30	1,34	1,34	1,26	1,26	0,0	-2,5
Cestovni promet • Road Transport	74,17	78,37	80,26	86,37	84,29	87,93	4,3	3,5
Zračni promet • Air Transport	5,56	5,40	5,71	6,75	8,29	8,94	7,8	10,0
Pomorski i riječni promet • Sea and River Transport	1,93	1,84	1,87	1,98	2,10	2,18	3,8	2,4
Javni gradski promet • Public City Transport	1,35	1,35	1,41	1,46	1,45	1,42	-1,7	1,1
Ostali promet • Non Specified	0,09	0,11	0,12	0,14	0,16	0,11	-27,3	4,7
UKUPNO PROMET • TOTAL TRANSPORT	**84,53**	**88,37**	**90,71**	**98,04**	**97,54**	**101,84**	**4,4**	**3,8**

Decarbonising the Road Transport





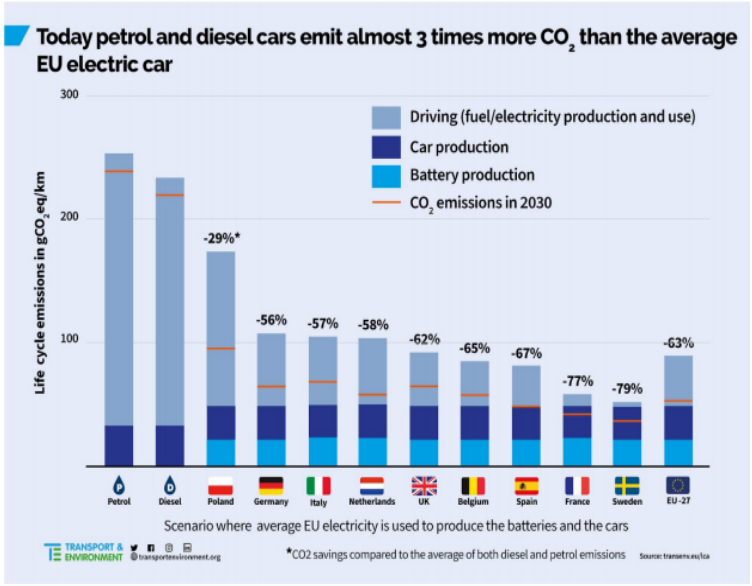


Figure 4: Lifetime CO_2 emission savings from electric cars in key EU countries

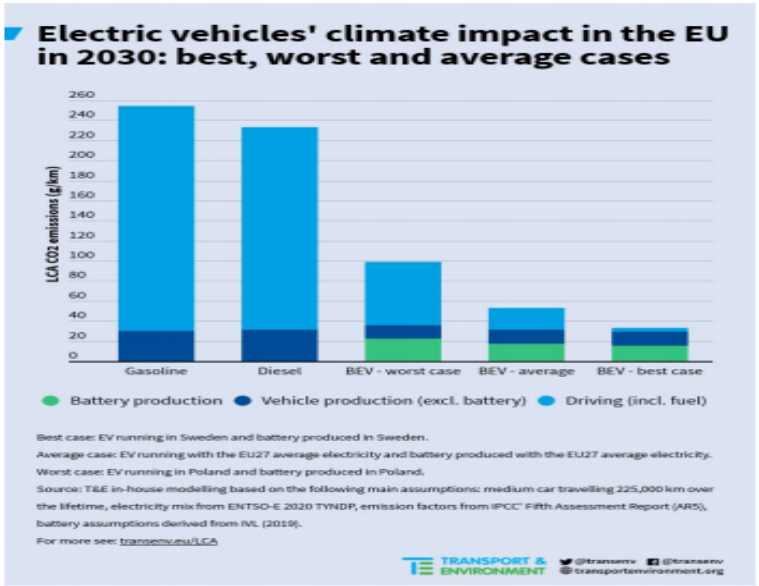
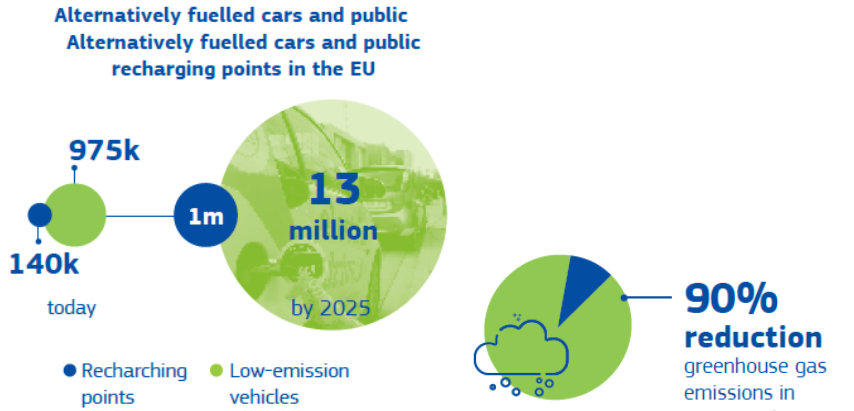


Figure 7: Lifetime CO_2 emissions of an electric car in 2030

Source: Transport & Environment 2020_12_Briefing_feasibility_study_renewables_decarbonisation.pdf
https://www.transportenvironment.org/sites/te/files/publications/2020_12_Briefing_feasibility_study_renewables_decarbonisation.pdf

Decarbonising the Road Transport



Charging points for ECVs per country, plus percentage of EU total (2019)

Austria	4,443	2.2%	Italy	9,370	4.7%
Belgium	6,551	3.3%	Latvia	306	0.2%
Bulgaria	135	0.1%	Lithuania	202	0.1%
Croatia	629	0.3%	Luxembourg	913	0.5%
Cyprus	38	0.0%	Malta	102	0.1%
Czech Republic	808	0.4%	Netherlands	50,824	25.4%
Denmark	2,817	1.4%	Poland	884	0.4%
Estonia	391	0.2%	Portugal	1,791	0.9%
Finland	2,145	1.1%	Romania	344	0.2%
France	30,367	15.2%	Slovakia	649	0.3%
Germany	40,517	20.3%	Slovenia	628	0.3%
Greece	61	0.0%	Spain	5,769	2.9%
Hungary	735	0.4%	Sweden	8,792	4.4%
Ireland	1,076	0.5%	United Kingdom	28,538	14.3%
			EU total	199,825	

Source: EAFO

Normal and fast charging points, by country (2019)

	Normal (<22kW)	Fast (> 22kW)		Normal (<22kW)	Fast (> 22kW)
Austria	3,742	701	Italy	8,312	1,058
Belgium	6,070	481	Latvia	83	223
Bulgaria	70	65	Lithuania	79	123
Croatia	479	150	Luxembourg	900	13
Cyprus	38	0	Malta	102	0
Czech Republic	410	398	Netherlands	49,520	1,304
Denmark	2,244	573	Poland	509	375
Estonia	202	189	Portugal	1,471	320
Finland	1,786	359	Romania	211	133
France	27,661	2,706	Slovakia	350	299
Germany	34,203	6,314	Slovenia	452	176
Greece	40	21	Spain	4,500	1,269
Hungary	592	143	Sweden	4,036	4,756
Ireland	818	258	United Kingdom	22,359	6,179

Source: EAFO

ECV market share / charging points per 100 km of road*, by country (2019)

	ECV share	Charging points per 100 km		ECV share	Charging points per 100 km
Austria	3.5%	3.4	Italy	0.9%	3.7
Belgium	3.2%	4.2	Latvia	0.5%	0.4
Bulgaria	0.6%	0.7	Lithuania	0.4%	0.3
Croatia	n/a	2.3	Luxembourg	n/a	31.6
Cyprus	n/a	0.4	Malta	n/a	3.6
Czech Republic	0.5%	0.6	Netherlands	15.0%	36.4
Denmark	4.2%	3.8	Poland	0.5%	0.2
Estonia	0.3%	0.7	Portugal	5.7%	12.5
Finland	6.9%	2.8	Romania	0.9%	0.4
France	2.8%	2.8	Slovakia	0.4%	1.1
Germany	3.0%	17.6	Slovenia	0.9%	1.6
Greece	0.4%	0.1	Spain	1.4%	0.9
Hungary	1.9%	0.3	Sweden	11.3%	4.1
Ireland	4.1%	1.1	United Kingdom	3.1%	6.8

Source: EAFO, Eurostat, ERF

* Includes motorways, main and national roads, secondary and regional roads

Rollout of charging points for ECVs – Trend over time in the EU (2019)

	EU total	2014	2015	2016	2017	2018	2019	% 14/19
ECV charging points		34,448	59,200	89,214	126,449	142,803	199,825	+480%

Source: EAFO ACEA, MAKING THE TRANSITION TO ZERO-EMISSION MOBILITY 2020 PROGRESS REPORT
https://www.acea.be/uploads/publications/ACEA_progress_report_2020.pdf

HIGHEST EV purchase incentives

1. Romania (up to €11,500)
2. Croatia (up to €9,200)
3. Germany (up to €9,000)

Croatia

Capital:
Zagreb

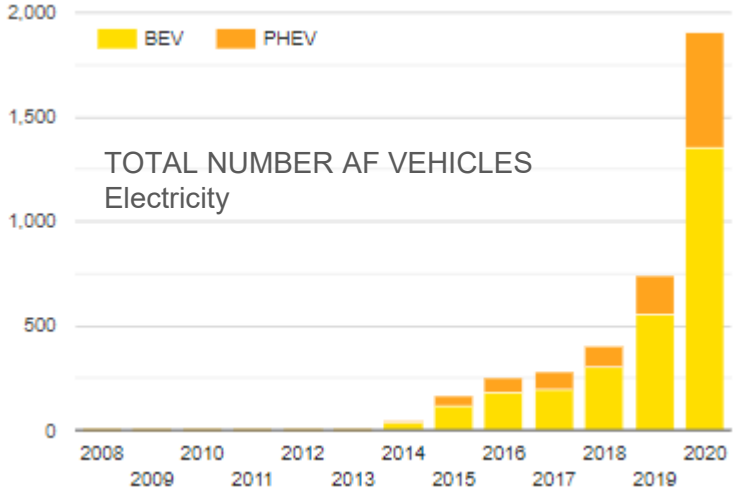
Population:
4,076,246

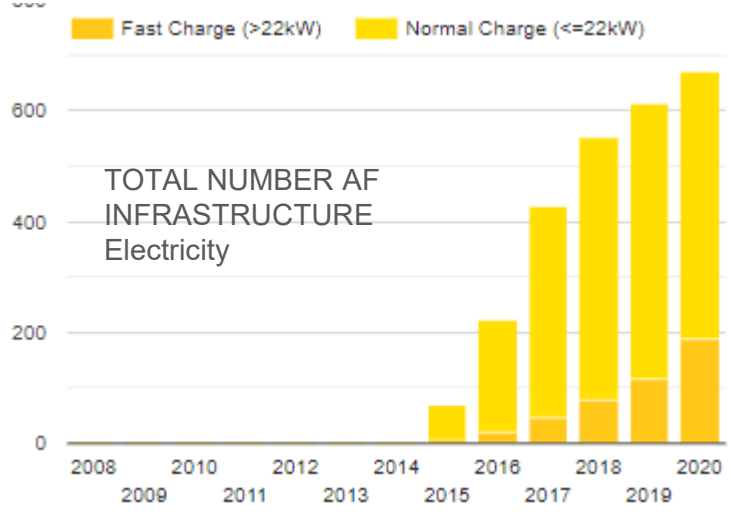
Total land area (km2):
56,594 km2

Passenger cars:
1,665,391

Highway (km):
1,310 km

GDP per capita
14,936.10 USD





Norway

Capital:
Oslo

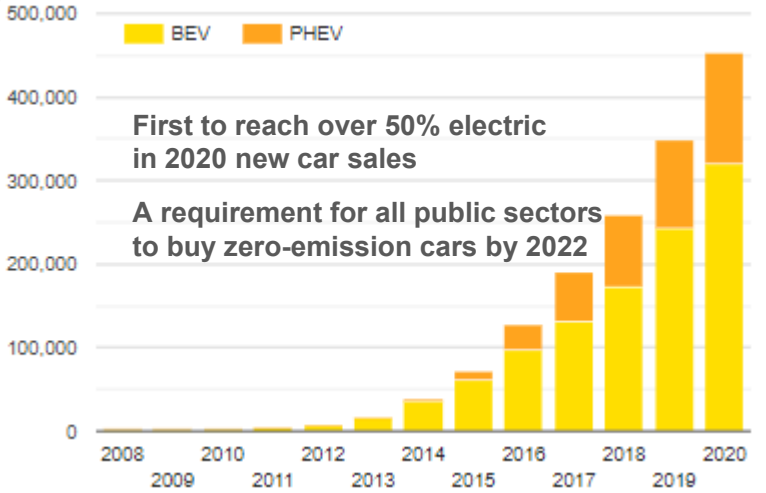
Population:
5,328,212

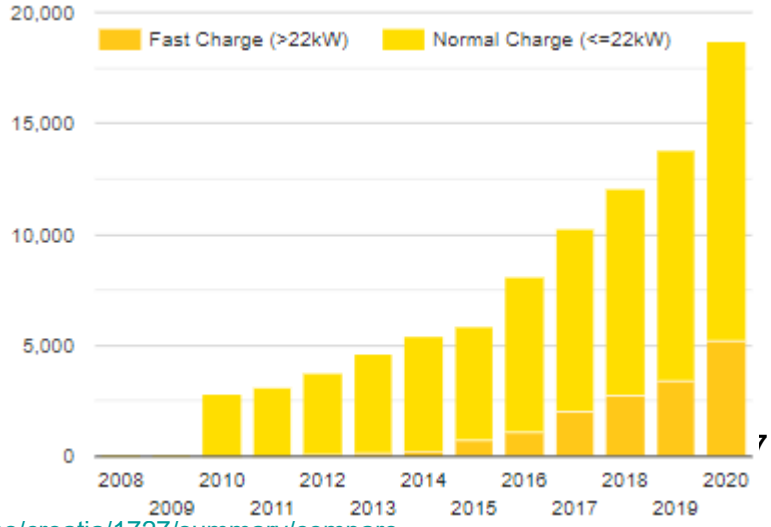
Total land area (km2):
323,802 km2

Passenger cars:
2,700,000

Highway (km):
523 km

GDP per capita
75,419.63 USD



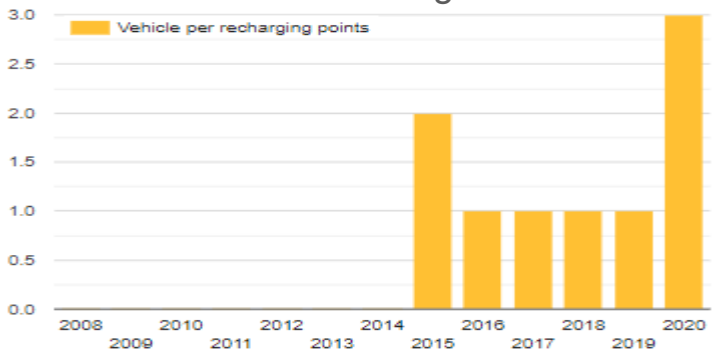


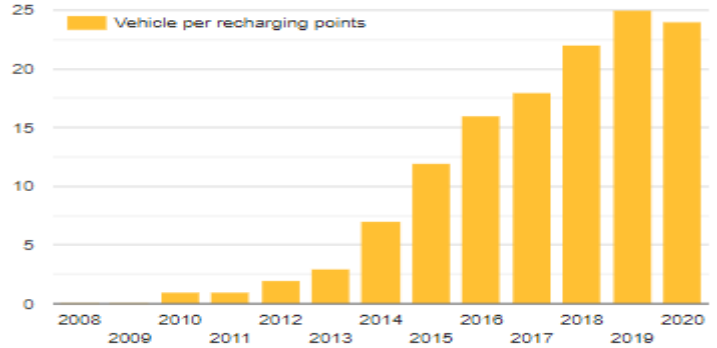
Source: European Alternative Fuels Observatory – EAFO https://www.eafo.eu/countries/croatia/1727/summary/compare

Croatia

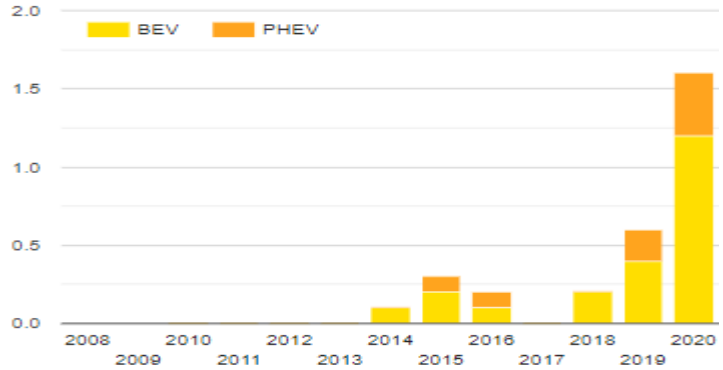
Norway

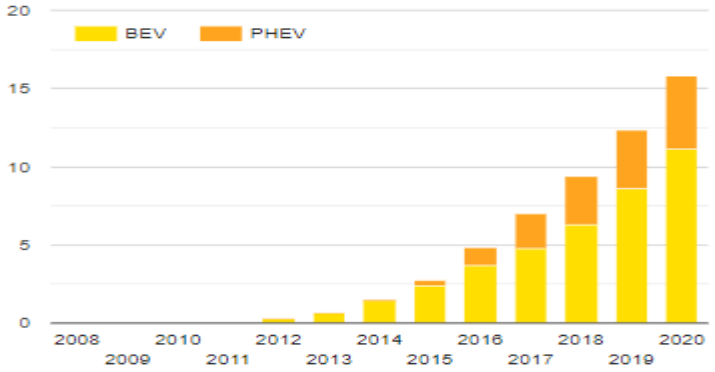
Plugin Electric Vehicles per public charging point



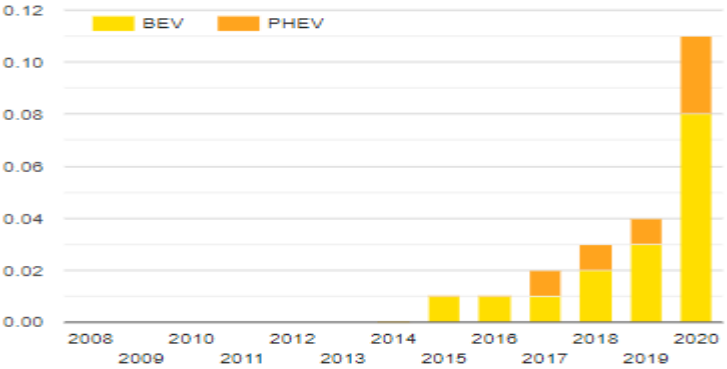


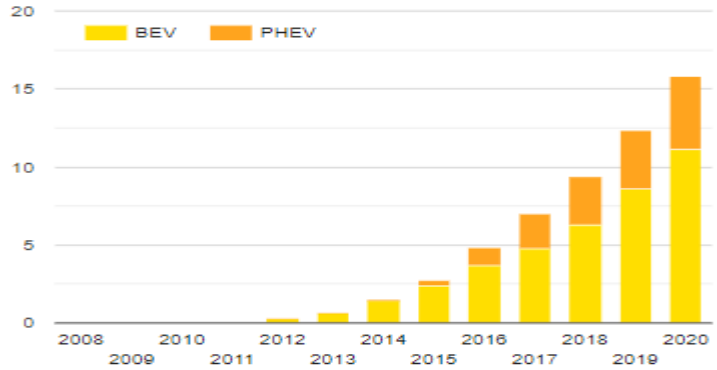
Market share new registrations M1





Fleet percentage of total fleet M1





Source: European Alternative Fuels Observatory – EAFO https://www.eafo.eu/countries/croatia/1727/vehicles-and-fleet/compare

Norway

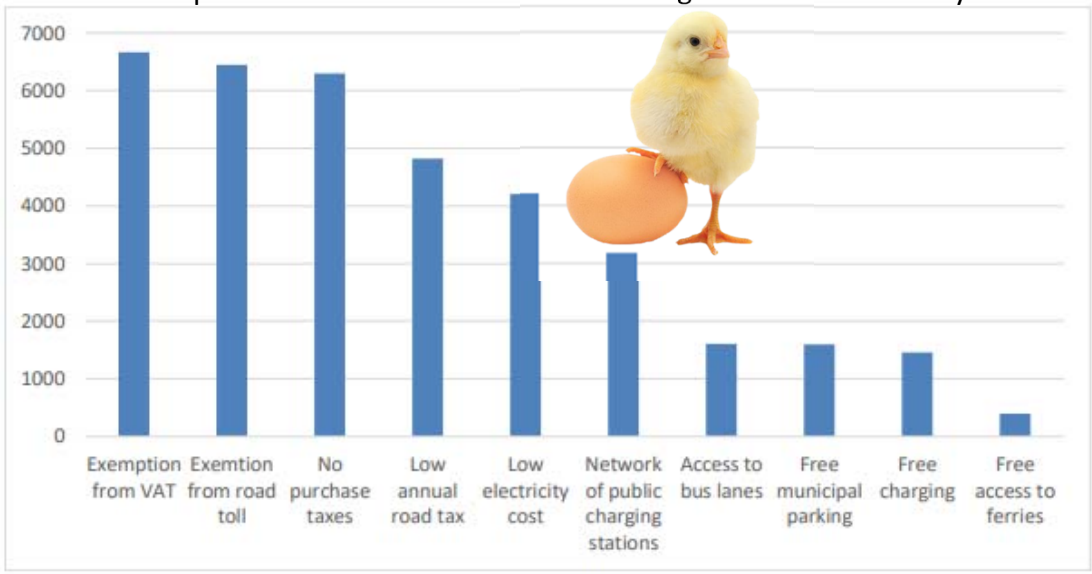
The Norwegian EV incentives:

- No purchase/import taxes (1990-)
- Exemption from 25% VAT on purchase (2001-)
- No annual road tax (1996-)
- No charges on toll roads or ferries (1997- 2017).
- Maximum 50% of the total amount on ferry fares for electric vehicles (2018-)
- Maximum 50% of the total amount on toll roads (2019)
- Free municipal parking (1999- 2017)
- Parking fee for EVs was introduced locally with an upper limit of a maximum 50% of the full price (2018-)
- Access to bus lanes (2005-).
- New rules allow local authorities to limit the access to only include EVs that carry one or more passengers (2016)
- 50 % reduced company car tax (2000-2018).
- Company car tax reduction reduced to 40% (2018-)
- Exemption from 25% VAT on leasing (2015)
- Fiscal compensation for the scrapping of fossil vans when converting to a zero-emission van (2018)
- Allowing holders of driver licence class B to drive electric vans class C1 (light lorries) up to 4250 kg (2019)

How often do you charge? Source: Norwegian EV owner survey 2017

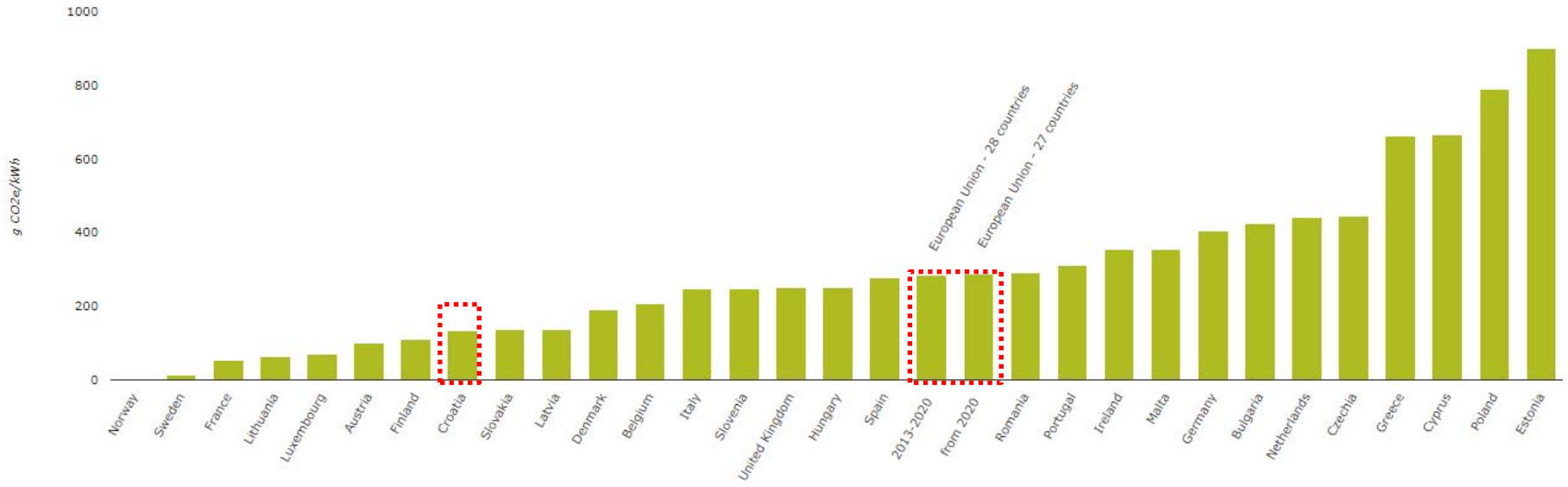
	Detached housing	Apartment buildings
At home, daily or weekly	97 %	64 %
At home, monthly or never	3 %	36 %
At work, daily or weekly	36 %	38 %
At work, monthly or never	64 %	62 %
At public charging stations, daily or weekly	11 %	28 %
At public charging stations, monthly or never	89 %	72 %
At fast charging stations, daily or weekly	12 %	18 %
At fast charging stations, monthly or never	88 %	82 %

Most important EV incentives according to Norwegian EV owners. Question: Select the 3 most important EV incentives. Source: Norwegian EV owners survey 2017



Source: Norwegian EV policy
https://elbil.no/wp-content/uploads/2016/08/EVS30-Charging-infrastrucure-experiences-in-Norway-paper.pdf

Greenhouse gas emission intensity of electricity generation



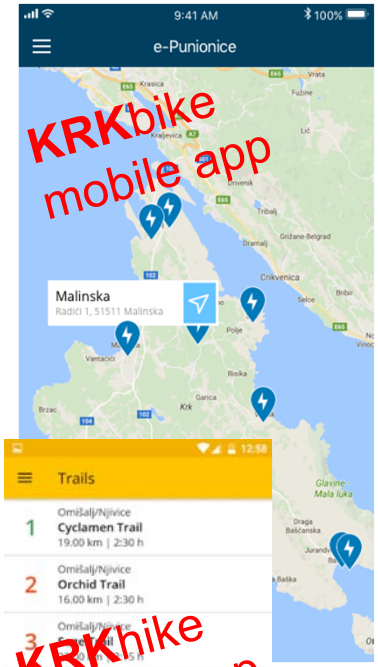
	2014.	2015.	2016.	2017.	2018.	2019.*	Prosjek/Average 2014.-2019.
	kg/ kWh						
Specifični faktor emisije CO_2 po ukupno potrošenoj el. energiji u Hrvatskoj Specific CO_2 emission factor per total electricity consumption in Croatia	0,151	0,148	0,163	0,131	0,106	0,121	0,137
Specifični faktor emisije CO_2 po ukupno proizvedenoj el. energiji u Hrvatskoj Specific CO_2 emission factor per total electricity production in Croatia	0,195	0,236	0,233	0,207	0,148	0,179	0,200

Izvori: EIHP • Source: EIHP

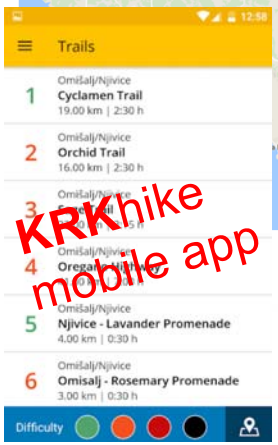
Source: EIHP Energy in Croatia – Annual energy report 2019

EEA **Greenhouse gas emission intensity of electricity generation**
https://www.eea.europa.eu/data-and-maps/daviz/co2-emission-intensity-6#tab-googlechartid_googlechartid_chart_111_filters=%7B%22rowFilters%22%3A%7B%7D%3B%22columnFilters%22%3A%7B%22pre_config_date%22%3A%5B2018%5D%7D%3B%22sortFilter%22%3A%5B%22index_2018%22%5D%7D

Strategic documents

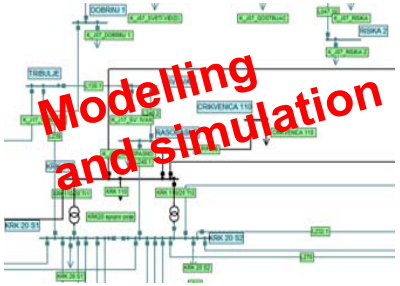


KRKbike mobile app



KRKhike mobile app

Mobility and transport arena



Modelling and simulation

100% elektrik

https://woom.zone/category/topics/mobility-transport-arena/

Federal Ministry
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Elektrifikacija cestovnog prometa i energetska tranzicija na lokalnoj razini

Uloga dekarboniziranog transporta u energetskoj tranziciji

Doc. dr. sc. Vedran Kirinčić

vedran.kirincic@riteh.hr

Tehnički fakultet, Sveučilište u Rijeci
https://www.linkedin.com/in/vedrankirincic/