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Electric vehicle customers in Switzerland

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Introduction

In the Joint Activity SCCER Mobility and CREST on "the evolution of the mobility: a socio-economic analysis" the diffusion of electric vehicles plays a distinctive role.
The opportunities for the reduction of direct GHG emissions, air pollutants and noise are evident but questions remain in terms of the current and perspective adoption pathways, including its social and geographical distribution. In this piece of research, part of the ongoing investigations on related themes and possible scenarios, an analysis of the empirical data from the Swiss Household Energy Demand Survey (SHEDS) has been performed to characterize current customers of Electric Vehicles (EV).

A profile of current EV owners

The socio-economic profile of all respondents that, in at least one year out of 2016, 2017 and 2018, answered to own an electri vehicle is the following:

1 Income

	2016	2017	2018
3 000 CHF/month or less	0.0	5.6	3.3
3 000-4 459	6.5	4.8	6.7
4 500-5 999	15.0	17.6	17.5
6 000-8 999	29.0	27.2	30.0
9 000-11 999	27.1	22.4	19.2
12 000 or more	22.4	22.4	23.3
Total	100.0	100.0	100.0

2 Household type

	2016	2017	2018
Single person household	16,2	18,8	17,6
Couple without children	54,6	38,3	40,5
Couple with children	21,5	30,2	31,8
Single parent with one or more children	2,3	2,7	3,4
Patchwork family	1,5	2,7	3,4
Non-familiy shared household	3,8	7,4	3,4
Total	100,0	100,0	100,0

3 Place of living

	2016	2017	2018
City	35.4	36.9	36.1
Agglomeration	41.5	40.3	40.1
Countryside	23.1	22.8	23.8
Total	100.0	100.0	100.0

Selected differences between ICE and EV owners

Owners of Internal Combustion Engine (ICE) and Electric Vehicles differ in terms of the amount of money spent when purchasing the vehicle.

Price of purchase

EV

	2016	2017	2018
Average	34 258	34 775	37 910
Median	28 000	28 000	30 000
Std. dev.	23 036	25 007	27 826
Percentile 25	20 000	20 000	20 000
Percentile 50	28 000	28 000	30 000
Percentile 75	44 500	44 000	46 000

ICE

	2016	2017	2018
Average	25 868	26 027	26 180
Median	22 000	22 000	22 000
Std. dev.	20 653	23 497	25 146
Percentile 25	13 000	12 200	12 000
Percentile 50	22 000	22 000	22 000
Percentile 75	33 000	34 000	35 000

The diffusion of clean technologies is higher among EV owners. In particular, they tend to adopt electric photovoltaics panels at much faster pace.

1 Photovoltaics

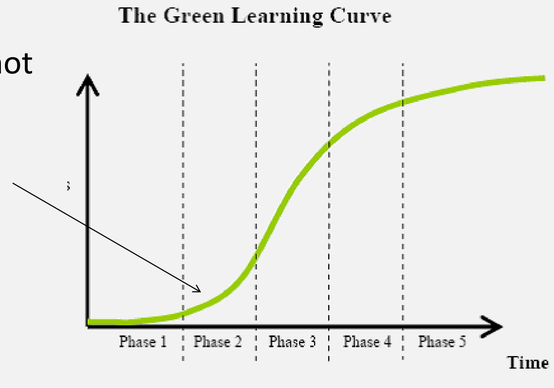
	2016	2017	2018
EV	10%	14.8%	16.2%
ICE	5%	5.7%	6.4%

2 Heat pumps

	2016	2017	2018
EV	22.3%	24.2%	25.0%
ICE	19.3%	19.9%	20.8%

Synthesis of results

EV customers are not isolated pioneers anymore,
they are already early adopters.



Possible policy implications

EV owners tend to be richer and pay more for the vehicle than ICE owners. Financial incentives would rather go to the upper class and may not be decisive in their decision-making process. Probably, stronger social approval, including as status symbol and pro-environmental clue, publicly supported by opinionmakers, would be effective for them to further adopt. However, to extend to wider social groups, new car models at lower price point would probably be necessary.

Meanwhile, the connection found between EV and PV is very encouraging, since their parallel diffusion would ease concerns about the source of electricity to power the electrification of transport, with some role for home- and grid-level storage systems. Crossed benefits of supportive policies should be recognized during design and evaluation phases.

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