

ZURICH, SWITZERLAND, SEPTEMBER 9, 2022

ABB E-mobility World EV Day 2022

global research report

GLOBAL SUMMARY

The world leader in EV charging solutions, ABB E-mobility conducted a global survey amongst 2,500 parents (with children aged 8-16) and 2,500 children (aged 8-16) exploring their varying attitudes to sustainability and in particular e-mobility.

Respondents were sourced from ABB E-mobility's 10 largest markets; Canada, China, France, Germany, Netherlands, Norway, Sweden, Switzerland, UK and USA.

Key findings are being released today, on World EV Day, 9 September 2022. The research showed that even though they can't yet drive, it is children who are really in the driving seat when it comes to increasing electric vehicle (EV) adoption, helping their parents to make better decisions which will reduce emissions and enable a more sustainable future.

According to the survey, 82.6% of children said that they intend to drive an electric or hybrid vehicle when they are old enough, with 4 in 5 children confirming they have the ability to influence their parent's purchasing decisions over big ticket items like changing the family car to an EV.

Almost half of children have told their parents to be more environmentally friendly while 58.1% of parents said that they have been educated by their children on environmental issues. Over two thirds of parents also reported that they regularly talk with their kids about purchasing an EV.

The combined influence of climate concerns, economic considerations and pressure from their children is having a significant impact on parents, with 78.6% saying that if they were to buy a new car in the next 3 years it would either be fully electric or hybrid. Indeed, the fact that they are both better for the environment and more economical ranked as the two highest purchase drivers for current EV drivers at 66.1% and 61% respectively.

There were even indications that other big-ticket purchases, like moving house, will become increasingly influenced by e-mobility in the future with almost 80% of parents saying that having an installed EV charger would make them more likely to buy a property.

This suggests that as EV adoption continues to boom, with predictions that global EV numbers will hit 125 million by 2030, residential and destination charging solutions will become increasingly important in enabling a more sustainable transport future.

It seems the shift to e-mobility can't come soon enough with 79.2% of parents and 73.6% of kids reporting that the current global environmental situation is bad and 31.9% of parents and 30.7% of kids classing the environmental situation as a complete disaster.

The pressure is now on other stakeholders to keep up with this groundswell of interest for e-mobility solutions. Almost half of parents (48%) said their company policy does not support a switch to EVs. It is therefore vital that older generations in positions of influence play catch up and take the bold decisions needed to support change now.

RESEARCH METHODOLOGY

The global e-mobility research was commissioned by 3Gem Research & Insights utilizing industry-standard panel management systems and adhering to stringent quality control procedures; delivering double opt-in, GDPR-compliant consumer panels.

Number of respondents surveyed in each market:

Country	Parents	Children
Canada	250	250
China	250	250
France	250	250
Germany	250	250
Netherlands	250	250
Norway	250	250
Sweden	250	250
Switzerland	250	250
UK	250	250
USA	250	250
Total	2,500	2,500

Key findings from the ABB E-mobility World EV Day 2022 global research report

1. Children are driving the EV revolution, even before they get behind the wheel

Of the 2,500 children surveyed, 82.6% said that when they are old enough, they want to drive an electric or hybrid vehicle. This strong sentiment in favor of driving a vehicle which will reduce emissions was reflected strongly across all countries surveyed, with children in China expressing the strongest support for more sustainable passenger vehicles.

When you are old enough to drive (and you've passed your driving test), what type of vehicle would you be most likely to want to drive?			
	Electric only	Hybrid	Petrol / diesel (other)
Canada	43.2%	40.4%	16.4%
China	78.2%	19.4%	2.4%
France	51.8%	31%	17.2%
Germany	39%	33.2%	27.8%
Netherlands	56.2%	28.6%	15.2%
Norway	64.6%	25.2%	10.2%
Sweden	51.2%	32.2%	16.6%
Switzerland	55.4%	28.6%	16%
UK	60.2%	26.8%	13%
US	35%	36.2%	28.8%
Top line average (all results)	52.4%	30.2%	17%

Not only are the majority of children keen to drive an EV or hybrid vehicle themselves when they are older, they are also trying to get their parents to act in a more sustainable way. Indeed, in this context, the influence children have over their parents appears to have taken on more positive connotations with children helping to educate their parents and encouraging them to make more sustainable choices.

This includes both influencing parental purchasing decisions, including talking regularly to their parents about purchasing an electric vehicle, and more generally educating their parents on environmental issues.

Do you think you have an influence over important household decisions and/or purchases being made by your parent/parents – for example purchasing an electric vehicle?

	Net yes	Net no
Canada	76.4%	23.6%
China	99.4%	0.6%
France	72.6%	27.4%
Germany	77.6%	22.4%
Netherlands	75.6%	24.4%
Norway	85.8%	14.2%
Sweden	73.6%	26.4%
Switzerland	87.6%	12.4%
UK	70.8%	29.2%
US	76.6%	23.4%
Top line average (all results)	79.6%	20.4%

How often do you have conversations with your parent/parents about purchasing an electric vehicle?

	Every day	Once a week	Every few weeks	Once a month	Every few months	Never
Canada	7.2%	10.8%	13.4%	10.2%	21.2%	37.2%
China	12.6%	40.2%	25.8%	7.8%	8.4%	5.2%
France	6.8%	13%	10%	16.8%	16.8%	36.6%
Germany	3.8%	7.6%	13.4%	12.2%	23%	40%
Netherlands	4.8%	10.8%	13%	11.4%	15%	45%
Norway	6.4%	12.4%	17.4%	13%	20.4%	30.4%
Sweden	5.6%	15.2%	15%	11.2%	15.6%	37.4%

Switzerland	11.8%	20%	11%	18.2%	17%	22%
UK	7%	10.6%	15.8%	8.2%	15.2%	43.2%
US	15.2%	10.8%	12.4%	8.6%	14.4%	38.6%
Top line average (all results)	8.1%	15.1%	14.7%	11.8%	16.7%	33.6%

Would you say you are more aware of environmental issues due to your child(ren) educating you?			
	Yes	No	Not sure
Canada	48.2%	41.4%	10.4%
China	86.6%	11.4%	2%
France	73%	21%	6%
Germany	50%	38.2%	11.8%
Netherlands	58.4%	32.2%	9.4%
Norway	56.2%	31%	12.8%
Sweden	44.2%	41.8%	14%
Switzerland	65.6%	26.6%	7.8%
UK	49.8%	39.8%	10.4%
US	48.8%	42.6%	8.6%
Top line average (all results)	58.1%	32.6%	9.3%

This impact from children on their parents is a positive step to help drive the e-mobility revolution, reducing carbon emissions and helping create a more sustainable future. Moving people, goods and raw materials accounts for almost 30% of worldwide carbon dioxide emissions¹ so moving away from traditional combustion engines to EVs is one way that we can help meet the ambitious global sustainability targets that have been set. However, the increase of EVs on the road means an increased need for reliable and efficient charging infrastructure. The International Energy Agency

¹ <https://www.energyefficiencymovement.com/en/an-electrical-future-for-transportation/>

(IEA) projects that EVs will represent 30% of vehicles sold globally in 2030². They expect that charging at home and the workplace are likely to supply much of the demand overall, however the number of public chargers still needs to expand ninefold and reach over 15 million units in 2030 to provide consumers with adequate and convenient coverage for the EV numbers the IEA expects.

² <https://www.iea.org/reports/global-ev-outlook-2022/executive-summary>

2. Pressure from their children, combined with climate concerns and economic considerations are influencing parents purchasing decisions

As seen in Section 1, parents are being pressured and educated by their children. This, combined with environmental concerns, is having a clear impact on parents' decision making when it comes to purchasing an EV.

Assuming your household was going to buy a car/vehicle within the next 3 years, what type of vehicle would it be?				
	Electric	Hybrid	Petrol / diesel (other)	Nobody in my household drives
Canada	22.6%	57.8%	16.8%	2.8%
China	68.8%	29%	1.4%	0.8%
France	28.4%	54.4%	14.4%	2.8%
Germany	24.6%	49.6%	21%	4.8%
Netherlands	35%	37.6%	21.8%	5.6%
Norway	50.4%	38.8%	9.4%	1.4%
Sweden	30.8%	49.8%	13.2%	6.2%
Switzerland	38.2%	45.4%	13.8%	2.6%
UK	30%	51.4%	15.4%	3.2%
US	22%	45%	30.4%	2.6%
Top line average (all results)	35.1%	45.9%	15.8%	3.3%

With just 15.8% of parents stating they would buy a diesel/petrol car if they were to purchase a vehicle in the next three years, there is a clear desire to switch to electric/hybrid motoring - sales of EVs doubled in 2021 from the previous year to a new record of 6.6 million³. This trend towards cleaner mobility is particularly strong in China, where just 1.4% said they would purchase a petrol/diesel vehicle in the next three years. These viewpoints, combined with governmental policies globally to push away from combustion engines on the road, reinforce the need for increased investment in charging infrastructure roll out.

Interestingly, drivers in the US are still behind their global counterparts in terms of their intention to switch to electric with twice the global average stating they would still purchase a diesel/petrol

³ <https://www.iea.org/reports/global-ev-outlook-2022/executive-summary>

vehicle in the next three years. However, as can be seen from the following table, pressure from the next generation is particularly strong in this region, with 33% of parents who have already switched to an EV citing this as the reason (25% points above the global average). And, as the United States begins to implement the largest investment in EV charging in history, predictions of increased adoption are strong, with objectives that EVs will represent half of all new auto sales by 2030.

If you already drive an electric vehicle what made you switch?					
	More economical	Better for the environment	Pressure from my children to go electric	Company car policy enforced the change	Other
Canada	75%	50%	0%	0%	12.5%
China	81.8%	90.9%	4.5%	4.5%	0%
France	50%	66.7%	16.7%	0%	0%
Germany	75%	75%	0%	12.5%	0%
Netherlands	40%	40%	10%	10%	10%
Norway	94.1%	41.2%	0%	0%	0%
Sweden	66.7%	66.7%	13.3%	0%	0%
Switzerland	15%	70%	5%	25%	0%
UK	33.3%	66.7%	16.7%	16.7%	0%
US	66.7%	83.3%	33.3%	16.7%	0%
Top line average (all results)	61%	66.1%	7.6%	8.5%	1.7%

Across all regions, concerns for cost saving and the environment are the main factors for switching to EVs. Although these are weighted relatively evenly in the global overview, the split by market shows parents in Canada and Norway in particular are much more focused on the economic benefits of driving electric. Meanwhile in the UK and Switzerland, a much higher percentage of parents cited environmental benefits as the reason they switched to electric.

Do you think owning an Electric Vehicle (EV) is a better financial investment as well as a more sustainable choice?			
	Yes	No	Don't know
Canada	56.8%	24.2%	19%

China	93.8%	2%	4.2%
France	53.2%	30.4%	16.4%
Germany	43.4%	37.2%	19.4%
Netherlands	61.8%	20.6%	17.6%
Norway	72%	17%	11%
Sweden	57.6%	23.6%	18.8%
Switzerland	63.6%	21.4%	15%
UK	52.4%	25.2%	22.4%
US	53%	27.6%	19.4%
Top line average (all results)	60.8%	22.9%	16.3%

Almost two thirds of people globally feel switching to EVs is a better financial investment as well as a more sustainable choice. This number is particularly high in China at 93.8%, where the country's incentive program has helped create the world's largest EV market⁴, with approximately 3.5 million EVs sold in 2021⁵. It's not only in China where subsidies are helping to drive EV uptake though. In 2021, public spending on subsidies and incentives for EVs almost doubled to nearly USD 30 billion⁶.

If you were considering moving house, would an installed electric vehicle charge point make you more likely to purchase a home?

	Yes, I would definitely look for a home with an EV charger	Yes, it would be an added bonus if the home came with an EV charger	No, I would not find this an appealing feature	NET yes
Canada	38.6%	39.6%	21.8%	78.2%
China	46.2%	51.8%	2%	98%
France	27%	43.6%	29.4%	70.6%
Germany	23%	43.6%	33.4%	66.6%

⁴ <https://www.reuters.com/business/autos-transportation/exclusive-china-talks-with-automakers-ev-subsidy-extension-sources-2022-05-18/>

⁵ <https://theicct.org/publication/global-ev-update-2021-jun22/>

⁶ <https://www.iea.org/reports/global-ev-outlook-2022/executive-summary>

Netherlands	29%	36.2%	34.8%	65.2%
Norway	44.4%	45.2%	10.4%	89.6%
Sweden	34.4%	43.6%	22%	78%
Switzerland	40.8%	43.6%	15.6%	84.4%
UK	38.4%	44.2%	17.4%	82.6%
US	39.4%	30.8%	29.8%	70.2%
Top line average (all results)	36.1%	42.2%	21.7%	78.3%

From the research, installing an EV charging point to a home definitely adds to its appeal for the majority of people (almost 8 out of 10) worldwide. This type of charging infrastructure is something governmental policy can also help drive. The UK became the first country in the world to bring in building regulations that require all new homes and non-residential buildings to include charge points⁷.

As the world leading in EV charging solutions, ABB provides both AC and DC solutions, including the Terra AC wallbox, which offers the ideal solution for home charging

3. Concerns about the environment and our climate are equally prominent amongst both parents and children

Which of the following best describes your own personal views on climate change and the environment?								
	It's a complete disaster		It's bad but not a disaster		It's generally ok		There's nothing to worry about	
	Parents	Children	Parents	Children	Parents	Children	Parents	Children
Canada	29.8%	28.8%	44.6%	42.2%	18.4%	22.2%	7.2%	6.8%
China	23.8%	23.4%	39.4%	39.8%	32.4%	31.4%	4.4%	5.4%
France	50.6%	41%	40.4%	45.2%	7.2%	10.8%	1.8%	3%
Germany	40.4%	37.2%	49%	41.4%	6.8%	18.2%	3.8%	3.2%
Netherlands	22.4%	20.6%	56.2%	49.4%	16.6%	23.8%	4.8%	6.2%
Norway	23.8%	27%	55%	47%	16.2%	22.4%	5%	3.6%

⁷

Sweden	26.2%	23.6%	51.2%	48.4%	17.4%	23.4%	5.2%	4.6%
Switzerland	36.2%	42.2%	47.6%	38.4%	14.4%	17.8%	1.8%	1.6%
UK	34.4%	33.8%	48.4%	41.8%	14.6%	20.8%	4.3%	3.6%
US	31.2%	29.6%	41.6%	35.4%	21%	26.2%	6.2%	8.8%
Top line average (all results)	31.9%	30.7%	47.3%	42.9%	16.5%	21.7%	4.3%	4.7%

Around a third of both parents and children feel the climate situation is a complete disaster. Despite this, and the overwhelming concern of employees for the state of our climate, an alarmingly low number of companies are supporting the transition to electric mobility, with almost 50% of parents surveyed feeling their company car policy does not encourage the switch. Again, it is China who appear to be leading the way, with 8 in 10 people stating that their company car policy encourages the switch to EVs. Switzerland, where ABB's head office is based, is second at 61%. As part of its Sustainability Strategy, ABB has committed to electrify its fleet of more than 10,000 vehicles by 2030 in a bid to further reduce carbon emissions.

If you drive a car for work, do you think your company car policy encourages employees to switch to electric vehicles?

	Yes, there is a clear direction and support to switch to electric	Yes, they are starting to encourage people to drive electric	No, there is no clear policy or support	No, the policy actively discourages employees driving electric	NET yes	NET no
Canada	16.2%	24%	55.4%	4.4%	40.2%	59.8%
China	37.8%	40.8%	21.4%	0%	78.6%	21.4%
France	16.2%	29.6%	46.8%	7.4%	45.8%	54.2%
Germany	17.2%	26.2%	47.4%	9.2%	43.4%	56.6%
Netherlands	23.6%	30%	41.8%	4.6%	53.6%	46.4%
Norway	23%	37.4%	35.4%	4.2%	60.4%	39.6%
Sweden	20.6%	28.8%	46.6%	4%	49.4%	50.6%
Switzerland	27.4%	33.6%	35.8%	3.2%	61%	39%
UK	20.2%	23.2%	51.2%	5.4%	43.4%	56.6%
US	25.8%	17%	50.8%	6.4%	42.8%	57.2%

Top line average (all results)	22.8%	29.1%	43.3%	4.9%	51.9%	48.1%
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Summary

As we are quickly approaching the deadline for ambitious emission reduction and EV adoption targets around the world, it is very encouraging to see the proactive role which children are playing in helping to achieve these goals.

The strong support which they have demonstrated globally for a move to more sustainable forms of transport are helping to future proof our environment, not only driving EV adoption today but setting out their intention to maintain and further increase this momentum over the forthcoming decades.

What we need now, more than anything, is a supportive network of stakeholders who will facilitate this transition, from vehicle manufacturers, charging manufacturers and operators to governments and international standard bodies.

Children are collaborating with their parents, working together to talk about the need for change and supporting them in making the right decisions. Broader society needs to sit up, take note and emulate their approach.

The rapid progress made to date in the e-mobility sector has only been possible through collaboration, partnership and transparency but to take this to the next stage; the realm of mass EV adoption, more stakeholders need to get on board, realize the vital roles they each have to play and work as a team to make change happen today.