

Sustainable Transport

March 2017

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saving
trust



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0808 808 2282
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Why we need to change?

- ▶ Political instability
Ukraine, the Middle East, Africa... much of our oil comes from regions of political unrest and this is unlikely to change in the future
- ▶ Increasing prices
Despite the recent drop in oil prices it's likely the cost of oil will continue to rise
- ▶ Air Quality
30-50 thousand people die prematurely annually in the UK because of air pollution. All major Scottish cities are breaching EU air quality regulations
- ▶ Climate Change Targets
The Scottish government has set a target for our roads to be free from tailpipe emissions by 2050



Climate Change Plan - Transport

- ▶ Transport accounts for 28% of total Scottish emissions
- ▶ There's been an overall reduction in transport emissions but only a 0.5% reduction in car emissions since 1990
- ▶ The Climate Change Plan is to incentivise public transport and active travel
- ▶ If you reduce your car journeys by five miles a week you could save £41 and 80 kg CO₂ a year. If everyone in Scotland did this it would be equivalent to taking 130,000 cars off the road for a year
- ▶ The Climate Change Plan also aims for the proportion of ultra-low emission new cars and vans registered in Scotland annually to reach or exceed 40% by 2032

Energy Saving Trust EV Support

- ▶ Free and impartial advice
- ▶ Electric vehicle comparison tool
- ▶ 0% interest electric vehicle loans
- ▶ Grants for charge point at home and at work



Current picture

- ▶ Over 28,000 electric cars were registered in the UK last year
- ▶ Mitsubishi's Outlander, Plug in Hybrid (PHEV) SUV, is the most popular EV in the UK
- ▶ Nissan Leaf, Electric Vehicle (EV), is the second most popular EV in the UK
- ▶ The average driver in Scotland that switches to an EV will save £1,500 annually
- ▶ There are over 30 different EV makes available in the UK
- ▶ Remember EVs don't suit everyone's needs

Range

- ▶ The most common concern amongst drivers when considering an EV is range but:
- ▶ Average UK journey is under 9 miles
- ▶ 95% of car journeys in the UK are under 100 miles
- ▶ Average daily total is 25 miles in the UK
- ▶ Most EVs are more than capable of these distances

Nissan Leaf Example

- ▶ It's important to remember that official range figures from manufacturers are based on test conditions
- ▶ Using the Nissan leaf as an example:
- ▶ The official range is 124 miles but to get this range you would need to average 38 mph and not use the heating or air conditioning. Travelling at 55 – 60 mph with the air con or heating on will reduce your range to closer to 80 miles.



If you're still concerned about range

- ▶ If you're concerned about longer journeys it may be that you could hire a petrol/diesel car or take public transport. If you're making regular long journeys a Plug-in Hybrid (PHEV) or Extended Range Vehicle (RE-EV) may be a better option.
- ▶ Many households have 2 cars – an EV may make the perfect first car.
- ▶ You can also practice efficient driving



Smarter Driving Tips to extend range

- ▶ Anticipate the road ahead
- ▶ Avoid excessive accelerating and breaking
- ▶ Keep the boot as clear as possible
- ▶ Only use climate control when necessary e.g. use the timer to heat the car when it's charging and open windows at lower speeds instead of using the AC
- ▶ Check your tyre pressure regularly



Benefits

- ▶ On average an EV costs 2-3p per mile to run
- ▶ Free charging at most public charging networks
- ▶ Government grant of 35% up to £4,500 towards the cost of a pure electric and £2,500 towards the cost of a plug-in hybrid (often already included in price of car)
- ▶ No Vehicle Excise Duty (VED)
- ▶ Lower servicing costs as there are fewer moving parts
- ▶ Low company car tax

Different types of technology

- ▶ Pure EV
Has no petrol/diesel engine and is powered 100% by electricity, which is stored in a battery in the vehicle
- ▶ Range
Generally up to 100 miles, although Nissan have recently released a new Leaf model with a range of up to 155 miles and the Tesla Model S has a range of over 250 miles. Most recently Hyundai and Renault have released cars with ranges over 170 miles.
- ▶ Cost
Prices start from £13,000 (inc. the grant + battery rental) to £100,000+



Plug-in hybrid (PHEV)

- ▶ PHEV
Combines petrol/diesel engine with a battery and electric motor.
- ▶ Range
They provide 10 – 40 miles on pure electric then 300 miles on the electric assisted petrol/diesel engine
- ▶ Cost
£28,000 - £100,000+ (inc. the grant)



Extended Range Electric Vehicle

- ▶ RE-EV
They are also plug-in hybrids but they are powered by an electric motor that takes energy from a battery and when that's depleted a petrol/diesel engine generates electricity to power the electric motor.
- ▶ Range
50 – 100 miles on pure electric then 80+ miles on the petrol/diesel generator.
- ▶ Cost
£30,000 (inc. the grant)



More EV Benefits

- ▶ Very quiet as few moving parts
- ▶ Smoother ride as no vibrations
- ▶ No tailpipe emissions

Battery

- ▶ The next biggest concern about buying an EV is battery life but:
- ▶ Many manufacturers offer the option to lease the battery. This gives a lower initial cost with an on-going monthly payment meaning if anything goes wrong with the battery you get a replacement
- ▶ A Cornwall based taxi company has clocked its 100,000th mile without losing any battery charge holding capacity
- ▶ Most manufacturers offer a battery warranty of up to 8 years or 100,000 miles
- ▶ Nissan have sold over 30,000 leafs and have had 3 reported battery faults

Charging

- ▶ At Home
You can plug into your mains but it will take longer and isn't as safe
If you have off street parking there is funding for an at home 32 amp charge point. This gives a 7 kWh charge and will allow a full charge in 3 – 7 hours depending on the car.
- ▶ At Work
There is also grant funding for workplace charging (subject to terms & conditions).



Fast Charger

- ▶ Public Fast charging
Most public points are 7 – 22 kWh but there is currently limited support for 22 kWh charging in cars
- ▶ Currently the Renault ZOE can take the full charge and will charge in approx. 1 hour



Rapid Charging

- ▶ You can charge to 80% in 20 – 30 minutes
- ▶ There's approximately 120 rapid chargers across Scotland with more being added each month
- ▶ There have been some concerns about the impact of rapid charging on the batteries life but there's currently little evidence to support this and a taxi company recently completed its 1,700th rapid charge with no loss of battery efficiency
- ▶ It's important to remember that not all models will take a rapid charge



Accessing the charging network

- ▶ Charge Place Scotland manage the network via a smartphone App or swipe card (www.chargeplacescotland.org)
- ▶ It costs £20 a year and gives you access to 500 charging points in Scotland and 1,500 in England
- ▶ Their live map is colour coded to show which charge point is in use
- ▶ Expect to pay around £3.50 for a fast charge and £5-8 for a rapid charge

www.chargeyourcar.org.uk

Search map

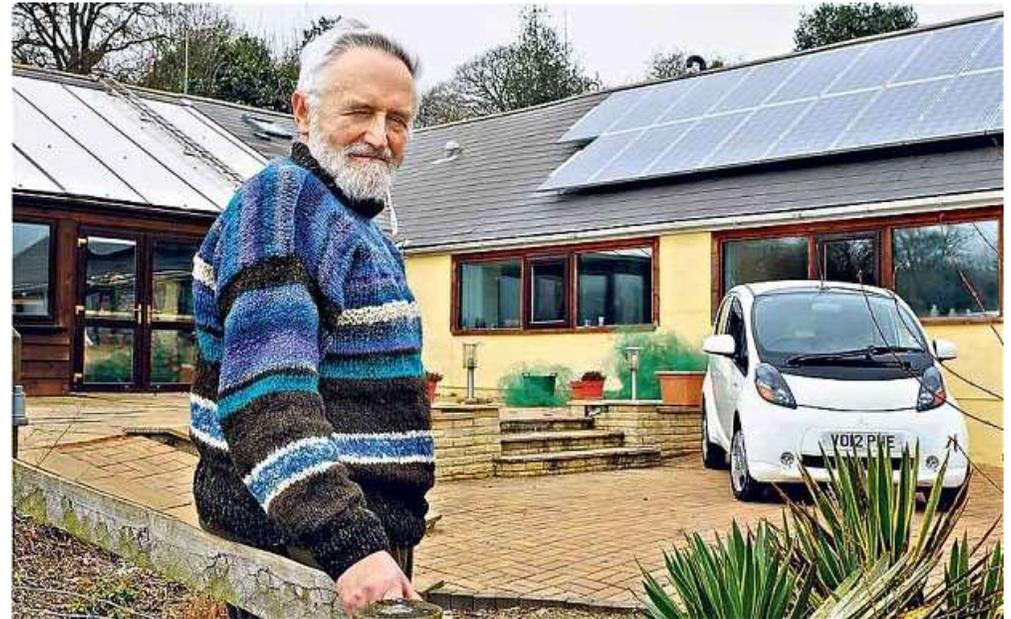
Inverness, Inverness, Highland, UK Filter: 3kW 7kW 22kW 50kW PAYG Show Key

Map Satellite

Stornoway Ullapool Thurso John o' Groats Wick Fraserburgh Peterhead

Renewable Technology

- ▶ If you have wind turbines or solar PV you can also charge your EV with very low CO₂ emissions and virtually for free



Businesses

- ▶ Lower fuel costs – the average electric van will cost around 2-3p/mile in electricity, at least a fifth of the average conventional van fuel cost.
- ▶ Low company car tax (or associated Employer National Insurance Contributions).
- ▶ Free electricity when charging through Scotland's Plugged-in Places network.
- ▶ No Vehicle Excise Duty.
- ▶ 100 per cent First Year Allowance for any EV purchase – meaning organisations can offset the whole cost of purchase against taxable profits in the first year.
- ▶ 0% loans up to £100,000 repayable over 6 years (limit of £35,000 per car)
- ▶ The UK Government currently offers a grant to fund 35% of the purchase price of an electric car up to a maximum of £4,500. There are also grants available for electric vans which fund 20% of the purchase price up to a maximum of £8,000.

Important questions

- ▶ Can you charge at home, if not, can you charge at work?
- ▶ Is leasing a better option?
- ▶ Do you travel more than 70 miles a day?
- ▶ Are there rapid charge points on your longer routes?

Electric Vehicle Comparison Tool

- Our EV comparison tool can help you compare EVs so you can find the model that's right for you. Visit www.energysavingtrust.org.uk/buying-electric-vehicle

Electric Models		Official EV Range	Std Charge	Fuel Cost	OLEV grant	EV Type	OTR Price
	RENAULT Zoe Electric Car Expression 65kW Auto Automatic Supersport	130 miles	4hrs (7kW) + RAPID	3.7 p/mile	Yes		£13,443 +£65.00/mth (battery lease)
	RENAULT Zoe Electric Car Expression Nav 65kW Auto Automatic Supersport	149 miles	N/A	3.7 p/mile	Yes		£13,834
	RENAULT Zoe Electric Car Dynamique Intensa 65kW Auto Automatic Supersport	130 miles	4hrs (7kW) + RAPID	3.7 p/mile	Yes		£15,043 +£65.00/mth (battery lease)
	RENAULT Zoe Electric Car Dynamique Zen 65kW Auto Automatic Supersport	130 miles	4hrs (7kW) + RAPID	3.7 p/mile	Yes		£15,043 +£65.00/mth (battery lease)
	RENAULT Zoe Electric Car Dynamique Nav 65kW Auto Automatic Supersport	149 miles	N/A	3.7 p/mile	Yes		£15,045

0% loans from Energy Saving Trust

- ▶ Up to £35,000 to purchase a new plug-in electric vehicle
- ▶ Interest-free
- ▶ Repayable over up to 6 years
- ▶ Available in addition to plug-in vehicle grants



More information

- ▶ More information is available at:
- ▶ www.energysavingtrust.org.uk/travel/electric-vehicles
- ▶ www.greenerscotland.org

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