

## North Staffs Advanced Drivers

### Advanced Dischargers?



As the leading road safety charity in North Staffs, we're always keen to be ahead of the game and felt it important that our Observer Team, fully understand electric vehicles. This would enable us to be better placed to deliver our Advanced Driving Courses to members with hybrid or full electrical vehicles. Hence Steve our Chairman arranged for the loan of a Kia Niro EV for a weekend.

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We started out with a fully charged vehicle showing a range of 245 miles remaining (or 254 if we switched off the climate control).



Steve drove first and explained what he'd learned the day's previously on his first drive of the vehicle. Starting and moving off was the same as a conventional automatic gearbox, though this car has no gearbox!

Steve hadn't ventured out of the eco setting and was pleasantly impressed with the performance of the vehicle.

He didn't take much persuasion to try sport mode and he was further impressed with the difference of how the car performed.



Slight road noise from the tyres is all that can be heard with a very faint whine from the power train under hard acceleration.

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The ride and handling was very impressive for a car carrying four blokes and a lot of batteries. It turned in well and cornered very flat.

The adjustable regenerative braking was very impressive, we all found if we used our normal 'accelerator sense' to slow down we found we slowed quicker and earlier than we would be doing in a conventional petrol/diesel engine car. However we soon adapted to it.

I drove a series of tight bends progressively and didn't need any foot brake us at all which was very impressive.

We did carry out a few experiments:

- Do the brake lights show when you lift of the accelerator! Yes!
- How much energy is put back into the batteries when braking- on lifting off the accelerator, with the regenerative braking on its lower setting we could see circa 4kW flowing back into the batteries, on the highest setting we saw 20kW. Even more impressive when you use the foot brake up to 40kW was going back into the batteries.



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We recorded some figures of our runs which show:

A	B	C	D	E	F
Odo (Miles)	Range (Miles)	Driver	comment	Distance Travelled (Miles)	Range Consumed (Miles)
6781	245	Steve	Start of Test		
6793	227	Steve	End of Test	12	18
6793	226	Ian K	Start of Test		
6803	213	Ian K	End of Test	10	13
6803	213	Ian Mc	Start of Test		
6824	190	Ian Mc	End of Test	21	23
6824	190	Phil	Start of Test		
6840	180	Phil	End of Test	16	10
			<b>Total</b>	<b>59</b>	<b>64</b>

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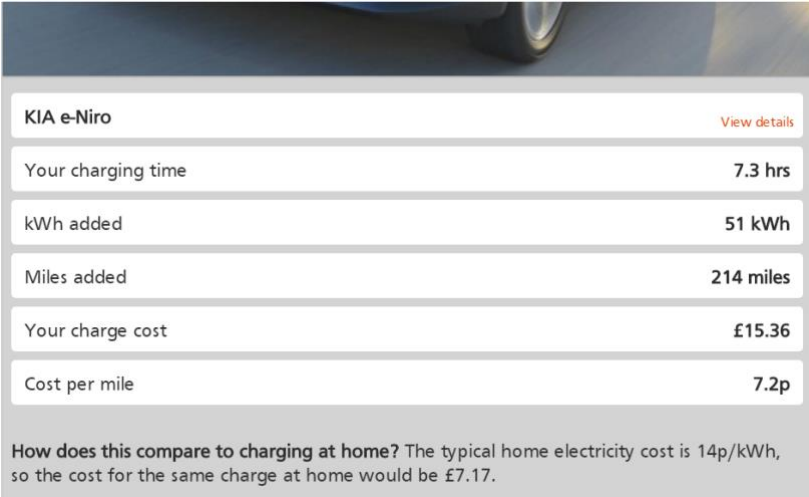


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We didn't need to charge during our run out (Steve had kindly charged it over night at home, so we'd be ready).

Here's some costs from the internet for using a public charger:



KIA e-Niro	<a href="#">View details</a>
Your charging time	7.3 hrs
kWh added	51 kWh
Miles added	214 miles
Your charge cost	£15.36
Cost per mile	7.2p

**How does this compare to charging at home?** The typical home electricity cost is 14p/kWh, so the cost for the same charge at home would be £7.17.

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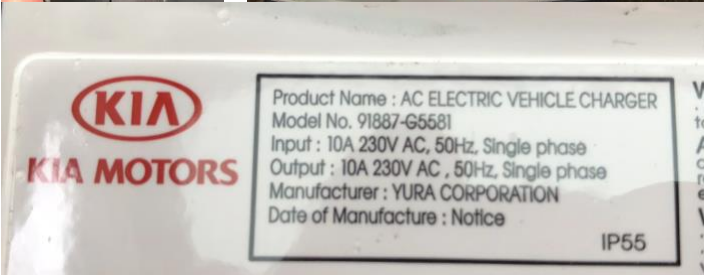


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Our car came with an orange lead for charging at home with a 3 pin plug 10A- 8kW charger or the faster 32A-22kW blue lead for public charging points.

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We were pleasantly surprised to find 'something' under the hood:



Though we were surprised and baffled to see a conventional 12V battery there too, given the battery power in the car! ON reflection, I suspect it's to ensure all the auxiliary systems have a constant 12V supply as the batteries used for powering the motor probably reduce as they discharge.

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