Electric vehicles on the road are set to triple in two years, with China as world's biggest market

The findings of the International Energy Agency, an institution that advises industrial nations on energy policy, illustrate the speed at which the world's transport system is shifting toward cleaner fuels, as governments focus on limiting pollution and greenhouse gases

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Teslas and Nissan Leafs are likely to become a much more common sight on the world's roads in the next two years, the International Energy Agency said.

The global fleet of electric vehicles (EVs) is likely to more than triple to 13 million by the end of the decade from 3.7 million last year, according to a report released on Wednesday by the Paris-based institution, which was set up to advise industrial nations on energy policy. Sales may soar 24 per cent each year on average through to 2030.

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Tesla and Nissan Motor have some of the best known EVs on the road now, but major carmakers from Volkswagen to General Motors and Audi have followed suit in announcing dozens of battery-powered versions of their models.

Here are some of the key findings of the IEA's report:

1. China will remain the world’s biggest market.

EVs are expected to make up more than a quarter of vehicles sold in China by 2030, up from 2.2 per cent last year, according to the IEA’s estimates. More than half of global sales last year were in China, followed by the US.

The Chinese government has put a number of policies in place to encourage EVs, as part of an effort to cut air pollution in smog-choked cities. Last year, Beijing set minimum requirements for domestic carmakers on electric vehicle production through a credit trading system. It also extended a 10 per cent tax rebate for consumers until 2020.

2. EVs will displace lots of oil from the market.

Electric cars run on batteries charged by power plants, instead of on petrol or diesel fuel. With an estimated 130 million light-duty vehicles expected on the world's roads by 2030, the IEA estimates about 2.57 million barrels of oil per day will not be needed.

That is about as much as Germany uses each day. Last year, the global EV fleet displaced 380,000 barrels a day of demand, about half of what Belgium consumes.

The IEA's estimate is more punchy than the expectation of Bloomberg New Energy Finance that 2.23 million barrels per day will be displaced from the market by electric vehicles by the end of the next decade.

3. At least 10 more giant battery “gigafactories” will be needed

Demand for batteries is expected to rise by a factor of 15 by 2030, largely driven by light-duty vehicles such as cars and vans. China’s burgeoning market is expected to make up half of the world’s demand, followed by Europe, India and the US.

That means the world needs many more battery production plants like the Gigafactory that billionaire Elon Musk’s Tesla is building in Nevada. That facility draws its name from the word giga, meaning billion. It will produce 35 gigawatt-hours of batteries over 4.9 million square feet of operating area.

4. Buses are going electric, too.

There will be 1.5 million electric buses in use worldwide by 2030, up from 370,000 last year, according to the IEA.

Almost 100,000 electrified city buses were sold last year, 99 per cent of those in China. The southern coastal city of Shenzhen is leading the pack with an all-electric bus fleet. A number of cities in Europe’s Nordic region such as Oslo, Trondheim and Gothenburg also have electric buses in operation.

5. Cobalt and lithium demand is surging.

Cobalt and lithium are key ingredients in the rechargeable batteries that power electric vehicles, as well as electronics from smartphones to laptops. Demand could possibly rise tenfold, but technological advances and adjustments to battery chemistry could also significantly reduce this.

Since about 60 per cent of the world’s cobalt is mined in the Democratic Republic of Congo, where child labour still exists, battery makers are under pressure to show that their products are made sustainably. This may provide an incentive to shift away from cobalt-heavy batteries.