

Employment in electric transport in 2020

Background and aim

One of the objectives of government policy to encourage use of electric transport (ET) in the Netherlands is to boost the national economy. One effect of this would be creation of jobs in a strong domestic ET sector. Against this background, the Netherlands Enterprise Agency (RVO) asked CE Delft to estimate the likely number of jobs in the Dutch ET sector in 2020. This study presents our estimate of anticipated gross employment in the domestic ET sector, on the assumption that the government target of 200,000 electric vehicles in 2020 is indeed secured.

Results

We estimate that employment in the Dutch ET sector in 2020 will amount to between 5,000 and 19,000 full-time equivalents (FTE), with 10,000 FTE as a mid-range estimate (Table 1). This is a factor 6 (3-12) more than the figure for 2013.

Table 1 Estimated employment in Dutch ET sector (FTE)

Subsegment	2013	2020
New construction and conversion (to order) of existing vehicles	300	1,150 (700-1,850)
Drive technologies & components and battery management & information systems	400	3,050 (1,350-5,000)
Funding, payment, mobility and other services	400	1,800 (1,350-2,250)
Charging infrastructure and smart grids	600	4,150 (2,000-9,750)
Total	1,600	10,150 (5,400-18,850)

The greatest employment effects are expected in the subsegment 'charging infrastructure and smart grids'. In the coming years we anticipate substantial growth in the number of charging points in the country, implying many extra jobs for Dutch businesses operating in this area. In addition, Dutch companies are already leaders in this field, which means they will probably benefit from the projected expansion of charging infrastructure in other countries, too.

Solid growth in employment is also anticipated in the subsegment 'drive technologies & components and battery management & information systems', all the more so because the companies involved can profit from growth in ET both at home and abroad. Because many of the activities concerned are still at the R&D stage, however, the risk of unsuccessful R&D is greater than in other subsegments (where most activities are at the market introduction stage). As a result, these employment estimates are more uncertain.

For the subsegment ‘funding, payment, mobility and other services’, growth of ET in the Netherlands itself is anticipated to have the greatest employment impact. Although here, too, Dutch companies are among Europe’s market leaders and therefore well-placed in the export market, our assessment is that the associated employment effects will be limited. This is because a good deal of the exports will probably involve relatively little labour (already developed software, concepts, etc.), generating additional turnover but few jobs at Dutch companies.

Finally, additional employment in the subsegment ‘new construction and conversion (to order) of existing vehicles’ will probably stem above all from production of electric buses, trucks and two-wheeled vehicles (as was the case in 2013). Dutch companies are well-positioned in the emerging market for electric tractors and garden machines, too, and extra jobs are therefore also anticipated here. This subsegment was not included in the present study, though.

Methodology

The employment effects for 2020 presented above were calculated by extrapolating employment in 2013 (as estimated by RVO, 2014) on the basis of projected trends in relevant drivers, such as growth in the number of (newly sold) electric vehicles and charging points in the Netherlands or EU. In addition, corrections were made for growth in labour productivity due to scale and/or learning effects and potential changes in the competitiveness of Dutch companies in the European and global marketplace.

This methodology was applied individually to each of the four subsegments of the Dutch ET sector, using specific drivers for each, thus improving the reliability of the respective estimates.

Uncertainties and recommendations for further study

There are a number of uncertainties in the results, which can be reduced in a follow-up study:

- The (reliability of the) estimates for 2020 hinge(s) very much on the employment data for 2013, which are only provisional estimates. Any improvements in calculation of the latter data will therefore also be to the benefit of job estimates for 2020.
- The 2013 employment data are only available in highly aggregated form. More detailed figures for this year would permit identification of more specific drivers, allowing better estimates for 2020.
- The most important drivers of employment in the Dutch ET sector are trends in the number of (newly sold) electric vehicles and charging points in the Netherlands and the EU. These trends are unclear, however, and have not been extensively studied. A better understanding of these issues would improve estimates of employment in 2020.
- The anticipated trends in ET sector labour productivity and Dutch competitiveness in the global market that were employed in this study are only approximations. Further research into these two factors would likewise improve 2020 employment estimates.

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