



# **Powering green jobs growth with electrical contractors**

**The job potential of electric renovations and  
prosumer installations**

*Members' Version*

**EuropeOn**

**ELECTRICAL CONTRACTORS ASSOCIATION**

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# ACKNOWLEDGEMENTS

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## Disclaimer

The authors of this report share the objective to improve industry's and policy makers' understanding of the electrical contracting sector in Europe and to provide them with estimations on the growth of the sector. Each contributor shared their knowledge and estimations to support the understanding of the needs and stakes of an ambitious energy transition.. The information included in this report should however not be treated as binding on the organizations involved.

## EuropeOn Members



FÉDÉRATION FRANÇAISE  
DES INTÉGRATEURS ÉLECTRICIENS



# TABLE OF CONTENTS

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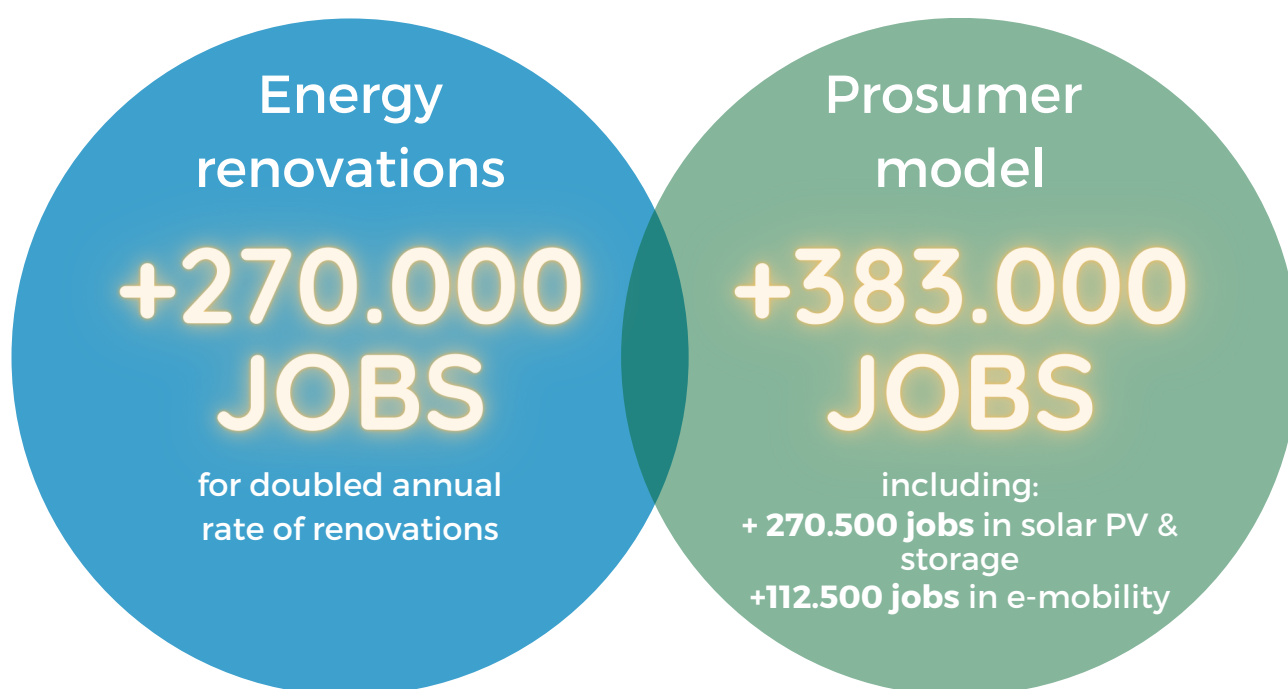
<b>Executive Summary .....</b>	<b>3</b>
<b>Introduction .....</b>	<b>4</b>
<b>1. Renovations.....</b>	<b>5</b>
1.1 Policy Recommendations.....	6
<b>2. Prosumer model .....</b>	<b>7</b>
2.1 Rooftop solar & storage.....	8
2.2 Electric vehicle (EV) charging.....	10
2.3 Policy Recommendations.....	11
<b>3. Green, local &amp; quality jobs for a Green Recovery .....</b>	<b>13</b>
3.1 Policy recommendations.....	14
<b>Conclusion.....</b>	<b>15</b>
<b>Annex I: Methodology.....</b>	<b>16</b>

**EuropeOn** is the European voice of the electrical contracting industry since 1954. With 1.8 million professionals in over 300.000 businesses and with a turnover of over 200 billion euros, electrical contractors provide electrical installations for buildings and infrastructures, enabling cities and citizens to take part in the Energy Transition. EuropeOn addresses energy, climate, mobility, building and skills policies. The association is campaigning in favour of Skills4Climate and #EUGreenRecovery. It is part of the Electrification Alliance, Construction 2050, the Platform for E-mobility, and the Forum for European Electrical Domestic Safety. [www.europe-on.org](http://www.europe-on.org)

# EXECUTIVE SUMMARY

- As Europe strives to enact a **green and digital transition** while **recovering from the Covid crisis**, **this study aims to show the job creation potential of end-use electrification in the electrical contracting sector by 2030.**
- Electrical contractors already account for **1.8 million professionals working at local level across Europe**. They play a pivotal role in making the twin transitions a reality for all. The sector has the potential to **create hundreds of thousands more quality jobs by 2030**, all the while decarbonising our economy.
- **This study focuses on the job creation potential of the Renovation Wave** (the EU's initiative aiming to double annual renovation rates) **and 3 prosumer technologies: rooftop solar photovoltaic (PV), residential battery storage & electric vehicle (EV) charging.**
- Jobs in the electrical contracting sector are **sustainable, local, skilled, profitable, modern, entrepreneurial and purposeful.**
- However, this job *potential* relies on **the support of EU and national policymakers with adequate training strategies and sufficient investments in up- and re-skilling programmes.**
- The **EU's "Fit for 55 Package"** will be instrumental in unlocking this job potential in the coming decade, to achieve a just and sustainable transition.

## Electrical contractors' job potential by 2030:





# INTRODUCTION

As Europe responded to the scientific and public pressure to act on climate change with its ambition to become climate neutral by 2050, the energy transition has reached the top of the political agenda and is now framing a growing number of policy debates.

Europe is now at a crossroads as the Covid pandemic has led to unprecedented public spending plans and heightened climate awareness has resulted in increased regulatory focus. Combined, these two elements can stimulate the green economy and support the sustainable growth objectives of the EU Green Deal by promoting the **electrification of buildings and transport**. The current work on the **Fit for 55 package is an unmissable opportunity to achieve this potential**.

**ELECTRIFY NOW.** The electrification of more energy end-uses supported by increases in decentralised renewables is key to speeding up the cost-effective decarbonisation of the European economy and to reaching our new climate targets. While the technological readiness of electrification has become clearer in recent years, its benefits for job creation and economic recovery should be emphasised and valued.

**EuropeOn, the European association of electrical contractors, aims to show how electrification has the potential to create many new quality and local jobs, provided this ecosystem and its human capital receive adequate support from EU and national policymakers.** The Association aims to inform this debate with fresh figures on key

areas for electrical contractors that provide the most sustainable benefits while creating numerous quality jobs and fostering consumer engagement.

## Job potential by 2030



Electrical contractors are the vanguard of the energy transition as they are directly in touch with consumers and citizens, and are responsible for electric installations inside our buildings or in public spaces. **Electrical contractors across Europe can serve as an illustration of how beneficial a green growth agenda, with matching investment, can be to our economy.**

# 1. RENOVATIONS

The EU Renovation Wave [1], a flagship Green Deal initiative meant to provide sustainable stimulus to the EU economy, aims to accelerate the annual rate of energy renovations across the EU. Currently at 1%, **European regulators are seeking to at least double these rates by 2030.**

To this end, the upcoming update and revision of the Clean Energy Package [2] should provide more legislative action and funding tools to increase the rate of renovations and drive the decarbonisation of our economy.

**Electrical contractors have a leading role to play in renovations and retrofits of electrical installations.** They are in charge of replacing polluting technologies with electric solutions, integrating decentralised energy production, installing connectivity and digital equipment, and programming energy saving devices, all the while ensuring the electrical safety of all installations.

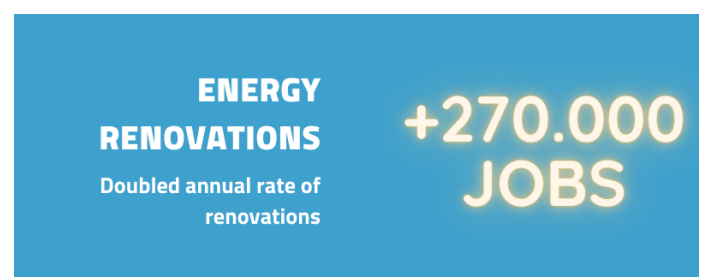
While EuropeOn has focused its estimations on the job potential for electrical contracting businesses, it is obvious that a larger construction value chain will benefit from similar growth if renovation rates are increased, contributing to recovery effort to an even larger extent.

Indeed, the building sector has been proven to be a key element for climate action and a “post-pandemic job engine” [3].

On top of this, **renovations in particular are known to be labour intensive** [4], making them a perfect fit for economic recovery. Besides, the deeper the renovation, the more job-intensive and highly qualified.

Finally, and unlike major projects, it is worth stressing that **small-scale renovations can take place with minor project planning, almost immediately, essentially kickstarting the green recovery.**

EuropeOn estimates that a Renovation Wave that effectively doubles annual rates of renovations will lead to the creation in the electrical contracting sector of at least 270.000 jobs.



1. European Commission (2020): [A Renovation Wave for Europe -greening our buildings, creating jobs, improving lives](#)

2. Which comprises Directives on Energy Efficiency, Energy Performance in Buildings (EPBD), Renewable Energy, among others.

3. Renewable Energy Federation (BEE) and the Federal Association for Energy Efficient Building Envelopes (BuVEG) (2020): [Defying the corona pandemic: the building sector as a job engine](#)

4. European Commission (2020): [A Renovation Wave for Europe -greening our buildings, creating jobs, improving lives](#)

# RENOVATIONS

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This figure should be understood as conservative. First, this projection relies solely on traditional electric work and does not yet factor in the coming scale-up of electrification. Second, this figure is mostly based on conventional renovations (compared to scarcer ‘deep renovations’ [5]). However, the right policies incentivising deep renovations could further increase the job potential presented here.

For insight into what ambitious renovations, fostering electrification would provide in job creation in the following sections, we investigate three prosumer technologies: solar PV, residential batteries and electric vehicle charging infrastructure (see part 2 of this study). It should also be clear that the figures in renovations may overlap with the job creation for prosumer technologies.

## 1.1 Policy Recommendations

### 1. Support the human capital behind energy renovations with adequate training and skilling strategies

With the high job-intensity of renovations, illustrated by the figure above, there will be increased pressure on the needed workforce. And if we aim for future-proof renovations, this means emphasising green and digital skills necessary to handle the programming and integration required for smart and clean energy installations. Such ‘integrator’ work is still an emerging trend, poised to take over demand, and needs up- and re-skilling support to ensure that no workforce bottlenecks hamper the decarbonisation of our building stock.

- **Member States must now use available EU and national funds to their full extent drive the employment and training scale-up** needed for climate and renovation targets, in line with the “reskill and upskill” flagship defined by the Commission in the Recovery and Resilience Facility [6].

### 2. Renovate electrical systems within buildings to support decentralised green and digital transitions

Wiring and cabling fitted to existing buildings is not fit for 21st century electricity consumption. 75% of European buildings were built before 1990 and before our modern needs for connectivity and electrified devices soared [7;8]. As consumers increase their usage of electricity, electrical systems will need to be renovated accordingly. Making buildings future-proof, and able to contribute to the twin digital and energy transitions, will require electrical renovations that consumers are often reluctant to pay for. Replacing electrical systems comes at a cost and does not always offer visible benefits as it first and foremost aims at preventing accidents. A new bathroom or kitchen can be more appealing as the added comfort is more visible, while the ability to accommodate modern and efficient electric devices and increase electrical safety are only apparent to experts.

- **Top-down incentives are needed** to enact a transformation in this regard and funding should be provided through the Renovation Wave and recovery plans.
- The new **Energy Performance of Buildings Directive should provide regulatory certainty about the electrification of buildings.**

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5. European Commission (2020): [A Renovation Wave for Europe -greening our buildings, creating jobs, improving lives](#)

6. European Commission: [Recovery and Resilience Facility](#)

7. European Commission: [EU Buildings Factsheets](#)

8. BPIE: [97% Of Buildings In The EU Need To Be Upgraded](#)

A person wearing a VR headset is shown from behind, looking into a virtual environment. The background is a blurred industrial setting, likely a factory or construction site, with various structures and equipment visible.

## 2. PROSUMER MODEL

EuropeOn has chosen to focus on the items central to the **prosumer model, where electrical contractors have the most to contribute, where consumers have the most to gain and where the climate and energy benefits are the most tangible.**

Prosumers produce energy. Consumers can easily produce their own electricity on their roofs by fitting them with solar photovoltaic installations. They can then sell their electricity to the grid or use it for their own consumption.

Peak electricity production usually occurs when demand is the lowest and drops when demand increases. Hence, battery electric storage systems are the ideal complement to solar photovoltaic (PV) to maximise self-consumption, or to engage in market opportunities for decentralised power producers.

To complete the prosumer model, we are adding electric vehicle charging to this study, as electric vehicles' batteries can also act as storage for surplus renewable electricity. Further, e-mobility has experienced a dramatic rise in recent years and will also come under scrutiny in upcoming European climate measures.

Decentralised energy systems and prosumer installations offer more opportunities for consumer engagement thanks to emerging business models or the possibilities to be energy self-sufficient.

Consumers need intermediaries such as installers/integrators for information on technical solutions to reduce their energy consumption. Indeed, such intermediaries have a “much-underestimated impact” on consumer uptake of energy renovations with regard to both speed and depth [9]. **From consumer advice, to installation and maintenance, electrical contractors have a major role to play in the mainstreaming of the prosumer model.**

On top of climate benefits, the rollout of prosumer installations will lead to increased job creation. **Green investments result in significantly higher job creation than “brown” or fossil alternatives** [10], and such installations often require operation and maintenance, contributing to **long-lasting employment after the installation phase.** Per \$1 million invested, fossil fuels bring about 2.75 jobs, renewables bring over 25 jobs and energy efficiency over 10 jobs [11].

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9. European Commission (2020): [Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU](#)

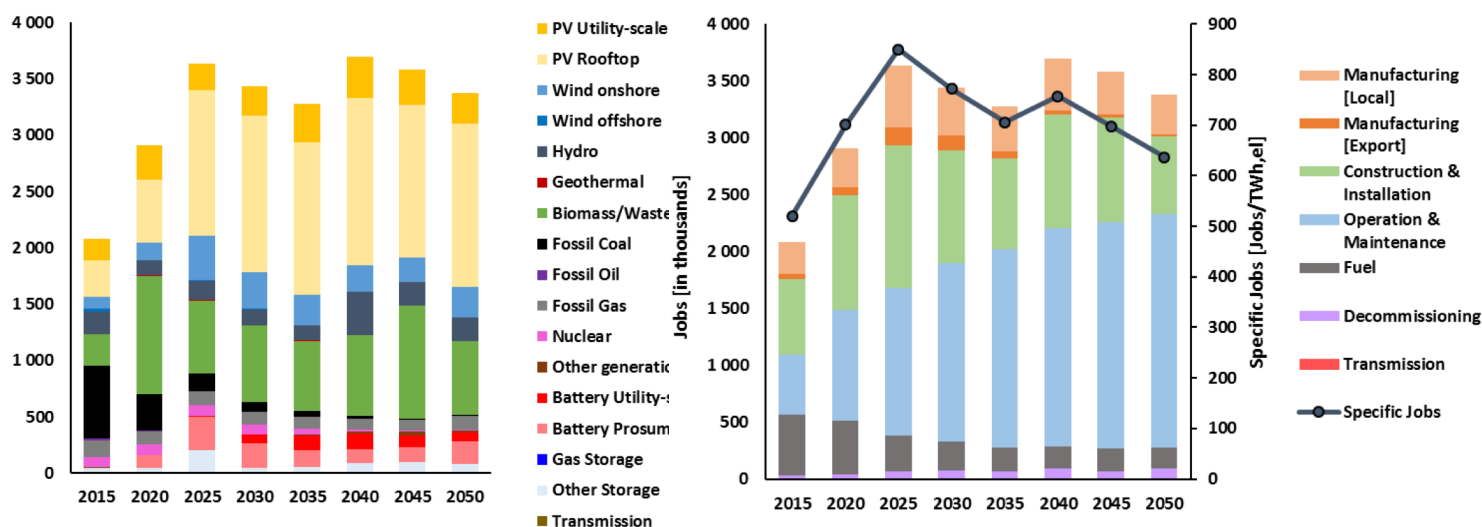
10. McKinsey & Company (2020): [How a post-pandemic stimulus can both create jobs and help the climate](#)

11. IRENA (2020): [Post-COVID recovery: An agenda for resilience, development and equality](#)



## 2. PROSUMER MODEL

**Figure 1:** Jobs created by the various power generation and storage technologies (left) and jobs created based on different categories with the development of electricity demand specific jobs (right) during the energy transition from 2015 to 2050 in Europe.

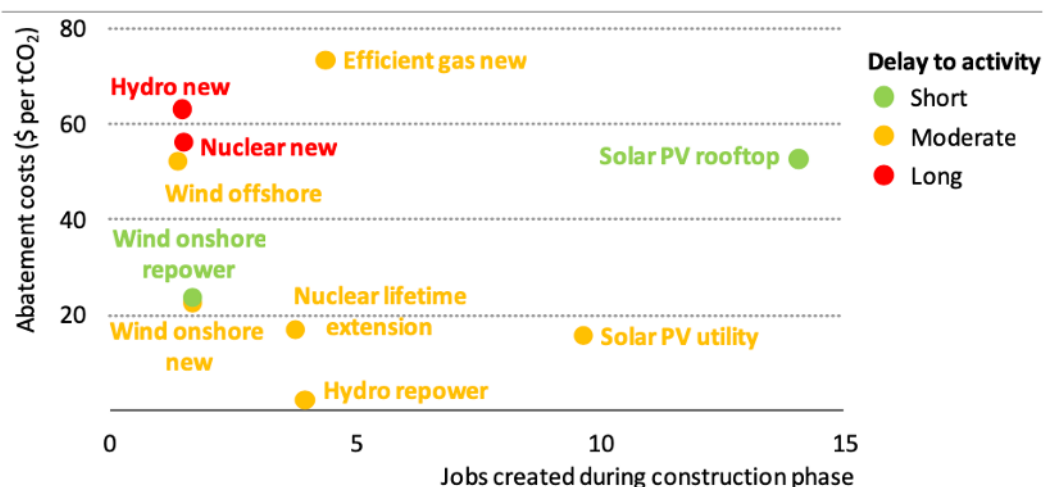


Source: LUT University [12]

Further, Figure 1 illustrates how decentralised rooftop PV systems are poised to have the lion's share of energy jobs in the years to come, and how most jobs are downstream of the manufacturing phase, taking place at local level (in construction & installation and operation & maintenance).

### 2.1 Rooftop solar & storage

Rooftop PV is one of the quickest renewable solutions to deploy, enabling it to kickstart the green recovery and to contribute to reaching the pressing 2030 climate targets. It is also the most job-intensive power generation technology [13]. Indeed, Figure 2 shows how rooftop PV is the most job-intensive kind of renewables during the installation phase, which takes place at local level, and Figure 3 [14] highlights the large share of the gross value added created downstream of manufacturing where electrical contractors are active. Altogether, this emphasises the socio-economic cost-effectiveness and impact of investing in rooftop solar as a green recovery engine.



**Figure 2:** Job creation per million dollars of capital investment in power generation technologies and average CO2 abatement costs

Source: International Energy Agency [15]

12. Ram M, Aghahosseini A, Breyer C. (2018): [Job creation during the global energy transition towards 100% renewable power system by 2050](#). Technology Forecast Soc Change

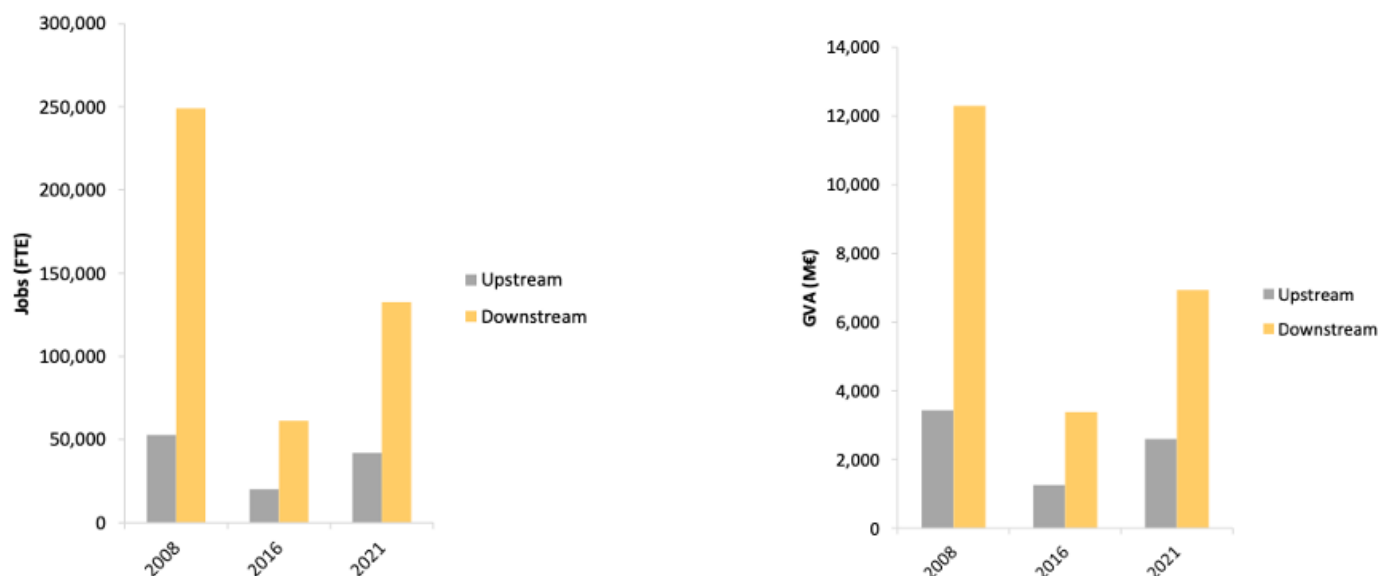
13. International Energy Agency (2020): [Sustainable Recovery](#)

14. SolarPower Europe (2017): [Solar PV jobs and value added in Europe](#)

15. International Energy Agency (2020): [Sustainable Recovery](#)

## 2. PROSUMER MODEL

Figure 3: Job support and Gross Value Added creation upstream and downstream activities



Source: SolarPower Europe [16]

Based on solar industry projections [17] and job-intensity estimates from sectoral experts, we evaluate 177.500 jobs will be created between now and 2030 only for the installation of PV systems.

**+177.500  
JOBS**

### INSTALLATION ROOFTOP SOLAR

Extra installation jobs for an additional 480GW by 2030

### MAINTENANCE ROOFTOP SOLAR

Extra maintenance jobs for an additional 480GW by 2030

**+48.000  
JOBS**

In parallel, solar PV systems will generate an additional 48.000 jobs as they require regular maintenance from qualified electrical installers.

Rooftop solar installations are best coupled with a battery system that can absorb the surplus electricity in times of lower consumption to be used at a later time or when grid electricity prices are higher. Following industry projections [18], and job-intensity estimates from sectoral experts, residential battery installations across Europe could sustain an extra 45.000 jobs.

**+45.000  
JOBS**

### INSTALLATION BATTERY STORAGE

Extra installation jobs for an additional 300GWh by 2030

16. SolarPower Europe (2017): [Solar PV jobs and value added in Europe](#)

17. SolarPower Europe (2020): [European Market Outlook](#)

18. SolarPower Europe (2020): [European Market Outlook for Residential Battery Storage](#)

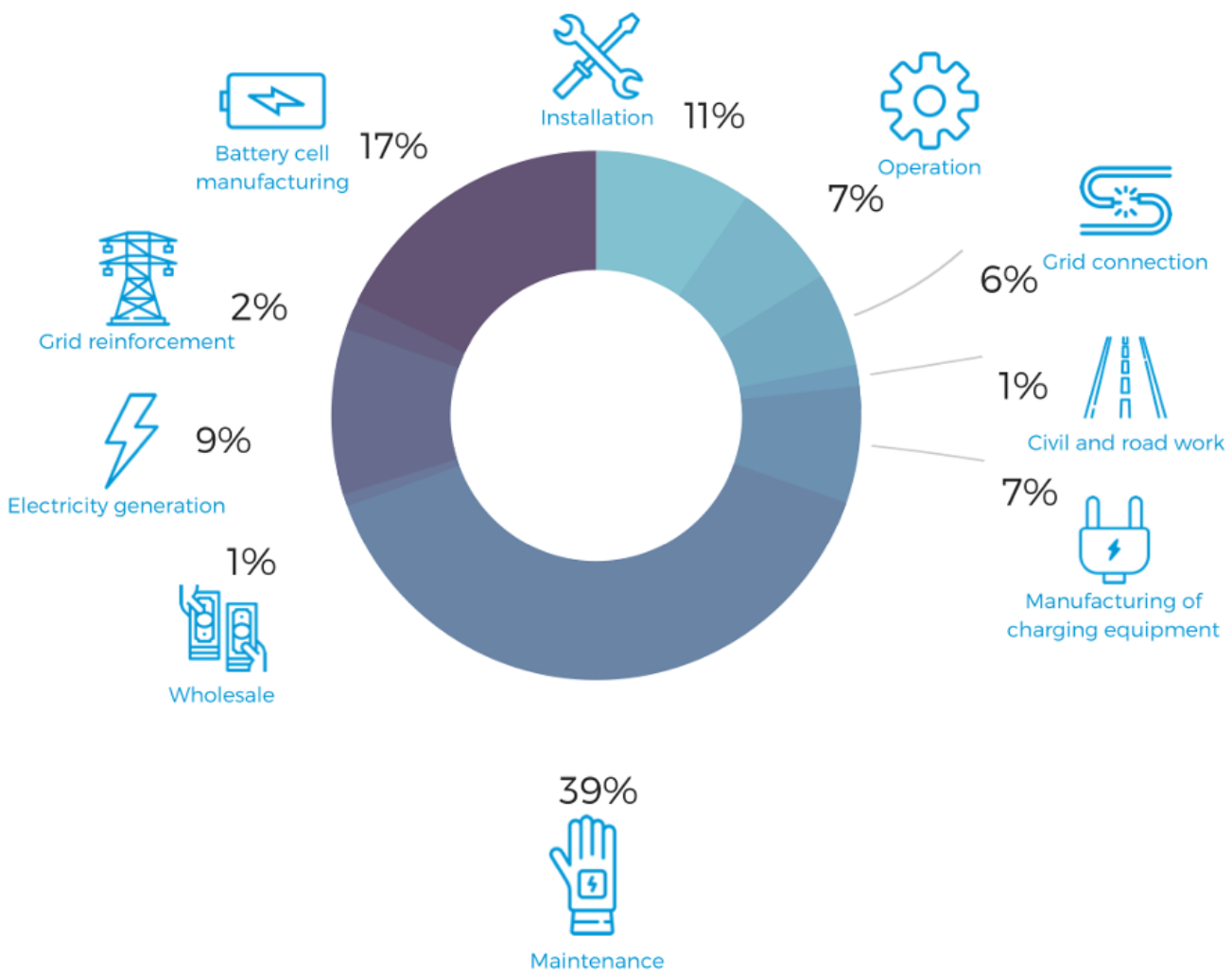
## 2. PROSUMER MODEL

These projections only run until 2030, when we have to reduce our emission by a drastic 55% (compared to 1990 levels) but jobs in electrical contracting businesses will continue to thrive as electrification continues on its path and an overwhelming number of energy end-uses are electrified. Indeed, in an electrified and prosumer world, electrical contractors will have to be ubiquitous to keep our systems running.

### 2.2 Electric vehicle (EV) charging

Electric vehicles (EVs) offer a compelling solution to the rising emissions of the transport sector and fit perfectly in a prosumer system. Whether it is integrating a larger share of renewables, or feeding it back to the grid or building, EVs have an immense potential for decarbonisation, consumer empowerment and system integration.

Figure 4: Breakdown of jobs in road passenger transport electrification



Source: EuropeOn [19]

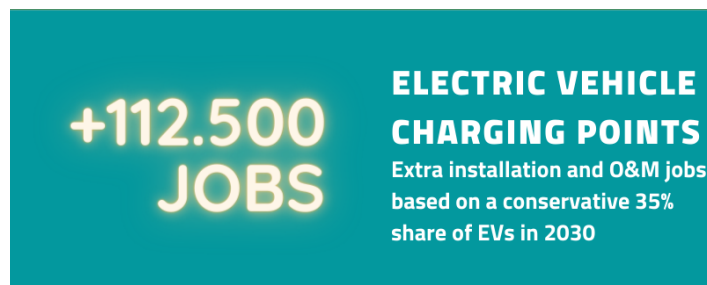
19. EuropeOn (2018): [Powering a new value chain in the automotive sector: The job potential of transport electrification](#)

## 2. PROSUMER MODEL

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EuropeOn has assessed the job potential in the shift to electro-mobility in a study released in 2018 [20]. Our study has concluded that by 2030, a total of nearly 200.000 permanent jobs would be created in the e-mobility ecosystem, based on a moderate uptake of EVs, amounting to about 35% of new car sales by 2030. Interestingly, as shown in Figure 4 most jobs are in the downstream segments, in operation, maintenance and installations of charging infrastructure.

The latter are carried out by electrical contractors and stand to generate about 112.500 jobs.



However, this 2018 study was based on previous, less ambitious, climate targets and could not foresee the particularly remarkable uptake of electric car sales since 2020. Besides, this study only covers the electrification of passenger cars and could grow significantly if other segments are included such as short-sea shipping and freight transport.

### 2.3 Policy recommendations

#### 1. Prioritise rooftop PV for residential power needs with careful planning ahead

Local energy planning should, to the extent possible, seek to deploy rooftop solar above else. In addition to supporting consumer engagement, rooftop PV is the most job-intensive renewable technology, provides the added value at local level, and is a prime candidate for recovery efforts. With clear and stable support schemes, installation SMEs can make the relevant skills and workforce investment to drive the combined increase of solar jobs and capacity, without fearing “boom and bust” situations.

- Keep existing support schemes in place, ensuring a stable and foreseeable PV market, and **providing SMEs with predictability to confidently invest in up- and re-skilling their workforce.**
- Provide more visibility to SMEs by implementing a “**pan-European solar rooftop programme**” in order to equip as many roofs as possible with PV, as highlighted by, among others, the European Parliament [21].

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20. EuropeOn (2018): [Powering a new value chain in the automotive sector: The job potential of transport electrification](#)

21. European Parliament (2020): [Maximising the energy efficiency potential of the EU building stock](#)



## 2. PROSUMER MODEL

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### 2. Harness building codes and energy policies to foster creation of renewable jobs

Ahead of a revised Energy Performance of Buildings Directive, provisions such as Minimum Energy Performance Standards should be harnessed and geared towards incentivising electrification, on-site renewables and self-consumption. Further, the revision of the Renewable Energy and Energy Efficiency Directives offer complementary opportunities to mainstream the prosumer model across European building.

- These revisions could drive prosumer installations and increase predictability for electrical SMEs in different ways: increase mandatory shares of **renewables in heating or transport** leading to a better value for self-consumed photovoltaic power; **redefine efficiency** measures to include locally produced renewables, possibly in combination with storage; **review the Primary Energy Factor** to support electrification; or **streamline approval procedures** and grid connections.

### 3. Support private EV charging to drive localised job creation

A true “right to plug” is needed as well as EV-ready parking spaces for all buildings and matching financial support. Consumers too often face lengthy and disincentivising approval procedures and can face hefty costs when grid connections or building systems are too weak. A final phase-out date for internal combustion engines (ICE) would also greatly support electrical SMEs’ planning to train and recruit staff in accordance with a more predictable EV market.

- Set an EU-wide date for **ICE vehicle phase-out**.
- Streamline **approval procedures and communication with grid operators** on available capacity.
- **Provide funding and incentivise smart capabilities** to overcome infrastructural barriers to charge point deployment.

### 4. Facilitate new business models and green growth with fair access to data

Prosumer benefits hinge on an open data ecosystem. In order for electrical SMEs to grow in the digital world, a fair data access framework is needed, enabling them to take part in this new market. Users themselves should be owners of their data and be empowered to make it available to the energy service provider with the best offer. Demand-response markets must be supported in order to create a framework where consumers can truly reap the financial benefits of their prosumer system.

- Foster an **open data ecosystem, especially for third-parties**.
- **Empower consumers** to choose who can access their data.
- Tap into this data allowing **dynamic pricing and energy services open to all**.

# 3. GREEN, LOCAL & QUALITY JOBS FOR A GREEN RECOVERY

Adding on to the quantitative aspects explored in sections 1 and 2, there are key qualitative benefits to the employment potential described above that are worth mentioning and advertising.

Jobs in the electrical contracting sector are not just numerous, they are also:

- **SUSTAINABLE** jobs because they are contributing to climate mitigation, the prosumer model and a cleaner environment, and because they will remain relevant in the decades to come,
- **LOCAL** jobs because installation is needed everywhere across Europe and this work cannot be delocalised,
- **SKILLED** jobs because of the new technologies involved,
- **PROFITABLE** jobs because professionals receive a wage as soon as they start their apprenticeship and have higher salaries compared to other technical jobs,
- **MODERN** jobs because of the ever-evolving technologies needed to power the green transition and because of the digitalisation of the energy sector,
- **ENTREPRENEURIAL** jobs because they often enable self-employment,
- **PURPOSEFUL** jobs for all the reasons detailed above.

Electrical contractors are not the simple installers they used to be. As our buildings become increasingly connected and digitalised, installers have to evolve to respond to the demand for more sophisticated work. Modern electrical installations and devices must now be fine-tuned and precisely geared to work perfectly with each other and with the highest level of efficiency. The work that traditionally kept to fuses and sockets has now spread to electric vehicles, heat pumps and automation.

**The rise of this new demand has ushered in a shift in the electrical contracting sector, moving from electrical installers to integrators.**

Electrical integrators are not only a key workforce in the energy transition, but also represent **engaging career opportunities for the future.**

With this shift towards more digital and advanced installations, **more white-collar work is needed, and electrical contractors can now offer a wider range of services.** Further, more interdisciplinarity is required with new sectors being 'integrated' with energy, such as in the case of heat pumps or electric vehicles which require new types of installations and skills. Finally, as the digital economy develops and installations are increasingly connected, user data can lead to new business opportunities.

### 3. GREEN, LOCAL & QUALITY JOBS FOR A GREEN RECOVERY

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**Investing in our youth with training and skilling can bring about a new breed of electrical professionals, able to understand and operationalise data, leading to increased turnover and new business models.**

It should also be clear that educational pathways to these careers usually entail ‘dual’ education that relies on part-time work placements. This means that **students, even in their first year, can earn wages.**

**Indeed, apprenticeships offer an interesting solution to both education and youth employment.**

Students learn skills in high demand but don’t have to wait years until graduation to earn wages. Additionally, these students can contribute to recovery efforts by immediately supporting green projects such as rooftop PV installations.

Still in the recovery context, it should be added that **electrical contractors are local actors, operating in local projects and creating local value added.** Again, in view of kickstarting economies, investing in electrification and green projects, with matching support for the workforce, governments can put people to work while creating new added value at local level.

#### 3.1 Policy recommendations

The synergies between employment and climate investments that converge in the electrical contracting sector still need a healthy dose of government support with sound policies followed by appropriate funding.

With the [#Skills4Climate](#) campaign, EuropeOn has been raising awareness about the needs of the electrical contracting sector in terms of skills and workforce but also the opportunities for job creation and climate action. Five key recommendations have guided this campaign.

1. Spending on **climate should always include a skills and workforce dimension** and employment spending should always **emphasise green skills and jobs**. There is no point in investing in the deployment of clean technologies if there is no one to install them.
2. As highlighted in the Renovation Wave Communication [22], employers’ associations and social partners should be **involved in the design and revision of vocational and educational curricula**.
3. **Technical education needs an image boost.** The unfavourable perception of such educational paths is unfair and hampering the growth of a much-needed workforce. Here, funding is needed for awareness campaigns detailing the arguments of section 3.1, showing the opportunities in technical careers.
4. **Apprenticeship systems need support** to ensure that there are enough work placements available in electrical SMEs and to value dual education in relation to the point above.
5. **Adequately fund re- and up-skilling strategies**, which are paramount for our future workforce that will evolve in a fast-paced innovation landscape, for the current, sometimes ageing, workforce to catch-up with digitalisation, and to support career changes, especially in view of attracting more women and fossil workers.

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22. European Commission (2020): [A Renovation Wave for Europe -greening our buildings, creating jobs, improving lives](#)

# CONCLUSION

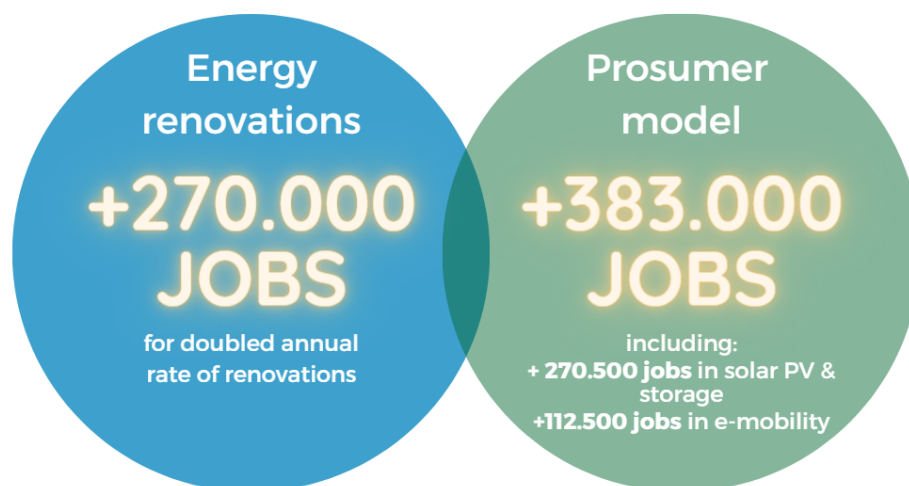
**This study has provided an estimate of the massive job creation potential for the European electrical contracting sector by 2030, both in quantitative and qualitative terms.** This potential can only be attained with the support of EU and national policymakers for adequate and realistic climate and skills policies. As the EU is working on its Fit for 55 package, **now is the time to make the necessary long term investments in Europe's human capital.**

Buildings and transport will need to undergo an overhaul to reach the needed GHG reductions by 2030 and eventually achieve climate neutrality by 2050. Fortunately, electrification and electric technologies are mature enough to be scaled up and reach 35% of our energy system by 2030 [23].

However, to meet this ambition, the first condition is to attract and train electrical professionals. To this end, further financial and regulatory incentives will be needed.

This study presents a conservative snapshot of what can be achieved with the energy transition, for the sole electrical contracting sector. While there may be overlap with the presented renovations jobs, our prosumer jobs figures are based on only 3 technologies that are on the verge of becoming basic features of our homes and yet show that **hundreds of thousands of jobs can be created across the EU in the current decade, at local level and with varying skill levels.** Electrification can still go further to cover more end-uses, e.g. electric heat pumps can efficiently decarbonise heating and cooling, and transport electrification can go beyond strict road passenger transport. **Any increase in electrification will further promote jobs in the electrical contracting sector, as well as in the rest of the construction and electricity value chains.**

Finally, let's remind ourselves that electrical contracting jobs are green, local and quality jobs. **Electrification jobs are not a quick fix but rather an all-round no-regret solution that enables European decisionmakers to promote employment while reaching our climate objectives.**



23. Eurelectric (2018): [Decarbonisation Pathways](#)



# ANNEX METHODOLOGY (MEMBERS ONLY)

## Renovations

The figure presented here for renovations was obtained by examining the share of turnover coming from building renovations in electrical contracting businesses. Turnover translates to an average job creation figure in electrical contracting businesses. We have worked with the assumption that €200.000 of turnover leads to 1 job. With our 2019 Sector Report, we saw that renovations represent an estimated 27% of electrical contractors' activities (see table below), in a European average.

As the EU plans to double renovation rates, the turnover from renovations was adjusted to the projected rise in renovation rates to extract the amount of jobs that could be created through this increase. Hence, doubling the rates of renovations will lead to the creation of 270.000.

	TOTAL number of employees (direct + indirect) in the electrical contracting sector by country	Share of renovation in turnover	Weighting (employees)	Weighting (renovation share)
<b>SERCE + FFIE</b>	351.181	18,5%	53,5%	9,9%
<b>Select</b>	22.000	65,0%	3,3%	2,2%
<b>ECA</b>	227.000			
<b>ZVEH</b>	500.643			
<b>Techniek NL</b>	75.000	44,0%	11,4%	5,0%
<b>STUL</b>	19.950	36,9%	3,0%	1,1%
<b>NELFO</b>	40.000	27,0%	6,1%	1,6%
<b>Tekniq</b>	29.214	52,9%	4,4%	2,4%
<b>IN</b>	39.500	11,7%	6,0%	0,7%
<b>APEL</b>	8.000			
<b>WKO</b>	40.573			
<b>EIT.swiss</b>	80.000	33,9%	12,2%	4,1%
<b>Total 1</b>	656.845			<b>27,0%</b>
<b>Total 2</b>	1.433.061			

# ANNEX 1 - METHODOLOGY

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## Solar PV

We have led expert consultations across EuropeOn membership to extract a more accurate job-intensity figure pertaining strictly to rooftop solar. We estimate that the job-intensity of rooftop solar in our sector is, on average, of 3.09 job-years/MW, meaning that 1 megawatt worth of rooftop solar systems will create 3.09 jobs for one year, only for the installation phase of the system (i.e. not including other segments of the value chain such as maintenance). On top of this figure, we have added a 20% contingency for soft labour such as surveying or planning, which brings our job-intensity to 3.7jy/MW. We then examined the amount of rooftop solar PV that needs to be deployed across Europe to meet the EU's climate targets. For 2030, we need about 480 GW of additional rooftop capacity installed on European roofs. With our intensity figure, we arrive at 1.776.000 job-years for 2030.

Operation and maintenance job intensity was retrieved from SolarPower Europe and stands at 0.1 FTE/MW.

## Battery Electric Storage Systems

Our expert consultations have led to an average of 1.5 job-years/MWh. Again, meeting intermediary and final EU climate targets will rely on a certain storage capacity distributed in our homes. We need about 300 GWh of additional capacity installed on European roofs by 2030. Correlated with the average job-intensity, these capacities translate into 480.000 job-years by 2030, or 48.000 jobs in the next 10 years.



# EuropeOn

ELECTRICAL CONTRACTORS ASSOCIATION

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