



*The Voice of European Air-Conditioning, Refrigeration and Heat Pumps Contractors*

## Training & certification on f-gases and alternative refrigerants AREA internal survey

December 2024

These are the results of an internal survey AREA conducted with its national member associations in 2023-2024.

### 1) F-gas certified personnel by country covered by AREA

The table below shows the net numbers of F-gas certified personnel in the countries covered by AREA membership in 2023. Some come from official sources (national authorities, certification bodies) whilst others are estimates.

Austria	3,970
Belgium	9,742
Croatia	2,434
Czech Republic	7,126
Denmark	5,944
Estonia	430
Finland	11,220
France	50,000
Germany	63,900
Greece	10,600
Ireland	4,800
Italy	79,281
Netherlands	3,200
Poland	43,245
Portugal	6,536
Slovakia	1,728
Spain	56,000
Sweden	8,716
<b>Total EU</b>	<b>368,872</b>
Norway	4,037
Turkey	5,000
<b>Total non-EU</b>	<b>9,037</b>
<b>Grand total</b>	<b>377,909</b>

## 2) F-gas certified companies by country covered by AREA

The table below shows the net numbers of F-gas certified companies in the countries covered by AREA membership in 2023. Some come from official sources (national authorities, certification bodies) whilst others are estimates.

Austria	1,321
Belgium	2,563
Croatia	1,906
Czech Republic	550
Denmark	2,767
Estonia	N/A
Finland	4,995
France	20,000
Germany (1)	3,500
Greece	120
Ireland	817
Italy	43,786
Netherlands	2,000
Poland	13,557
Portugal	2,200
Slovakia	1,979
Spain	19,100
Sweden	1,745
<b>Total EU</b>	<b>122,906</b>
Norway	1,359
Turkey	26
<b>Total non-EU</b>	<b>1,385</b>
<b>Grand total</b>	<b>124,291</b>

(1) Data from 2021

### 3) Personnel trained on alternatives (% of f-gas certified operatives)

Not all AREA members were able to provide an estimate of the proportion of F-gas certified personnel trained on alternatives, thus, only 16 countries are included in the below table.

	Ammonia	CO2	HC (small)	HC (large)	HFOs
Austria	5%	20%	100%	50%	100%
Croatia	0%	1.90%	1.80%	1.80%	38% (MAC technicians included)
Czech Republic	1%	2-4%	5%	2%	5-10%
Denmark (1)	35%	60%	60%	35%	100%
Estonia	2%	30%	5%	5%	10%
France	5%	20%	16%	0.6%	/
Greece	15%	20%	45.0%	15.0%	50.0%
Ireland	5%	20%	10.0%	2.0%	10.0%
Italy	2%	5%	10.0%	3.0%	45.0%
Netherlands	2.5%	3.6%	1		/
Poland	2%	2%	1%	NA	1%
Portugal	0%	0%	4%	0%	0%
Slovakia	2%	26%	26%	NA	26%
Spain (1)	90%	85%	50%	90%	85%
<b>Total EU</b>	<b>12%</b>	<b>21%</b>	<b>29%</b>	<b>19%</b>	<b>40%</b>
Norway	7.50%	10%	15%	15%	15%
Turkey	0%	0%	0.2%	0.2%	0.2%
<b>Total non-EU</b>	<b>4%</b>	<b>5%</b>	<b>8%</b>	<b>8%</b>	<b>8</b>

(1) Certification on alternative refrigerants is mandatory in Spain and Denmark.

#### **4) Number of personal trained on alternative refrigerants needed in the coming years**

We could estimate that more than 115 000 technicians will need to be trained in the coming years, based on the product bans and phase down included in the European Commission's proposal for a revision of the F-gas Regulation. Considering that the phase down adopted by the EU Institutions is even more ambitious, we can conclude that this number is underestimated.

#### **5) Estimated number of heat pump installers needed to achieve the European objectives of...**

##### **a) ...installing at least 10 million additional heat pumps between 2023 and 2027**

By extrapolating the estimations provided by the members which participated in the survey at the EU level, we can approximate that 150 000 technicians will be needed to achieve the European objectives of installing at least 10 million additional heat pumps between 2023 and 2027.

##### **b) ...a total additional deployment of 30 million or more heat pumps by 2030 (as compared to 2020)**

By extrapolating the estimations provided by the members which participated in the survey at the EU level, we can approximate that 300 000 technicians will be needed to achieve the European objectives of installing a total additional deployment of 30 million or more heat pumps by 2030 (as compared to 2020).