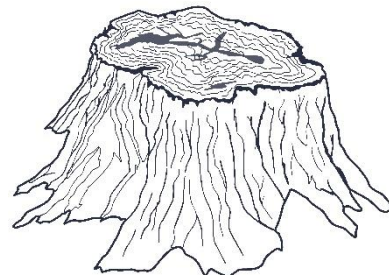


Despite new government commitments to combat the climate crisis, invest in a green recovery from the COVID-19 pandemic and prioritise tree planting and forest protection, new data reveals that the UK is now the top subsidiser of bioenergy in Europe. It spent more than £1.9 billion in 2019 on bioenergy subsidies, primarily to burn wood imported from overseas forests at Drax Power Station. One in every five pounds the UK spent on renewables subsidies in 2018 went to bioenergy, rather than to wind, solar and other true clean energy. In all, every man, woman and child in Britain paid on average £30 to support the UK bioenergy industry.

# CUT CARBON NOT FORESTS



The data presented here, compiled by research firm Trinomics<sup>1</sup>, is an update to the 2019 report, *Burnout: E.U. Clean Energy Policies Lead to Forest Destruction*, which provided the most complete and up-to-date accounting of how European countries subsidise bioenergy.<sup>2</sup> While the UK stands out in the overwhelming size of its subsidies for this polluting industry, nations across Europe are, unfortunately, also increasing their support for bioenergy under the misapprehension that it is a green energy source. It's not. Subsidies flow under programs designed to support renewable energy, despite clear evidence that burning wood for electricity exacerbates climate change and degrades forests.

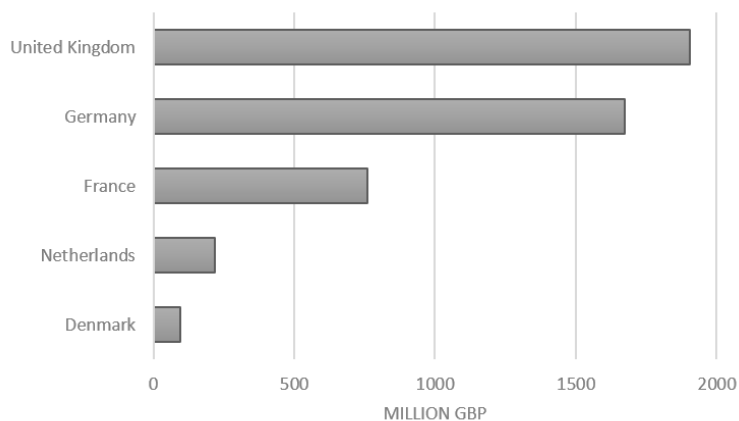
The UK also stands out in that it continues to rely most heavily on the most environmentally damaging form of bioenergy. Unlike other European countries, more than 55% of total solid biomass use in the UK—and most of its billions in bioenergy subsidies—goes towards biomass-burning for electricity production in highly inefficient, electricity-only power plants. Such plants rely primarily on burning trees and other carbon-intensive forest biomass for fuel and burn millions of tonnes of imported wood each year.

## KEY FINDINGS:

1. In 2019, the UK overtook Germany to become the top subsidiser of bioenergy. **UK biomass subsidies totalled £1.9 billion across all bioenergy end use sectors, an increase of nearly 60% since 2015.**

**Figure 1: Bioenergy subsidies 2019**

European country	Bioenergy subsidies (2019)	
	Million EUR	Million GBP
United Kingdom	2,109	1904
Germany	1,856	1676
France	841	759
Netherlands	242	218
Denmark	104	94

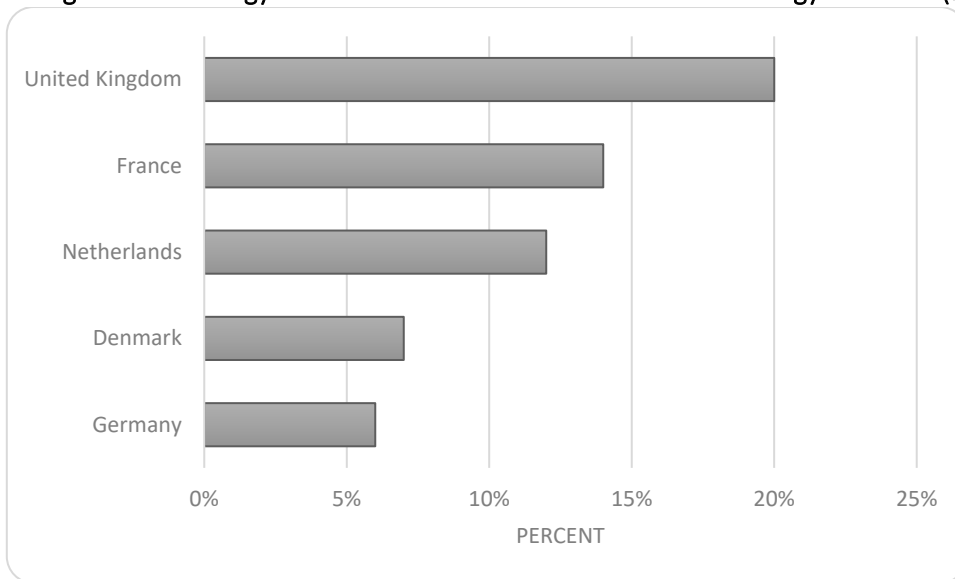


<sup>1</sup> Trinomics B.V. carries out research and delivers policy advice related to energy, environment, and climate change. See: <https://trinomics.eu/>.

<sup>2</sup> In 2019, Trinomics looked at 15 European countries most heavily reliant on bioenergy from 2015-2018. Here, Trinomics updates data for 2018-19 for the UK, Germany, France, the Netherlands and Denmark. See Appendix for updated data tables and key charts. For research methods and more details on bioenergy impacts, see: <https://www.nrdc.org/sites/default/files/burnout-eu-clean-energy-policies-forest-destruction-ip.pdf>

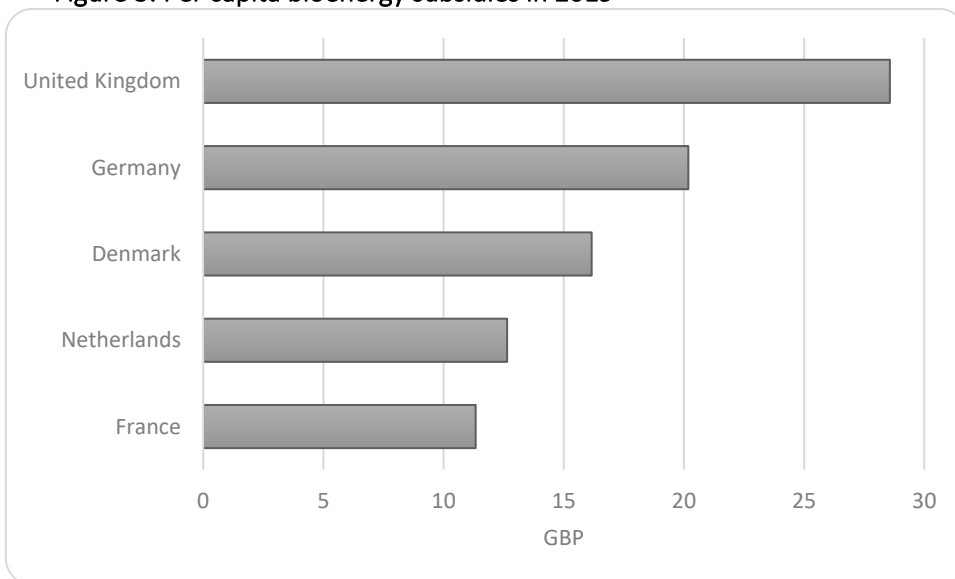
- The UK spent the greatest share of its overall renewable energy subsidies on bioenergy in 2018; **one out of every five pounds the UK spent on renewables subsidies went to bioenergy.**

**Figure 2: Bioenergy subsidies as a share of total renewable energy subsidies (%) in 2018**



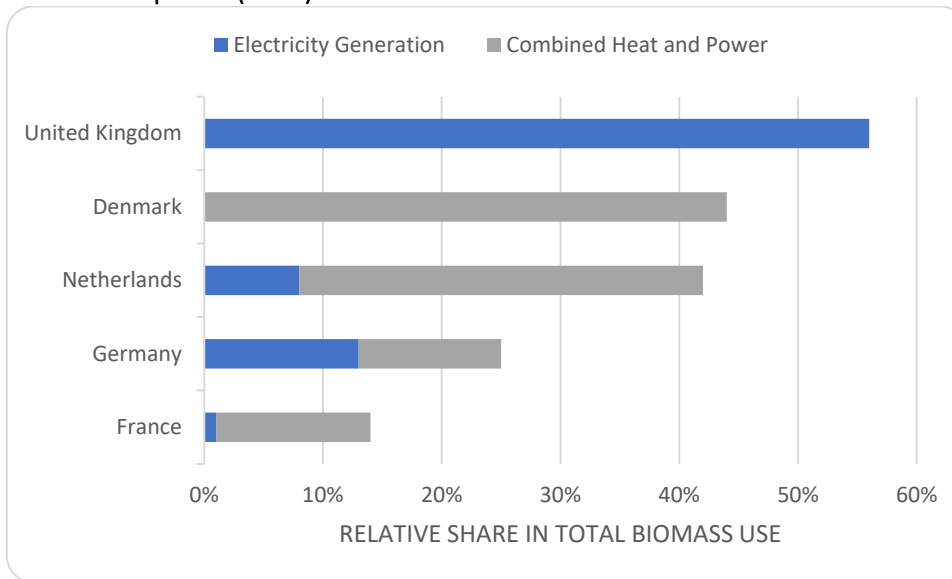
- The UK's per capita bioenergy subsidy spending has been on the rise. **In 2019, every Briton spent (on average) nearly £30 subsidising bioenergy.**

**Figure 3: Per capita bioenergy subsidies in 2019**



- The UK continues to rely on the worst form of bioenergy.** Unlike other European countries, more than 55% of total solid biomass use in the UK in 2018 was for electricity generation in power plants, which relies primarily on burning the most carbon-intensive types of biomass (e.g., trees and other vegetation taken directly from forests) in the least efficient way.

**Figure 4: Share of total solid biomass use for electricity generation in power plants and for combined heat and power (2018)**



## RECOMMENDATIONS

Bioenergy proponents argue that so long as biomass is sourced “sustainably,” UK policymakers can assume it to be no-or low-carbon. Yet biomass “sustainability” claims are misleading and do not account for climate impacts. UK biomass imports are routinely sourced from clearcuts of mature and highly biodiverse hardwood forests. This biomass is known to be high-carbon and contributes to forest degradation, yet it takes place under existing UK and corporate sustainability standards.

Addressing the climate emergency means prioritizing the clean, low-cost and abundant climate solutions the UK already has, such as wind and solar. It also means protecting forests, which are the most efficient and powerful carbon-capture system on the planet. No technology that pumps more carbon into the atmosphere or destroys forests should be receiving government subsidies.

The bulk of UK biomass electricity subsidies are paid out under the Renewables Obligation Certificates scheme and can be redirected immediately at the Government’s discretion.<sup>3</sup> **Wherever possible, the UK Government should immediately phase out all subsidies for large-scale biomass use for electricity production and redirect the savings to true clean and renewable energy sources like wind and solar.**

<sup>3</sup> Under the Levy Control Framework, reduced spending on biomass electricity subsidies should automatically free up increased funding for new subsidies for different and cleaner renewable electricity.

## APPENDIX

### Overview of the share of biomass in total renewable energy subsidies - 2015-2019

The development of bioenergy subsidies for the five in-scope countries during the period 2015-2019 is depicted in Table 1.

Table 1: Summary of bioenergy subsidies 2015-2019, EUR million

Country	Bioenergy subsidies (EUR million)					
	2015	2016	2017	2018	2019	% Change 2015-2019
Netherlands	23	51	114	192	242	967%
France	587	680	662	765	841	43%
Germany	1 859	1 924	1 805	1 754	1 856	0%
Denmark	55	64	85	79	104	89%
United Kingdom	1 336	1 323	1 509	1 882	2 109	58%
<b>Sub-total</b>	<b>3 859</b>	<b>4 042</b>	<b>4 175</b>	<b>4 672</b>	<b>5 152</b>	<b>21%</b>

## Overview of the share of biomass in total renewable energy subsidies - 2015-2018

The share of bioenergy subsidies against the share of subsidies for all RES is presented in Table 2 for the period 2015-2018. 2019 is excluded from the analysis since there are no available data for the total RES subsidies of that year.

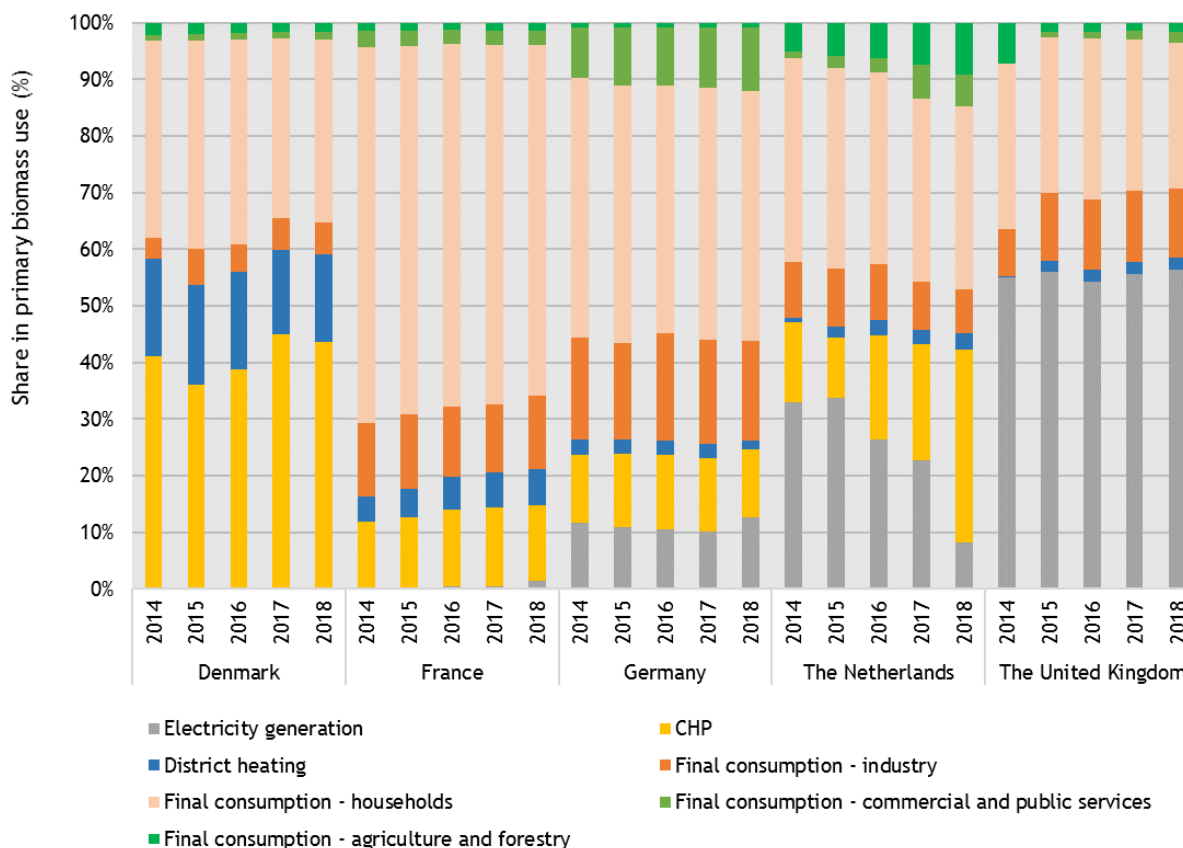
Table 2: Overview of the share of bioenergy subsidies in total renewable energy subsidies 2015-2018

Country	Bioenergy subsidies (EUR million)				RES subsidies (EUR million)				Bioenergy as % of total			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
Netherlands	23	51	114	192	1 039	1 255	1 448	1 627	2%	4%	8%	12%
France	587	680	662	765	5 112	5 205	5 335	5 476	11%	13%	12%	14%
Germany	1 859	1 924	1 805	1 754	26 652	26 909	27 952	29 106	7%	7%	6%	6%
Denmark	55	64	85	79	1 247	1 266	1 316	1 150	4%	5%	6%	7%
United Kingdom	1 336	1 323	1 509	1 882	8 259	8 442	8 948	9 322	16%	16%	17%	20%
<b>Total</b>	<b>3 859</b>	<b>4 042</b>	<b>4 175</b>	<b>4 672</b>	<b>42 307</b>	<b>43 077</b>	<b>44 999</b>	<b>46 681</b>	<b>9%</b>	<b>9%</b>	<b>9%</b>	<b>10%</b>

## Overview of the uses of solid biomass for energy purposes

The energy uses of solid biomass vary among the five investigated countries, as depicted in Figure 1. In all countries consumption by households plays an important role, and this is particularly important in France and Germany, both of which provide subsidies to fuel wood. The United Kingdom used solid biomass for electricity generation purposes far more than the other countries, reaching more than 50% for the whole period 2014-2018. In Denmark, solid biomass was used mainly for combined heat and power (CHP), district heating and by households. While in France and Germany, final consumption from industry accounted for approximately 15% of the total. In the Netherlands, the use of biomass for CHP presented an increasing trend, as does consumption by the agriculture and forestry sector, while the opposite is true for electricity generation uses. The increase in the agriculture sector consumption is driven by the large horticulture (greenhouse) sector in the Netherlands. Germany has the most significant consumption by commercial and public sector users.

Figure 1: Overview of the uses of solid biomass by consumption type in 2014-2018



## Annex: Detailed subsidy list and sources

Country	Instrument name	Instrument type	Use	2015	2016	2017	2018	2019	Data source	Calculation approach
Netherlands	Feed in Premium for Renewable energy (MEP/SDE/SDE+) - Biomass for electricity	Feed-in premiums	Electricity & Heat	22 200 000	42 200 000	84 900 000	162 500 000	216 000 000	<a href="https://www.rvo.nl/subsidies-regelingen/stimulering-duurzame-energieproductie/feiten-en-cijfers/resultaten-2016;JaarberichtSDE &amp; MEP 2009; Jaarbericht SDE &amp; MEP 2010; Jaarbericht SDE &amp; MEP 2011">https://www.rvo.nl/subsidies-regelingen/stimulering-duurzame-energieproductie/feiten-en-cijfers/resultaten-2016;JaarberichtSDE &amp; MEP 2009; Jaarbericht SDE &amp; MEP 2010; Jaarbericht SDE &amp; MEP 2011</a>	N/A
Netherlands	Investment subsidy sustainable energy (ISDE)	Grants	Heat		8 536 831	28 739 220	28 728 000	25 700 000	<a href="http://www.rijksbegroting.nl/2015/verantwoording/jaaverslag,kst221658.html">http://www.rijksbegroting.nl/2015/verantwoording/jaaverslag,kst221658.html</a> ; Vaststelling van de begrotingsstaten van het Ministerie van Economische Zaken (XIII) en het Diergezondheidsfonds (F) voor het jaar 2017	N/A
Netherlands	Energy Investment rebate (EIA) - Energy saving technologies	Tax allowance	Any	476 771	223 669	88 874	464 611	309 919	EIA annual reports	N/A
France	Heat Fund	Grants	Heat	98 496 000	94 146 000	84 316 000	107 226 000	122 800 000	<a href="http://www.developpement-durable.gouv.fr/Presentation-generale,25_27.html">http://www.developpement-durable.gouv.fr/Presentation-generale,25_27.html</a>	Total grants*solid biomass share
France	Compensation supplement	Feed-in premiums	Electricity				700 000	10 300 000	<a href="http://www.cre.fr/operateurs/service-public-de-l-electricite-cspe/montant#section1">http://www.cre.fr/operateurs/service-public-de-l-electricite-cspe/montant#section1</a>	N/A
France	Reduced (10%) VAT rate applicable to deliveries of firewood and related wood products	Tax reduction	Wood fuel	112 460 000	128 500 000	132 730 000	134 000 000	134 000 000	<a href="http://www.legifrance.gouv.fr/affichTexte.do;jsessionid=D2371B19354272D696BF93227752BD8.tp djo16v_3?cidTexte=JORFTEXT813882&amp;dateTexte=">http://www.legifrance.gouv.fr/affichTexte.do;jsessionid=D2371B19354272D696BF93227752BD8.tp djo16v_3?cidTexte=JORFTEXT813882&amp;dateTexte=</a>	2019 value is an estimate based on 2018
France	Feed-in tariffs - other RES (non solar, non wind)	Feed-in tariffs	Electricity	375 724 350	457 524 116	445 323 473	523 400 000	574 200 000	<a href="https://www.cre.fr/Documents/Deliberations/Decision/evaluation-cspe-2021">https://www.cre.fr/Documents/Deliberations/Decision/evaluation-cspe-2021</a>	2015-2017 values estimated from 2018-2021 biomass share of total renewables

Country	Instrument name	Instrument type	Use	2015	2016	2017	2018	2019	Data source	Calculation approach
Germany	EEG feed-in tariff and premium for biomass	Feed-in tariffs	Electricity	1 654 124 486	1 658 808 510	1 558 616 170	1 532 415 628	1 556 812 367	Official documentation on compensation and differential cost of the EEG from the Ministry for the Economy and Energy: <a href="http://www.erneuerbare-energien.de/EE/Redaktion/DE/Downloads/eeg-in-zahlen-xls.html">http://www.erneuerbare-energien.de/EE/Redaktion/DE/Downloads/eeg-in-zahlen-xls.html</a>	Adjusted values of EEG for solid biomass share based on solid biomass share in bioenergy electricity production
Germany	CHP feed-in tariff from biomass and waste (KWK Umlage)	Feed-in tariffs	CHP	18 159 594	26 446 084	27 950 464	23 239 048	19 315 671	Annual KWKG Accounts from TSOs: <a href="https://www.netztransparenz.de/KWKG/Jahresabrechnungen">https://www.netztransparenz.de/KWKG/Jahresabrechnungen</a>	Split subsidy amount to biomass from total biomass + biogas on basis of electricity production shares
Germany	Reduced VAT tariff for wood pellets and firewood	Exempt. & reduct.-VAT (related to energy use)	Wood pellets	52 725 000	57 000 000	59 850 000	62 700 000	66 975 000	Database Bioenergy Germany: <a href="https://www.fnr.de/fileadmin/Projekte/2020/Mediathek/broschuere_basisdaten_bioenergie_2020_web.pdf">https://www.fnr.de/fileadmin/Projekte/2020/Mediathek/broschuere_basisdaten_bioenergie_2020_web.pdf</a>	Subsidy for wood pellets multiplied with the wood pellet use
Germany	Promotion of single measures for the use of renewable energy	Grants	Heating & Cooling	134 420 000	181 805 000	158 470 000	135 720 000	213 265 000	22./23./24./25./26./27. subsidy report published by the German federal government: <a href="http://www.bundesfinanzministerium.de">http://www.bundesfinanzministerium.de</a>	65% share of solid biomass out of the total renewable warming sources multiplied by the subsidies
Denmark	Promotion of Renewable Energy Act, nr. 356 04/04/2019 - solid biomass	Feed-in premiums	Renewable energy	54 999 490	63 717 587	85 096 304	79 494 022	103 906 400	Ministry of tax <a href="https://www.skm.dk/aktuelt/publikationer/%C3%B8vrige-publikationer/afgifts-og-tilskudsanalyser-paa-energiomraadet-delanalyse-2-omkostninger-til-offentlige-forpligtelser/">https://www.skm.dk/aktuelt/publikationer/%C3%B8vrige-publikationer/afgifts-og-tilskudsanalyser-paa-energiomraadet-delanalyse-2-omkostninger-til-offentlige-forpligtelser/</a> Danish Energy Agency <a href="https://ens.dk/service/fremskrivninger-analyser-modeller/basisshyfremskrivninger">https://ens.dk/service/fremskrivninger-analyser-modeller/basisshyfremskrivninger</a> <a href="https://ens.dk/sites/ens.dk/files/Analyser/20180501_notat_til_offentliggorelse_pso-fremskrivning_pba_bf2018_med_ve-andele.pdf">https://ens.dk/sites/ens.dk/files/Analyser/20180501_notat_til_offentliggorelse_pso-fremskrivning_pba_bf2018_med_ve-andele.pdf</a> (page 2)	N/A
United Kingdom	Domestic Renewable Heat Incentive (RHI) payments - biomass	Feed-in tariffs	Heat	49 351 919	59 467 578	53 713 405	55 606 669	59 694 977	<a href="https://www.ofgem.gov.uk/data-portal/amount-domestic-rhi-payments-made-under-each-tariff">https://www.ofgem.gov.uk/data-portal/amount-domestic-rhi-payments-made-under-each-tariff</a>	N/A



Country	Instrument name	Instrument type	Use	2015	2016	2017	2018	2019	Data source	Calculation approach
United Kingdom	ROCs - Fuelled	RES quotas with tradable certificates	Electricity	878 038 095	794 665 800	706 893 397	822 041 426	946 708 145	OFGEM annual reports and <a href="https://www.ofgem.gov.uk/environmental-programmes/ro/contacts-publications-and-data/public-reports-and-data-ro">https://www.ofgem.gov.uk/environmental-programmes/ro/contacts-publications-and-data/public-reports-and-data-ro</a>	Total ROCs "fuelled" value divided by share of solid biomass production of total bio energy production
United Kingdom	Non-domestic renewable heat incentive	Feed-in tariffs	Heat	277 508 092	382 326 682	448 886 150	555 424 900	636 964 715	<a href="https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources/public-reports-and-data">https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources/public-reports-and-data</a>	N/A
United Kingdom	Contracts for difference	Sliding Feed-in premiums	Electricity	0	12 535 272	283 045 510	447 753 577	465 461 002	<a href="https://www.lowcarboncontracts.uk">https://www.lowcarboncontracts.uk</a>	N/A
United Kingdom	Climate change levy (CCL) Exemption of electricity generated from certain renewable resources	Exempt. & reduct.- Energy tax	Electricity	130 814 589	74 423 456	16 643 292	845 206	0	<a href="https://www.ofgem.gov.uk/environmental-programmes/about-climate-change-levy-exemption">https://www.ofgem.gov.uk/environmental-programmes/about-climate-change-levy-exemption</a>	Use of the percentage of certificates granted for biomass to calculate the percentage of the subsidy used for biomass.