

Production of heat – by type

Terajoules

Table Notes

Direct use geothermal represents heat used directly for district heating, agriculture etc. without a commercial transaction taking place.

Please refer to the Definitions Section on pages ix to xv for the appropriate product description /classification, and xvi to xvii for the descriptions of relevant flows.

Direct use solar thermal represents heat used for the production of domestic hot water or for the seasonal heating of swimming pools (e.g. flat plate collectors, mainly of the thermosyphon type) without a commercial transaction taking place.

Figure 84: Heat production by region, 1990-2020

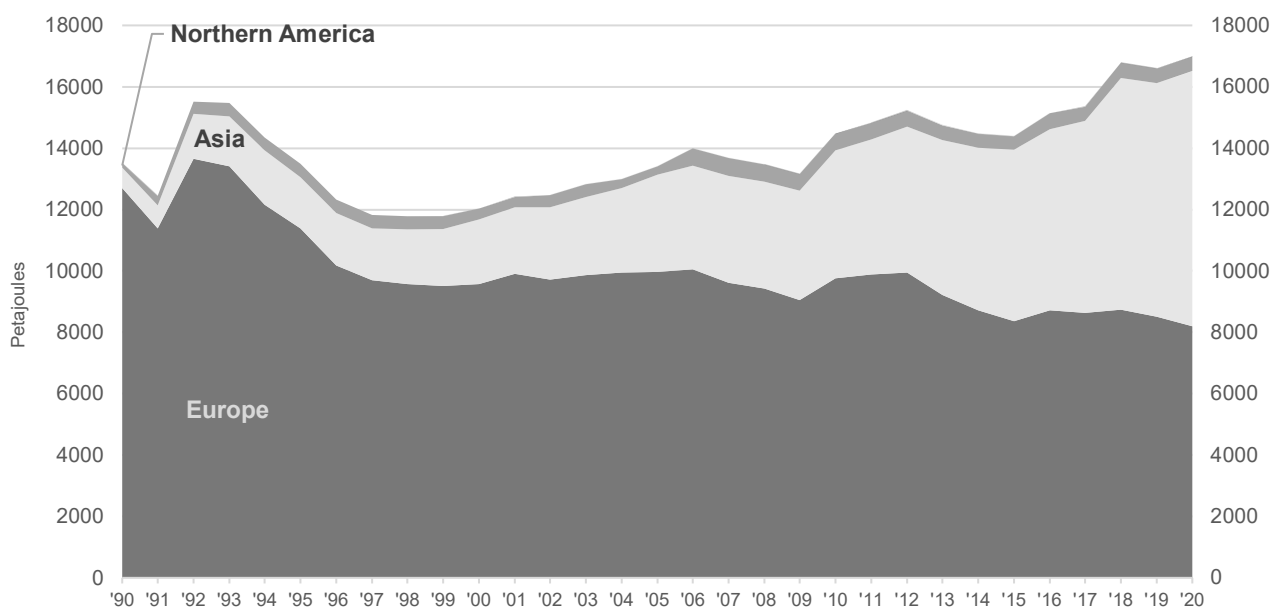


Figure 85: Major heat producing countries, 2020

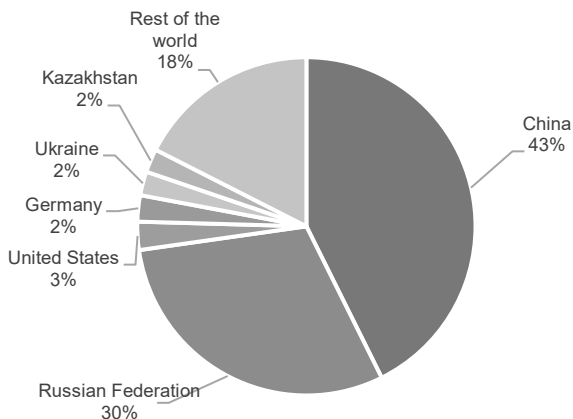


Figure 86: World heat production by type, 2020

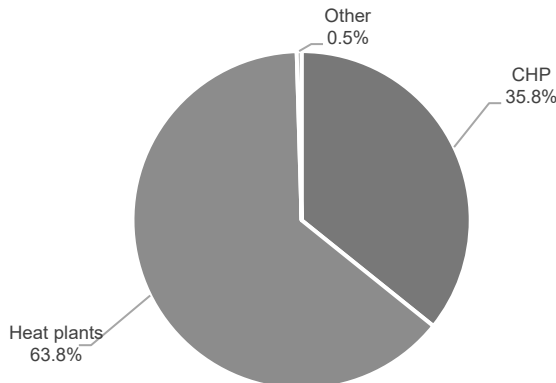


Table 34

Production of heat - by type

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| Country or area | Year | Combustible fuels | Geo-thermal | Solar thermal | Nuclear | Chemical sources | Heat pumps and electric boilers | Other sources | Direct use geothermal | Direct use solar thermal |
|-----------------|-------------|-------------------|---------------|---------------|---------------|------------------|---------------------------------|----------------|-----------------------|--------------------------|
| World | 2017 | 14,702,643 | 45,700 | 7,508 | 26,579 | 71,396 | 62,353 | 445,430 | 135,096 | 289,583 |
| | 2018 | 16,116,320 | 50,401 | 8,081 | 25,956 | 70,383 | 63,035 | 459,552 | 173,372 | 327,266 |
| | 2019 | 15,918,618 | 50,903 | 8,424 | 25,647 | 76,534 | 67,438 | 455,444 | 146,209 | 337,402 |
| | 2020 | 16,333,425 | 48,686 | 8,931 | 25,012 | 49,752 | 69,740 | 454,324 | 144,523 | 348,530 |
| Africa | 2017 | .. | .. | .. | .. | 3,880 | .. | .. | .. | 7,593 |
| | 2018 | .. | .. | .. | .. | 5,094 | .. | .. | .. | 7,919 |
| | 2019 | .. | .. | .. | .. | 4,880 | .. | .. | .. | 8,080 |
| | 2020 | .. | .. | .. | .. | 3,629 | .. | .. | .. | 7,849 |
| Botswana | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 42 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 46 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 54 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 55 |
| Namibia | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 140 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 152 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 166 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 177 |
| Senegal | 2017 | .. | .. | .. | .. | 533 | .. | .. | .. | .. |
| | 2018 | .. | .. | .. | .. | 969 | .. | .. | .. | .. |
| | 2019 | .. | .. | .. | .. | 630 | .. | .. | .. | .. |
| | 2020 | .. | .. | .. | .. | 469 | .. | .. | .. | .. |
| South Africa | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 5,201 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 5,278 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 5,284 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 4,944 |
| Tunisia | 2017 | .. | .. | .. | .. | 3,347 | .. | .. | .. | 2,210 |
| | 2018 | .. | .. | .. | .. | 4,125 | .. | .. | .. | 2,443 |
| | 2019 | .. | .. | .. | .. | 4,250 | .. | .. | .. | 2,576 |
| | 2020 | .. | .. | .. | .. | 3,160 | .. | .. | .. | 2,673 |
| Asia | 2017 | 6,213,218 | .. | 5,632 | .. | 2,187 | 18,517 | 16,870 | 91,606 | 78,222 |
| | 2018 | 7,500,974 | .. | 5,778 | .. | 2,172 | 17,610 | 18,362 | 96,578 | 79,894 |
| | 2019 | 7,562,018 | .. | 5,925 | .. | 2,170 | 22,564 | 20,213 | 97,266 | 77,205 |
| | 2020 | 8,251,071 | .. | 6,078 | .. | 2,164 | 22,590 | 24,240 | 97,854 | 78,971 |
| Armenia | 2017 | 31 | .. | .. | .. | .. | .. | .. | .. | 112 |
| | 2018 | 24 | .. | .. | .. | .. | .. | .. | .. | 216 |
| | 2019 | 27 | .. | .. | .. | .. | .. | .. | .. | 358 |
| | 2020 | 38 | .. | .. | .. | .. | .. | .. | .. | 600 |
| Azerbaijan | 2017 | 6,580 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 12,236 | .. | .. | .. | .. | 3 | .. | .. | .. |
| | 2019 | 14,013 | .. | .. | .. | .. | 3 | .. | .. | .. |
| | 2020 | 13,661 | .. | .. | .. | .. | 2 | .. | .. | .. |
| China | 2017 | 5,300,081 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 6,505,618 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 6,617,368 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 7,246,757 | .. | .. | .. | .. | .. | .. | .. | .. |
| Cyprus | 2017 | 54 | .. | .. | .. | .. | .. | .. | .. | 2,940 |
| | 2018 | 54 | .. | .. | .. | .. | .. | .. | .. | 3,015 |
| | 2019 | 51 | .. | .. | .. | .. | .. | .. | .. | 3,062 |
| | 2020 | 37 | .. | .. | .. | .. | .. | .. | .. | 3,114 |
| Georgia | 2017 | .. | .. | .. | .. | .. | .. | .. | 658 | 128 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | 670 | 129 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | 680 | 130 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | 588 | 131 |

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| Country or area | Year | Combustible fuels | Geo-thermal | Solar thermal | Nuclear | Chemical sources | Heat pumps and electric boilers | Other sources | Direct use geothermal | Direct use solar thermal |
|--------------------|------|-------------------|-------------|---------------|---------|------------------|---------------------------------|---------------|-----------------------|--------------------------|
| Israel | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 16,135 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 15,100 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 15,100 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 16,379 |
| Japan | 2017 | 13,749 | .. | .. | .. | .. | 5,943 | 2,713 | 5,367 | 9,188 |
| | 2018 | 13,187 | .. | .. | .. | .. | 7,118 | 2,462 | 5,367 | 8,447 |
| | 2019 | 12,462 | .. | .. | .. | .. | 7,586 | 2,590 | 5,367 | 7,736 |
| | 2020 | 12,448 | .. | .. | .. | .. | 7,600 | 2,590 | 5,367 | 7,063 |
| Jordan | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 7,049 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 8,961 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 9,098 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 9,131 |
| Kazakhstan | 2017 | 371,187 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 389,432 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 347,364 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 381,860 | .. | .. | .. | .. | .. | .. | .. | .. |
| Korea, Republic of | 2017 | 237,716 | .. | .. | .. | 2,187 | .. | .. | 7,706 | 1,665 |
| | 2018 | 250,495 | .. | .. | .. | 2,172 | .. | .. | 8,730 | 1,880 |
| | 2019 | 236,567 | .. | .. | .. | 2,170 | .. | .. | 9,409 | 1,848 |
| | 2020 | 236,073 | .. | .. | .. | 2,164 | .. | .. | 10,089 | 1,812 |
| Kyrgyzstan | 2017 | 7,966 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 13,798 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 12,424 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 13,332 | .. | .. | .. | .. | .. | .. | .. | .. |
| Lebanon | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | *1,060 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | *1,060 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 1,060 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | *1,060 |
| Mongolia | 2017 | 47,296 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 52,355 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 55,589 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 59,124 | .. | .. | .. | .. | .. | .. | .. | .. |
| Other Asia | 2017 | 64,130 | .. | .. | .. | .. | .. | .. | .. | 4,262 |
| | 2018 | 97,523 | .. | .. | .. | .. | .. | .. | .. | 3,945 |
| | 2019 | 89,906 | .. | .. | .. | .. | .. | .. | .. | 3,808 |
| | 2020 | 91,310 | .. | .. | .. | .. | .. | .. | .. | 3,935 |
| State of Palestine | 2017 | .. | .. | 5,632 | .. | .. | .. | .. | .. | .. |
| | 2018 | .. | .. | 5,778 | .. | .. | .. | .. | .. | .. |
| | 2019 | .. | .. | 5,925 | .. | .. | .. | .. | .. | .. |
| | 2020 | .. | .. | 6,078 | .. | .. | .. | .. | .. | .. |
| Tajikistan | 2017 | 1,793 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | *2,745 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 3,519 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | *6,229 | .. | .. | .. | .. | .. | .. | .. | .. |
| Thailand | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 388 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 423 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 423 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 444 |
| Türkiye | 2017 | 43,301 | .. | .. | .. | .. | .. | 14,157 | 77,875 | 35,295 |
| | 2018 | 41,613 | .. | .. | .. | .. | .. | 15,900 | 81,810 | 36,718 |
| | 2019 | 42,991 | .. | .. | .. | .. | .. | 17,623 | 81,810 | 34,583 |
| | 2020 | 45,601 | .. | .. | .. | .. | .. | 21,651 | 81,810 | 35,295 |

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| Country or area | Year | Combustible fuels | Geo-thermal | Solar thermal | Nuclear | Chemical sources | Heat pumps and electric boilers | Other sources | Direct use geothermal | Direct use solar thermal |
|------------------------|-------------|-------------------|---------------|---------------|---------------|------------------|---------------------------------|----------------|-----------------------|--------------------------|
| Turkmenistan | 2017 | 10,877 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 10,877 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 10,877 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 10,877 | .. | .. | .. | .. | .. | .. | .. | .. |
| Uzbekistan | 2017 | *108,458 | .. | .. | .. | .. | *12,575 | .. | .. | .. |
| | 2018 | *111,018 | .. | .. | .. | .. | *10,489 | .. | .. | .. |
| | 2019 | *118,859 | .. | .. | .. | .. | *14,975 | .. | .. | .. |
| | 2020 | 133,726 | .. | .. | .. | .. | *14,988 | .. | .. | .. |
| Viet Nam | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 7 |
| Europe | 2017 | 8,019,177 | 45,700 | 1,875 | 26,579 | 65,330 | 43,260 | 427,367 | 24,183 | 93,870 |
| | 2018 | 8,112,198 | 50,401 | 2,304 | 25,956 | 63,117 | 44,850 | 439,923 | 24,842 | 99,947 |
| | 2019 | 7,871,035 | 50,903 | 2,499 | 25,647 | 69,484 | 44,298 | 434,064 | 26,805 | 101,092 |
| | 2020 | 7,605,501 | 48,686 | 2,852 | 25,012 | 43,959 | 46,550 | 429,067 | 25,741 | 104,328 |
| Albania | 2017 | 113 | .. | .. | .. | .. | .. | .. | .. | 553 |
| | 2018 | 122 | .. | .. | .. | .. | .. | .. | .. | 564 |
| | 2019 | 151 | .. | .. | .. | .. | .. | .. | .. | 558 |
| | 2020 | 230 | .. | .. | .. | .. | .. | .. | .. | 563 |
| Austria | 2017 | 87,886 | 591 | 93 | .. | 89 | .. | .. | 514 | 7,536 |
| | 2018 | 83,290 | 573 | 93 | .. | 93 | 30 | .. | 473 | 7,472 |
| | 2019 | 82,904 | 470 | 91 | .. | 91 | 384 | .. | 476 | 7,393 |
| | 2020 | 83,277 | 515 | 91 | .. | 71 | 435 | .. | 493 | 7,520 |
| Belarus | 2017 | 253,365 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 260,497 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 247,488 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 243,739 | .. | .. | .. | .. | .. | .. | .. | .. |
| Belgium | 2017 | 22,016 | 51 | .. | .. | 11,272 | .. | .. | .. | 1,002 |
| | 2018 | 24,092 | 53 | .. | .. | 10,288 | .. | .. | .. | 1,096 |
| | 2019 | 20,590 | 56 | .. | .. | 9,901 | .. | .. | .. | 1,089 |
| | 2020 | 20,295 | 68 | .. | .. | 9,970 | .. | .. | .. | 1,129 |
| Bosnia and Herzegovina | 2017 | 5,793 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 5,759 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 5,571 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 5,850 | .. | .. | .. | .. | .. | .. | .. | .. |
| Bulgaria | 2017 | 41,627 | .. | .. | 696 | 1,844 | .. | .. | 1,450 | 983 |
| | 2018 | 35,433 | .. | .. | 718 | 1,818 | .. | .. | 1,450 | 1,044 |
| | 2019 | 35,920 | .. | .. | 660 | 2,217 | .. | .. | 1,470 | 1,092 |
| | 2020 | 36,055 | .. | .. | 548 | 2,426 | .. | .. | 1,495 | 1,147 |
| Croatia | 2017 | 12,430 | .. | .. | .. | .. | .. | .. | 345 | 538 |
| | 2018 | 12,698 | .. | .. | .. | .. | .. | .. | 320 | 584 |
| | 2019 | 13,182 | .. | .. | .. | .. | .. | .. | 301 | 647 |
| | 2020 | 13,851 | .. | .. | .. | .. | .. | .. | 303 | 684 |
| Czechia | 2017 | 120,551 | .. | .. | 908 | 322 | 101 | 1,070 | .. | 731 |
| | 2018 | 115,419 | .. | .. | 864 | 706 | 109 | 1,135 | .. | 753 |
| | 2019 | 113,717 | .. | .. | 853 | 669 | 125 | 1,027 | .. | 767 |
| | 2020 | 110,303 | .. | .. | 787 | 595 | 116 | 1,160 | .. | 789 |
| Denmark | 2017 | 128,886 | 76 | 1,733 | .. | .. | 1,138 | 3,774 | .. | 597 |
| | 2018 | 127,276 | 55 | 2,157 | .. | .. | 1,490 | 4,074 | .. | 603 |
| | 2019 | 123,591 | 34 | 2,347 | .. | .. | 1,979 | 4,325 | .. | 611 |
| | 2020 | 116,642 | 23 | 2,663 | .. | .. | 4,162 | 4,632 | .. | 611 |

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|-----------------|------|-------------------|-------------|---------------|---------|------------------|---------------------------------|---------------|-----------------------|--------------------------|
| Estonia | 2017 | 24,304 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 24,889 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 21,958 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 21,318 | .. | .. | .. | .. | .. | .. | .. | .. |
| Finland | 2017 | 173,685 | .. | .. | .. | 4,731 | 4,429 | 10,080 | .. | 75 |
| | 2018 | 170,696 | .. | .. | .. | 4,446 | 4,344 | 10,077 | .. | 83 |
| | 2019 | 165,855 | .. | .. | .. | 4,567 | 4,283 | 10,570 | .. | 91 |
| | 2020 | 149,996 | .. | .. | .. | 4,241 | 4,250 | 13,069 | .. | 100 |
| France | 2017 | 161,221 | 5,613 | .. | .. | .. | 527 | 3,641 | 1,681 | 7,207 |
| | 2018 | 150,439 | 5,986 | .. | .. | .. | 982 | 3,278 | 1,681 | 7,583 |
| | 2019 | 156,139 | 6,481 | .. | .. | .. | 1,322 | 4,437 | 1,681 | 7,843 |
| | 2020 | 152,867 | 6,751 | .. | .. | .. | 1,360 | 4,016 | 1,681 | 8,145 |
| Germany | 2017 | 461,662 | 641 | 7 | .. | .. | .. | 7,492 | 3,563 | 28,266 |
| | 2018 | 460,597 | 1,333 | 8 | .. | .. | .. | 6,133 | 3,558 | 31,942 |
| | 2019 | 449,842 | 1,732 | 13 | .. | .. | .. | 6,341 | 3,390 | 30,525 |
| | 2020 | 418,084 | 1,713 | 13 | .. | .. | .. | 7,353 | 3,413 | 31,332 |
| Greece | 2017 | 2,137 | .. | .. | .. | .. | .. | .. | 370 | 11,365 |
| | 2018 | 2,167 | .. | .. | .. | .. | .. | .. | 371 | 11,607 |
| | 2019 | 2,203 | .. | .. | .. | .. | .. | .. | 432 | 11,968 |
| | 2020 | 2,199 | .. | .. | .. | .. | .. | .. | 235 | 12,272 |
| Hungary | 2017 | 45,569 | 2,749 | .. | 637 | .. | .. | 2,588 | 2,588 | 493 |
| | 2018 | 43,148 | 2,570 | .. | 620 | .. | .. | 2,641 | 2,761 | 527 |
| | 2019 | 41,801 | 2,864 | .. | 585 | .. | 81 | 3,069 | 2,832 | 560 |
| | 2020 | 42,508 | 2,772 | .. | 504 | .. | 165 | 2,626 | 2,609 | 627 |
| Iceland | 2017 | 65 | 34,743 | .. | .. | .. | 797 | .. | 1,920 | .. |
| | 2018 | 18 | 38,530 | .. | .. | .. | 933 | .. | 1,920 | .. |
| | 2019 | 16 | 37,959 | .. | .. | .. | 950 | .. | 1,909 | .. |
| | 2020 | 17 | 35,517 | .. | .. | .. | 950 | .. | 2,018 | .. |
| Ireland | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 529 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 567 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 573 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 591 |
| Italy | 2017 | 232,623 | 793 | 4 | .. | .. | .. | .. | 5,478 | 8,741 |
| | 2018 | 228,673 | 878 | 6 | .. | .. | .. | .. | 5,364 | 9,145 |
| | 2019 | 230,526 | 870 | 6 | .. | .. | .. | .. | 5,477 | 9,544 |
| | 2020 | 228,030 | 872 | 8 | .. | .. | .. | .. | 5,014 | 9,887 |
| Kosovo | 2017 | 45 | .. | .. | .. | .. | 772 | .. | .. | 14 |
| | 2018 | 45 | .. | .. | .. | .. | 787 | .. | .. | 15 |
| | 2019 | 28 | .. | .. | .. | .. | 830 | .. | .. | 16 |
| | 2020 | 16 | .. | .. | .. | .. | 961 | .. | .. | 16 |
| Latvia | 2017 | 29,983 | .. | .. | .. | .. | 6 | 12 | .. | .. |
| | 2018 | 29,682 | .. | .. | .. | .. | 6 | .. | .. | .. |
| | 2019 | 28,604 | .. | 3 | .. | .. | 5 | .. | .. | .. |
| | 2020 | 27,006 | .. | 40 | .. | .. | 4 | .. | .. | .. |
| Liechtenstein | 2017 | 387 | .. | 38 | .. | .. | .. | .. | .. | .. |
| | 2018 | 417 | .. | 37 | .. | .. | .. | .. | .. | .. |
| | 2019 | 432 | .. | 36 | .. | .. | .. | .. | .. | .. |
| | 2020 | 463 | .. | 36 | .. | .. | .. | .. | .. | .. |
| Lithuania | 2017 | 34,957 | 15 | .. | .. | 11,765 | 9 | .. | .. | .. |
| | 2018 | 34,623 | .. | .. | .. | 11,272 | 9 | .. | .. | .. |
| | 2019 | 31,735 | .. | .. | .. | 11,034 | 9 | .. | .. | .. |
| | 2020 | 29,752 | .. | .. | .. | 8,160 | 7 | .. | .. | .. |

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|---------------------|------|-------------------|-------------|---------------|---------|------------------|---------------------------------|---------------|-----------------------|--------------------------|
| Luxembourg | 2017 | 2,759 | .. | 0 | .. | .. | .. | .. | .. | 91 |
| | 2018 | 3,115 | .. | 0 | .. | .. | .. | .. | .. | 97 |
| | 2019 | 4,033 | .. | 0 | .. | .. | .. | .. | .. | 101 |
| | 2020 | 5,646 | .. | 0 | .. | .. | .. | .. | .. | 107 |
| Malta | 2017 | 3 | .. | .. | .. | .. | .. | .. | .. | 209 |
| | 2018 | 0 | .. | .. | .. | .. | .. | .. | .. | 211 |
| | 2019 | 1 | .. | .. | .. | .. | .. | .. | .. | 213 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 214 |
| Netherlands | 2017 | 114,478 | .. | .. | .. | 8,279 | .. | 1,506 | 3,047 | 1,139 |
| | 2018 | 101,130 | .. | .. | .. | 8,046 | .. | 1,115 | 3,731 | 1,156 |
| | 2019 | 104,791 | .. | .. | .. | 9,032 | .. | .. | 5,564 | 1,180 |
| | 2020 | 94,296 | .. | .. | .. | 12,586 | .. | .. | 6,185 | 1,176 |
| North Macedonia | 2017 | 2,419 | .. | .. | .. | .. | .. | .. | 198 | .. |
| | 2018 | 2,245 | .. | .. | .. | .. | .. | .. | 190 | .. |
| | 2019 | 2,057 | .. | .. | .. | .. | .. | .. | 187 | .. |
| | 2020 | 2,533 | .. | .. | .. | .. | .. | .. | 181 | .. |
| Norway | 2017 | 16,737 | .. | .. | .. | 3,535 | 5,478 | 829 | .. | .. |
| | 2018 | 17,827 | .. | .. | .. | 3,648 | 5,023 | 713 | .. | .. |
| | 2019 | 18,418 | .. | .. | .. | 3,581 | 4,824 | 763 | .. | .. |
| | 2020 | 16,409 | .. | .. | .. | 3,154 | 5,023 | 756 | .. | .. |
| Poland | 2017 | 299,016 | .. | .. | .. | 659 | 5 | 78 | 946 | 2,280 |
| | 2018 | 294,097 | .. | .. | .. | 457 | 5 | 115 | 991 | 2,383 |
| | 2019 | 286,234 | .. | .. | .. | 528 | 3 | 286 | 1,050 | 3,009 |
| | 2020 | 285,225 | .. | .. | .. | 456 | 5 | 189 | 1,073 | 3,355 |
| Portugal | 2017 | 19,101 | .. | .. | .. | .. | .. | .. | 65 | 3,683 |
| | 2018 | 20,180 | .. | .. | .. | .. | .. | .. | 73 | 3,953 |
| | 2019 | 20,927 | .. | .. | .. | .. | .. | .. | 72 | 4,033 |
| | 2020 | 20,546 | .. | .. | .. | .. | .. | .. | 55 | 4,216 |
| Republic of Moldova | 2017 | 10,251 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | 10,658 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 9,670 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 9,365 | .. | .. | .. | .. | .. | .. | .. | .. |
| Romania | 2017 | 74,328 | 262 | .. | .. | .. | .. | .. | 1,098 | 31 |
| | 2018 | 71,225 | 246 | .. | .. | .. | .. | .. | 1,066 | 31 |
| | 2019 | 61,203 | 243 | .. | .. | .. | .. | .. | 1,045 | 30 |
| | 2020 | 58,834 | 255 | .. | .. | .. | .. | .. | 245 | 32 |
| Russian Federation | 2017 | 4,924,203 | 0 | .. | 14,593 | .. | 13,366 | 373,030 | .. | .. |
| | 2018 | 5,064,879 | 0 | .. | 14,011 | .. | 14,646 | 388,539 | .. | .. |
| | 2019 | 4,914,229 | .. | .. | 14,246 | .. | 13,209 | 380,746 | .. | .. |
| | 2020 | 4,714,085 | .. | .. | 14,097 | .. | 10,800 | 374,896 | .. | .. |
| Serbia | 2017 | 36,482 | .. | .. | .. | .. | .. | .. | 221 | .. |
| | 2018 | 35,536 | .. | .. | .. | .. | .. | .. | 214 | .. |
| | 2019 | 32,945 | .. | .. | .. | .. | .. | .. | 219 | .. |
| | 2020 | 35,957 | .. | .. | .. | .. | .. | .. | 212 | .. |
| Slovakia | 2017 | 35,434 | 148 | 1 | 2,096 | .. | 95 | 7 | 63 | 272 |
| | 2018 | 29,113 | 159 | 2 | 1,917 | .. | 107 | 17 | 58 | 297 |
| | 2019 | 29,079 | 175 | 2 | 1,882 | .. | 119 | 14 | 58 | 316 |
| | 2020 | 28,617 | 181 | 2 | 1,848 | .. | 78 | 16 | 30 | 334 |
| Slovenia | 2017 | 9,434 | 18 | .. | .. | .. | .. | .. | 577 | 441 |
| | 2018 | 9,296 | 19 | .. | .. | .. | .. | .. | 560 | 443 |
| | 2019 | 9,124 | 19 | .. | .. | .. | .. | .. | 582 | 443 |
| | 2020 | 9,154 | 19 | .. | .. | .. | .. | .. | 439 | 430 |

Table 34

Production of heat - by type

Terajoules

| Country or area | Year | Combustible fuels | Geo-thermal | Solar thermal | Nuclear | Chemical sources | Heat pumps and electric boilers | Other sources | Direct use geothermal | Direct use solar thermal |
|-----------------------------------|-------------|-------------------|-------------|---------------|---------|------------------|---------------------------------|---------------|-----------------------|--------------------------|
| Spain | 2017 | .. | .. | .. | .. | .. | .. | .. | 8 | 11,942 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | 8 | 12,563 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | 8 | 13,170 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | 8 | 13,716 |
| Sweden | 2017 | 173,473 | .. | .. | .. | .. | 16,434 | 21,996 | .. | 464 |
| | 2018 | 173,343 | .. | .. | .. | .. | 16,366 | 20,707 | .. | 457 |
| | 2019 | 170,111 | .. | .. | .. | .. | 16,175 | 21,301 | .. | 446 |
| | 2020 | 154,890 | .. | .. | .. | .. | 18,191 | 20,354 | .. | 436 |
| Switzerland | 2017 | 20,698 | .. | .. | 1,320 | .. | 102 | .. | 17 | 2,508 |
| | 2018 | 20,431 | .. | .. | 1,350 | .. | 13 | .. | 18 | 2,565 |
| | 2019 | 22,532 | .. | .. | 1,380 | .. | .. | .. | 18 | 2,642 |
| | 2020 | 22,249 | .. | .. | 1,420 | .. | .. | .. | 17 | 2,659 |
| Ukraine | 2017 | 374,362 | .. | .. | 6,329 | 22,833 | .. | 1,263 | .. | .. |
| | 2018 | 381,170 | .. | .. | 6,476 | 22,342 | .. | 1,379 | .. | .. |
| | 2019 | 346,992 | .. | .. | 6,041 | 27,865 | .. | 1,185 | .. | .. |
| | 2020 | 378,863 | .. | .. | 5,809 | 2,300 | 45 | .. | .. | .. |
| United Kingdom | 2017 | 66,695 | .. | .. | .. | .. | .. | .. | 34 | 2,179 |
| | 2018 | 67,971 | .. | .. | .. | .. | .. | .. | 34 | 2,208 |
| | 2019 | 66,436 | .. | .. | .. | .. | .. | .. | 34 | 2,232 |
| | 2020 | 66,334 | .. | .. | .. | .. | .. | .. | 34 | 2,237 |
| Latin America & Carib. | 2017 | .. | .. | .. | .. | .. | .. | .. | 102 | 14,352 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | 102 | 16,433 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | 102 | 18,197 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | 102 | 20,714 |
| Chile | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 2,082 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 2,465 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 2,919 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 2,919 |
| Ecuador | 2017 | .. | .. | .. | .. | .. | .. | .. | *102 | .. |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | *102 | .. |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | *102 | .. |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | *102 | .. |
| Mexico | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 10,888 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 12,531 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 13,796 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 16,280 |
| Peru | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 1,382 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 1,436 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 1,482 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 1,515 |
| Northern America | 2017 | 470,248 | .. | .. | .. | .. | 576 | .. | 11,108 | 79,247 |
| | 2018 | 503,148 | .. | .. | .. | .. | 576 | .. | 43,934 | 105,911 |
| | 2019 | 485,565 | .. | .. | .. | .. | 576 | .. | 14,096 | 114,732 |
| | 2020 | 476,853 | .. | .. | .. | .. | 600 | .. | 13,057 | 117,616 |
| Canada | 2017 | 19,294 | .. | .. | .. | .. | .. | .. | .. | 1,797 |
| | 2018 | 25,201 | .. | .. | .. | .. | .. | .. | .. | 1,810 |
| | 2019 | 22,487 | .. | .. | .. | .. | .. | .. | .. | 1,810 |
| | 2020 | 18,821 | .. | .. | .. | .. | .. | .. | .. | 1,782 |
| Greenland | 2017 | *625 | .. | .. | .. | .. | *576 | .. | .. | .. |
| | 2018 | *625 | .. | .. | .. | .. | *576 | .. | .. | .. |
| | 2019 | *625 | .. | .. | .. | .. | *576 | .. | .. | .. |
| | 2020 | *700 | .. | .. | .. | .. | *600 | .. | .. | .. |

Table 34

Production of heat - by type

Terajoules

| Country or area | Year | Combustible fuels | Geo-thermal | Solar thermal | Nuclear | Chemical sources | Heat pumps and electric boilers | Other sources | Direct use geothermal | Direct use solar thermal |
|---------------------|-------------|-------------------|-------------|---------------|---------|------------------|---------------------------------|---------------|-----------------------|--------------------------|
| St. Pierre-Miquelon | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2019 | 32 | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2020 | 36 | .. | .. | .. | .. | .. | .. | .. | .. |
| United States | 2017 | 450,328 | .. | .. | .. | .. | .. | .. | 11,108 | 77,450 |
| | 2018 | 477,322 | .. | .. | .. | .. | .. | .. | 43,934 | 104,101 |
| | 2019 | 462,421 | .. | .. | .. | .. | .. | .. | 14,096 | 112,922 |
| | 2020 | 457,296 | .. | .. | .. | .. | .. | .. | 13,057 | 115,834 |
| Oceania | 2017 | .. | .. | .. | .. | .. | .. | 1,193 | 8,097 | 16,298 |
| | 2018 | .. | .. | .. | .. | .. | .. | 1,267 | 7,916 | 17,162 |
| | 2019 | .. | .. | .. | .. | .. | .. | 1,167 | 7,940 | 18,096 |
| | 2020 | .. | .. | .. | .. | .. | .. | 1,016 | 7,770 | 19,052 |
| Australia | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 15,698 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 16,560 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 17,493 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 18,449 |
| French Polynesia | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 76 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 78 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 80 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 80 |
| New Caledonia | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | 141 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | 141 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | 141 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | 141 |
| New Zealand | 2017 | .. | .. | .. | .. | .. | .. | 1,193 | 8,097 | 364 |
| | 2018 | .. | .. | .. | .. | .. | .. | 1,267 | 7,916 | 364 |
| | 2019 | .. | .. | .. | .. | .. | .. | 1,167 | 7,940 | 364 |
| | 2020 | .. | .. | .. | .. | .. | .. | 1,016 | 7,770 | 364 |
| Niue | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | *16 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | *16 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | *16 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | *16 |
| Samoa | 2017 | .. | .. | .. | .. | .. | .. | .. | .. | *3 |
| | 2018 | .. | .. | .. | .. | .. | .. | .. | .. | *3 |
| | 2019 | .. | .. | .. | .. | .. | .. | .. | .. | *3 |
| | 2020 | .. | .. | .. | .. | .. | .. | .. | .. | *3 |