SUSTAINABLE ENERGY AUTHORITY OF IRELAND

First Look: Ireland's Energy Supply and Security of Supply in 2023

Part B - Supply & Security Statistics

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Sustainable Energy Authority of Ireland

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Contents

1 Trends in Ireland's total primary energy requirement (TPER) and overall energy imports dependency (OEID) 1
1.1 Total primary energy requirement 1
1.1.1 Total primary energy requirement and annual change 2
1.1.2 Total primary energy requirement by energy product 3
1.1.3 Total primary energy requirement by stream 4
1.2 Overall energy imports dependency 5
1.2.1 Ireland's overall energy imports dependency 6
2 National energy production 7
2.1 Total national energy production and annual change 8
2.2 Total national energy production by energy product 9
2.3 Renewables national energy production and annual change 10
2.4 Renewables national energy production by energy sub-product 11
3 Ireland's international import and export of energy 12
3.1 Energy imports and annual change 13
3.2 Energy imports by energy product 14
3.3 Energy exports and annual change 15
3.4 Energy exports by energy product 16
4 Trends in key renewable energy supply 17
4.1 Renewables – primary energy requirement and annual change 18
4.2 Renewables – primary energy requirement by energy sub-product 19
4.3 Wind - primary energy requirement and annual change 20
4.4 Wind - monthly electricity generated 21
4.5 Wind - installed capacity at year end 22
4.6 Solar PV - annual electricity generated by sub-type 23
4.7 Solar PV - AC installed capacity at year end 24
4.8 Solar farms - monthly electricity generated 25
4.9 Liquid biofuels - primary energy requirement and annual change 26
4.10 Liquid biofuels - primary energy requirement by stream 27
4.11 Liquid biofuels - primary energy requirement by energy sub-product 28
4.12 Biomass, biogas and landfill gas - primary energy requirement and annual change 29

4.13 Biomass, biogas and landfill gas - primary energy requirement by stream 30
4.14 Renewable waste - primary energy requirement and annual change 31
4.15 Ambient heat - primary energy requirement and annual change 32
4.16 Renewables – imports and annual change 33
4.17 Renewables - imports by energy sub-product 34
4.18 Renewables – exports and annual change 35
4.19 Renewables - exports by energy sub-product 36
5 Trends in electricity supply 37
5.1 Electricity generation - total input and annual change 38
5.2 Electricity generation - total input by energy product 39
5.3 Electricity generation - renewable/non-renewable split of total energy input 40
5.4 Electricity generation – total energy input to and electricity output by stream 41
5.5 Electricity generation - renewables input and annual change 42
5.6 Electricity generation - renewables input by energy sub-product 43
5.7 Electricity generation - non-renewables input and annual change 44
5.8 Electricity generation - non-renewables input by energy sub-product 45
5.9 Interconnected electricity - imports and exports 46
5.9.1 Interconnected electricity - annual imports and exports by stream 47
5.9.2 Interconnected electricity – monthly imports and exports by stream 48
6 Trends in natural gas supply 49
6.1 Natural gas - primary energy requirement and annual change 50
6.2 Natural gas - primary energy requirement by stream 51
6.3 Natural gas - import dependency 52
6.4 Natural gas - input to electricity generation and annual change 53
6.5 Natural gas - input to electricity generation or other uses 54
6.6 Natural gas - monthly electricity generated 55
7 Trends in oil supply 56
7.1 Oil - primary energy requirement and annual change 57
7.2 Oil – primary energy requirement by energy product 58
7.3 Oil – primary energy requirement by stream 59
7.4 Oil - imports and annual change 60
7.5 Oil - imports by energy sub-product 61

7.6 Oil - imports by country of origin 62
7.6.1 Oil - imports by country of origin 63
7.6.2 Crude oil - net imports by country of origin 64
7.6.3 Diesel / gas oil - imports by country of origin 65
7.6.4 Gasoline - imports by country of origin 66
7.6.5 Kerosene - imports by country of origin 67
7.6.6 Jet kerosene - imports by country of origin 68
7.7 Oil - exports and annual change 69
7.8 Oil - exports by energy sub-product 70
7.9 Oil - stock change 71
7.10 Oil - transformation input and annual change 72
7.11 Oil - transformation input by energy sub-product 73
7.12 Oil - transformation output and annual change 74
7.13 Oil - transformation output by energy sub-product 75
7.14 Oil - transformation input and output by energy sub-product 76
7.15 Oil - available final energy consumption of sub-products 77
7.15.1 Diesel / gas oil - available final energy consumption and annual change 78
7.15.2 Diesel / gas oil - available final energy consumption by stream 79
7.15.3 Gasoline - available final energy consumption and annual change 80
7.15.4 Gasoline - available final energy consumption by stream 81
7.15.5 Kerosene - available final energy consumption and annual change 82
7.15.6 Kerosene - available final energy consumption by stream 83
8 Trends in coal supply 84
8.1 Coal - primary energy requirement and annual change 85
8.2 Coal - primary energy requirement by energy sub-product 86
8.3 Coal - primary energy requirement by stream 87
8.4 Coal - imports and annual change 88
8.5 Coal - imports by sub-product 89
8.6 Coal - imports by country of origin 90
8.7 Coal - input to electricity generation and annual change 92
8.8 Coal - input to electricity generation or other uses 93
9 Trends in peat supply 94
9.1 Peat - primary energy requirement and annual change 95

9.2 Peat - primary energy requirement by sub-product 96
9.3 Peat - primary energy requirement by stream 97
9.4 Peat - input to electricity generation and annual change 98
9.5 Peat - input to electricity generation or other uses 99
10 Appendix 100
10.1 Ireland's overall energy imports dependency 100
10.2 Wind - installed capacity at year end 100
10.3 Solar PV - annual electricity generated by sub-type 100
10.4 Solar PV - installed capacity at year end 101
10.5 Electricity generation - renewable/non-renewable split of total energy input 101
10.6 Interconnected electricity - annual imports and exports by stream 102
10.7 Interconnected electricity - monthly imports and exports by stream 102
10.8 Natural gas - import dependency 105
10.9 Version Control 105
11 Data availability 106
Acknowledgements 107

1 Trends in Ireland's total primary energy requirement (TPER) and overall energy imports dependency (OEID)

1.1 Total primary energy requirement

Total primary energy requirement (TPER) excludes non-energy sub-products (bitumen, lubricants and white spirits) and is calculated as the sum of five streams from the supply block in Ireland's National Energy Balance:

- National production (+)
- Imports (+)
- Exports (-)
- Marine bunkers (-)
- Stock change (+ or -)

Ireland's TPER is a measurement of the total energy quantity needed to facilitate own use of energy by the energy sector, transformation and distribution of energy and their associated losses, as well as final energy consumption by the end user in a given year.

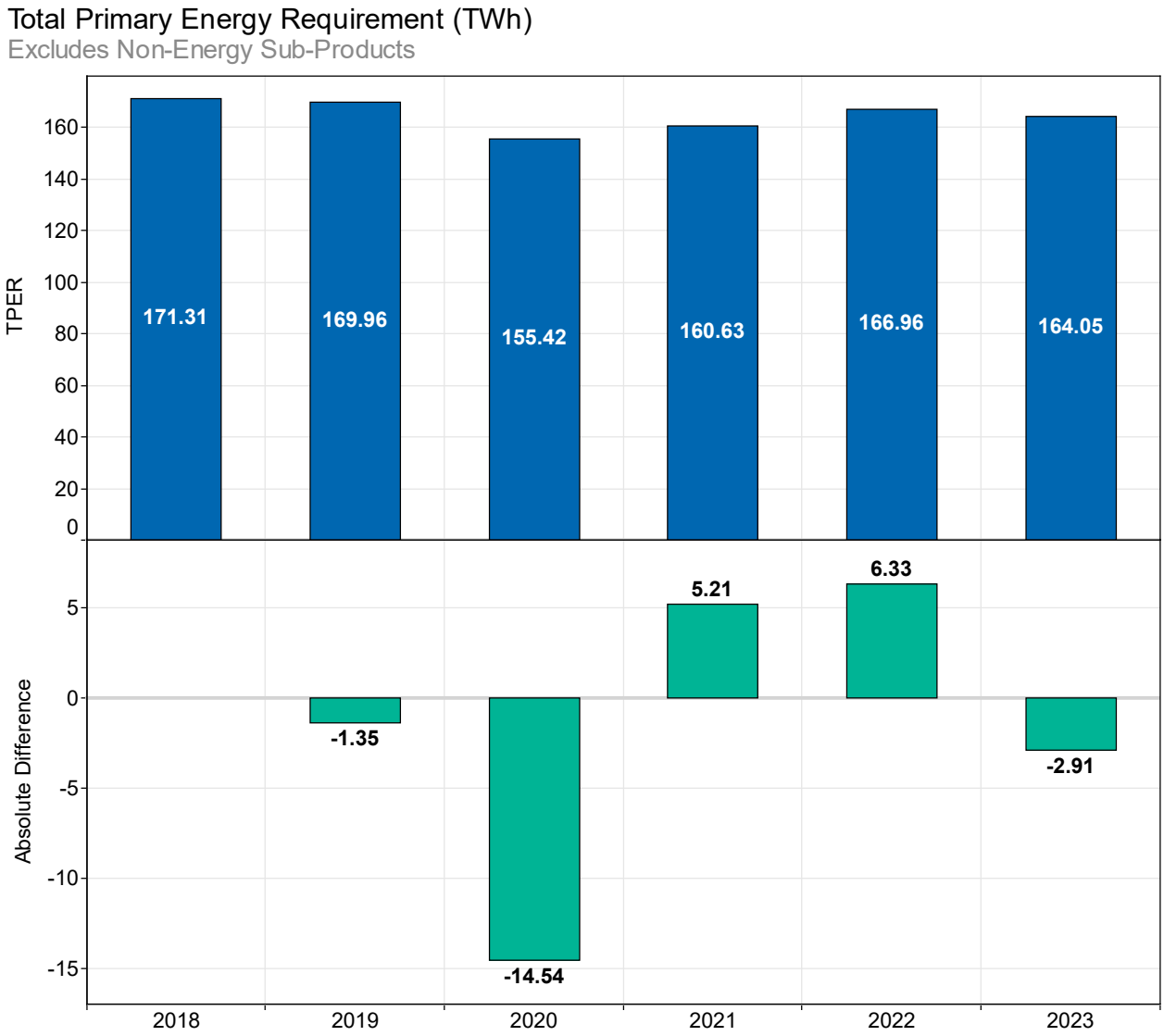
Primary energy requirement data has been informed by survey responses received from organisations, including energy producers, import/export companies, network operators and energy supply companies. It also includes multiple public administration datasets including EU-ETS data provided by the EPA to SEAI and data from the Revenue Commissioners, the Environmental Protection Agency (EPA), the Oil Levy Assessment (OLA) and the Sustainable Energy Authority of Ireland (SEAI).

Data is collected in a range of physical and energy units based on the energy sub-product type (*e.g.* kilotonnes, kilolitres, terajoules, million cubic meters, gigawatt hours) and converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) by SEAI using conversion factors on a net calorific value basis.

Electricity generation from non-combustible renewable sources (*e.g.* wind, hydro, solar PV) have been set at 100% efficient as electricity production is the first point of measurement for these renewable sub-types.

1.1.1 Total primary energy requirement and annual change

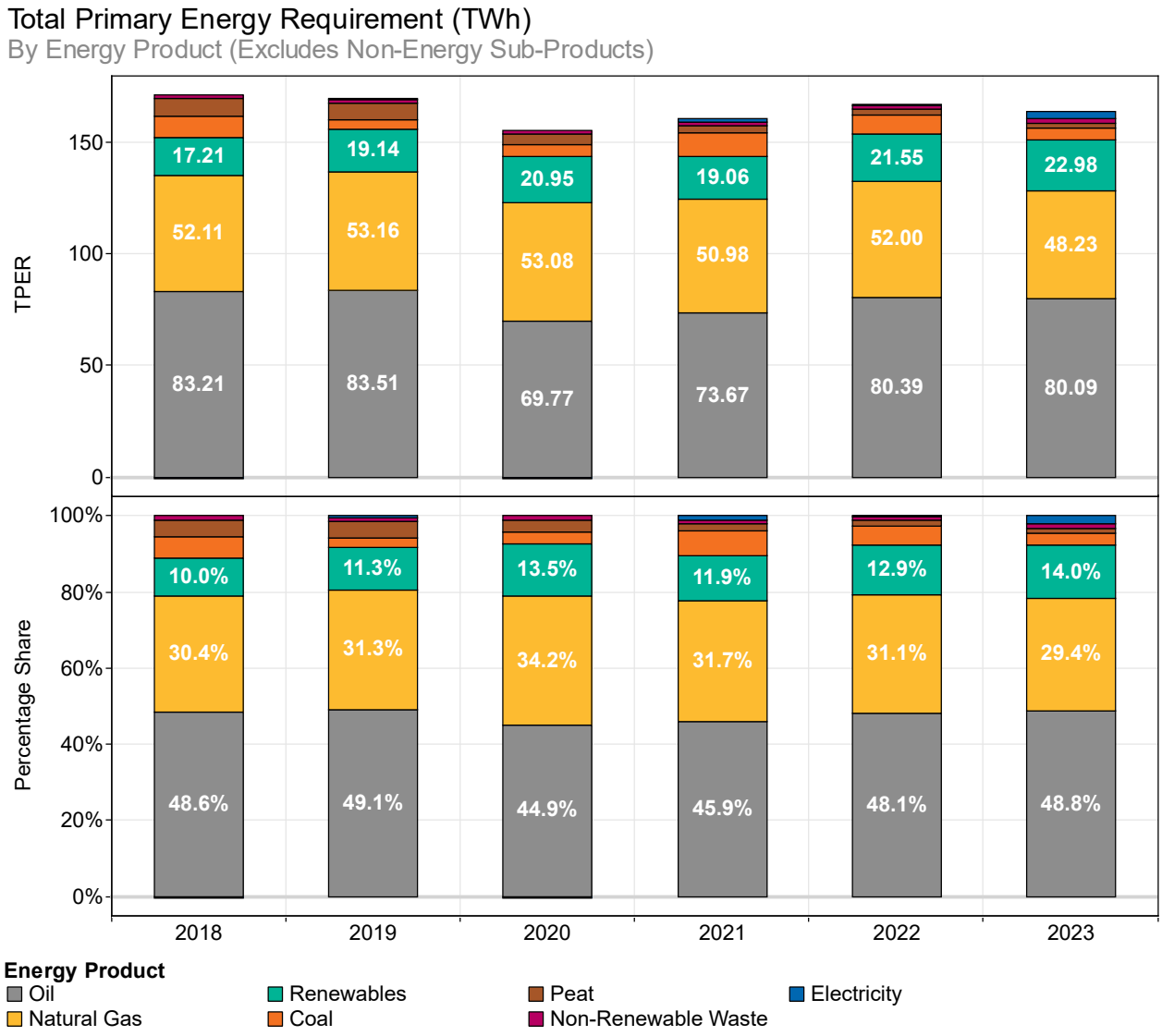
Figure 1.1.1 (top) shows Ireland's annual TPER for the last 6-years. Figure 1.1.1 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual TPER for the last 6-years, *i.e.* the value in 2023 is the difference between the TPER in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

1.1.2 Total primary energy requirement by energy product

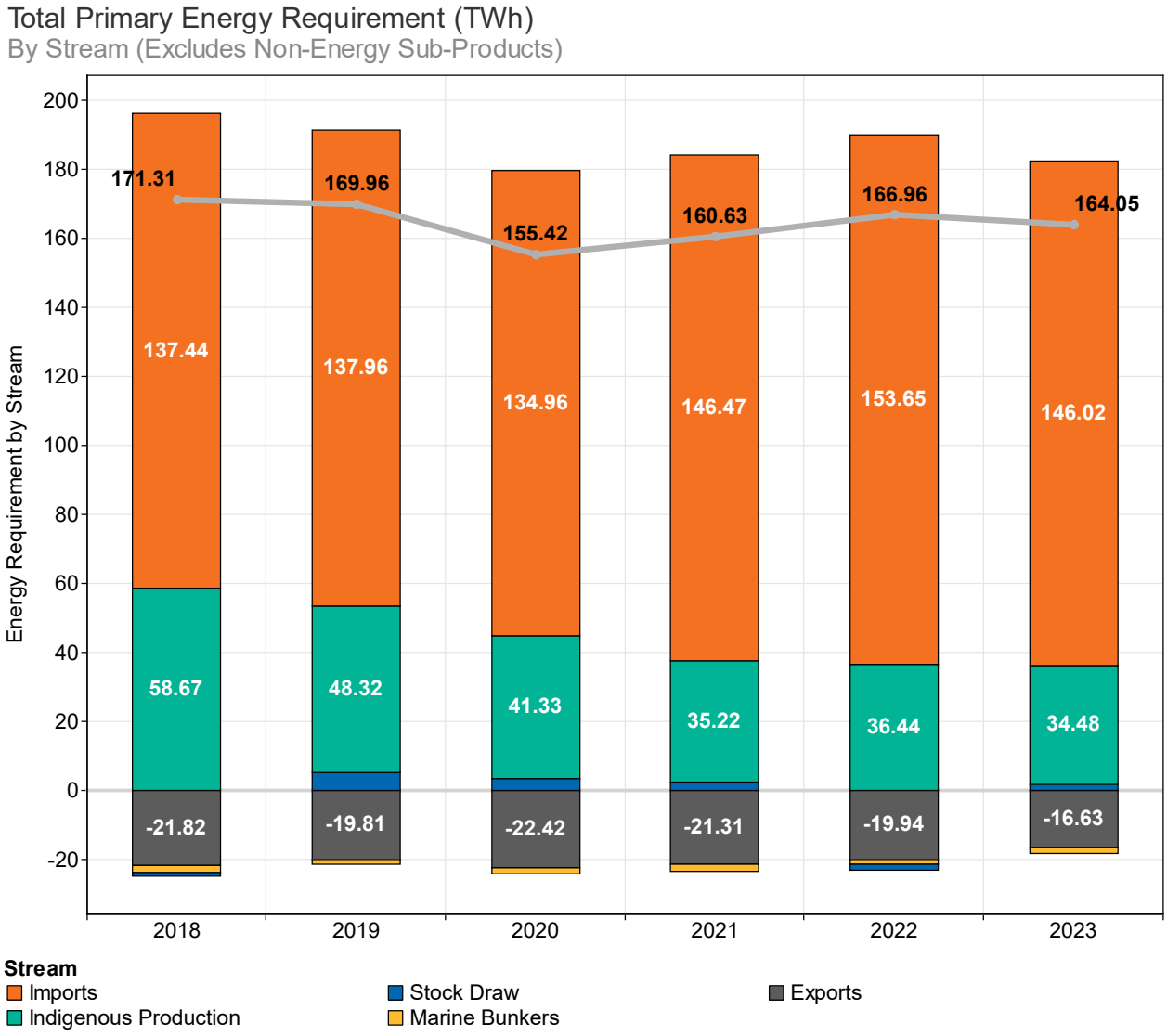
Figure 1.1.2 (top) shows the annual TPER with its energy product breakdown. Figure 1.1.2 (bottom) shows the energy product breakdown displayed as a percentage of the total primary energy requirement. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

1.1.3 Total primary energy requirement by stream

Figure 1.1.3 shows the annual TPER broken out by stream. The bars show the absolute energy quantity delivered or removed from Ireland's TPER by each stream and the line shows the net TPER, calculated as a sum of the individual streams. National production, energy imports and net stock draw add to the TPER, while energy exports, marine bunkers and net stock build reduce the value of the TPER. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

1.2 Overall energy imports dependency

Energy import dependency[1] is defined as the ratio of net energy imports to gross available energy:

1. $\text{Gross available energy} = \text{primary production} + \text{imports} - \text{exports} + \text{stock change}$
2. $\text{Energy imports dependency} = \frac{(\text{imports} - \text{exports})}{\text{Gross available energy}}$

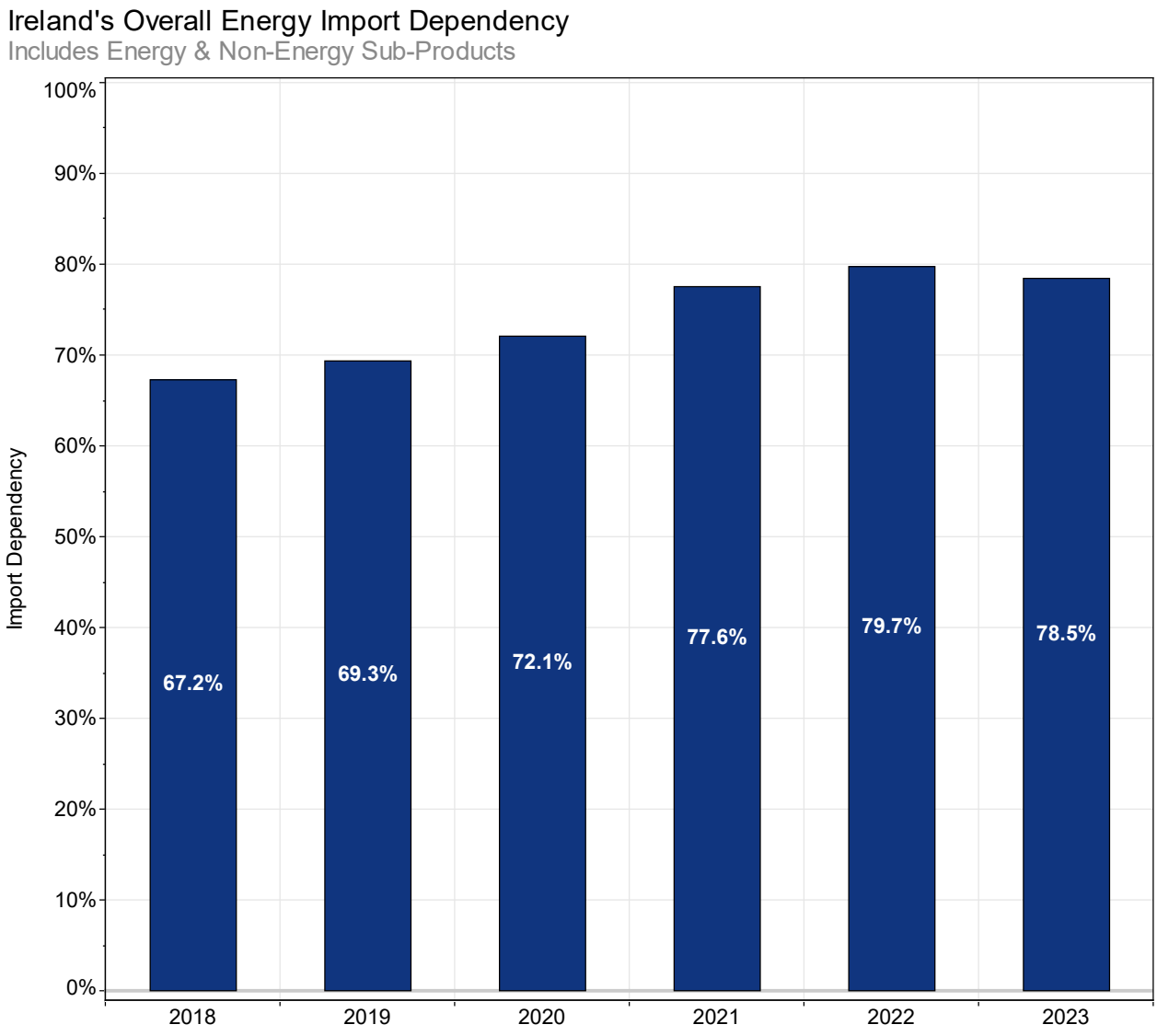
When expressed as a percentage, a country's overall energy imports dependency is therefore the percentage of the total gross available energy which is met by net imports of energy products from other countries. This indicator can also be applied to individual energy products.

Although energy import dependency is a simple and useful indicator that is widely used, greater context and more detailed information is required for a more in depth understanding. For example, exports have the effect of lowering a country's energy imports dependency and therefore, a country that is a net exporter of energy will have a negative energy imports dependency value. In contrast, it is also possible for a country to have an import dependency in excess of 100%. This indicates that energy product stocks have been built.

[1] Eurostat, "Energy imports dependency (nrg_ind_id)," [Online]. https://ec.europa.eu/eurostat/cache/metadata/en/nrg_ind_id_esmsip2.htm.

1.2.1 Ireland's overall energy imports dependency

Figure 1.2.1 shows Ireland's overall energy imports dependency. This overall energy imports dependency is a ratio of Ireland's total gross available energy which is met by net imports of energy products from other countries and is expressed as a percentage. The natural gas import dependency is shown in section 6.3 Ireland's national energy production is discussed in further detail in section 2.



Source: The data in the figure above is available in the Appendix of this note – section 10.1.

2 National energy production

National production of energy is energy which is supplied to Ireland from within Ireland's national boundaries. Within the context of energy security, energy which is produced nationally is generally considered more secure than imported energy.

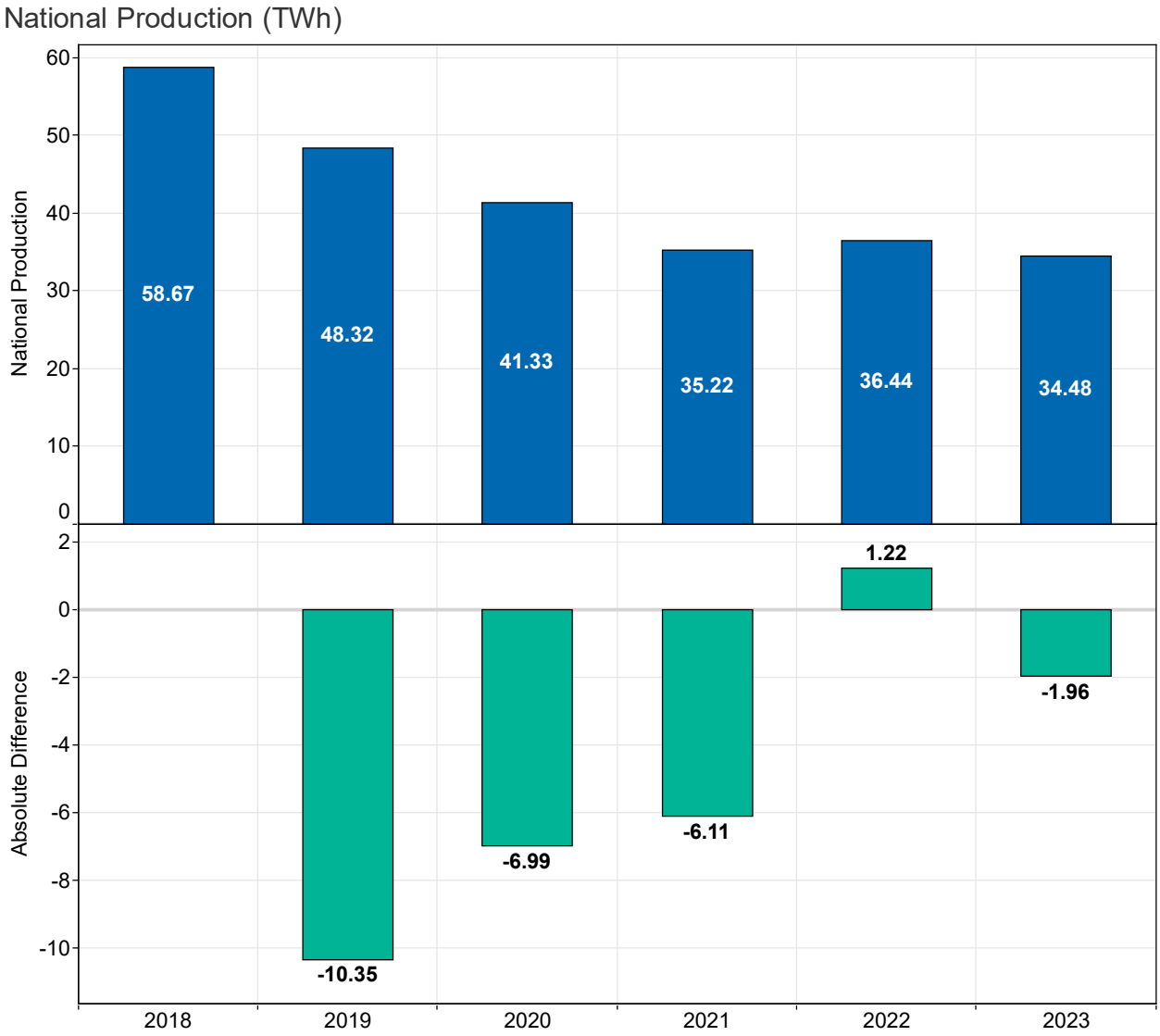
National energy production data has been informed by survey responses received from organisations, including energy producers and network operators. It is also includes data from multiple public administration datasets including the Environmental Protection Agency (EPA) and the Sustainable Energy Authority of Ireland (SEAI).

Data is collected in a range of physical and energy units based on the energy sub-product type (*e.g.* kilotonnes, kilolitres, terajoules, million cubic meters, gigawatt hours) and converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) by SEAI using conversion factors on a net calorific value basis.

Electricity generation from non-combustible renewable sources (*e.g.* wind, hydro, solar PV) have been set at 100% efficient as electricity production is the first point of measurement for these renewable sub-types.

2.1 Total national energy production and annual change

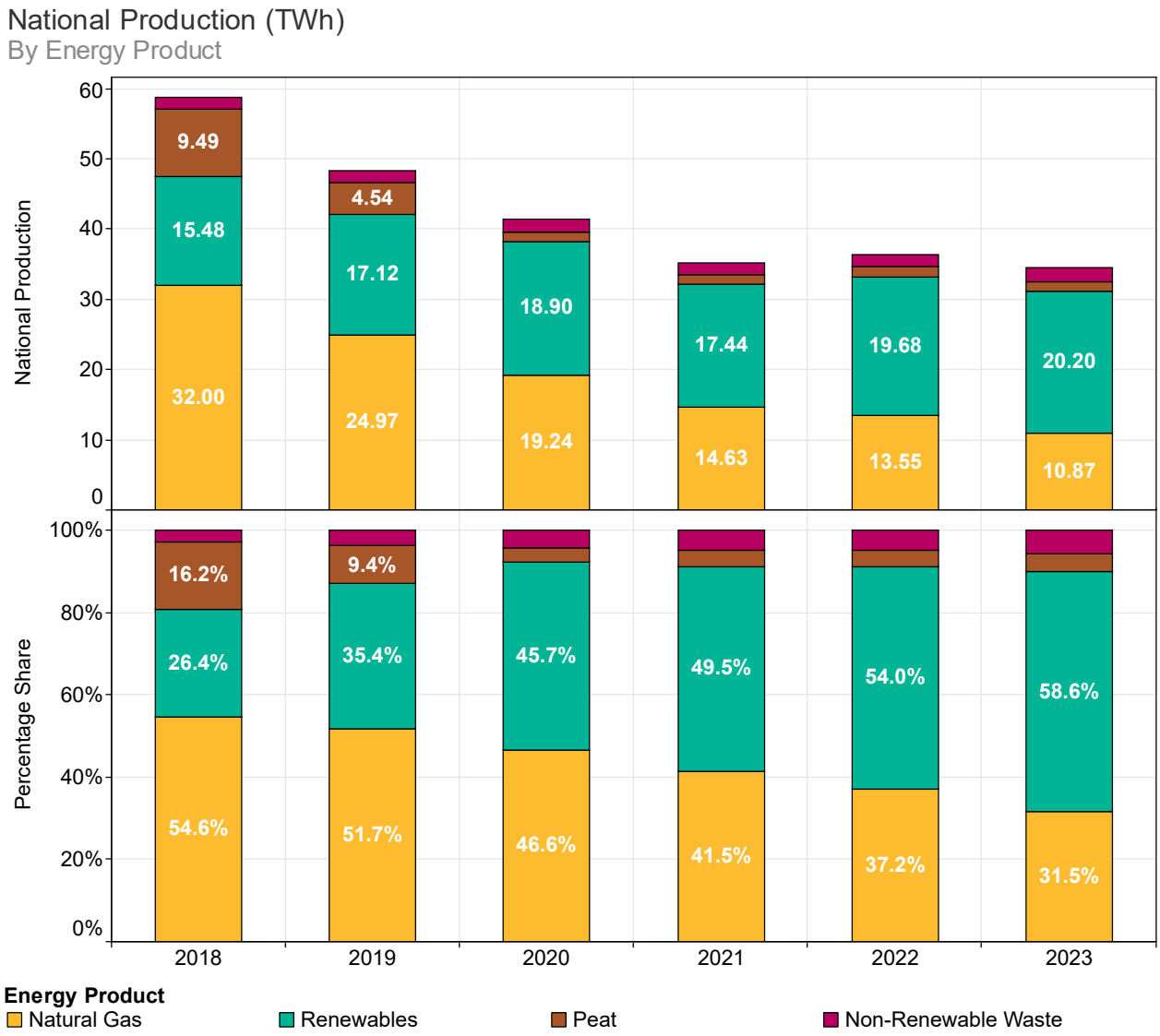
Figure 2.1 (top) shows Ireland's annual total national energy production for the last 6-years. Figure 2.1 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual total national energy production for the last 6-years, *i.e.* the value in 2023 is the difference between the total national energy production in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

2.2 Total national energy production by energy product

Figure 2.2 (top) shows the national energy production with its energy product breakdown. Figure 2.2 (bottom) shows the energy product breakdown displayed as a percentage of the total national production. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



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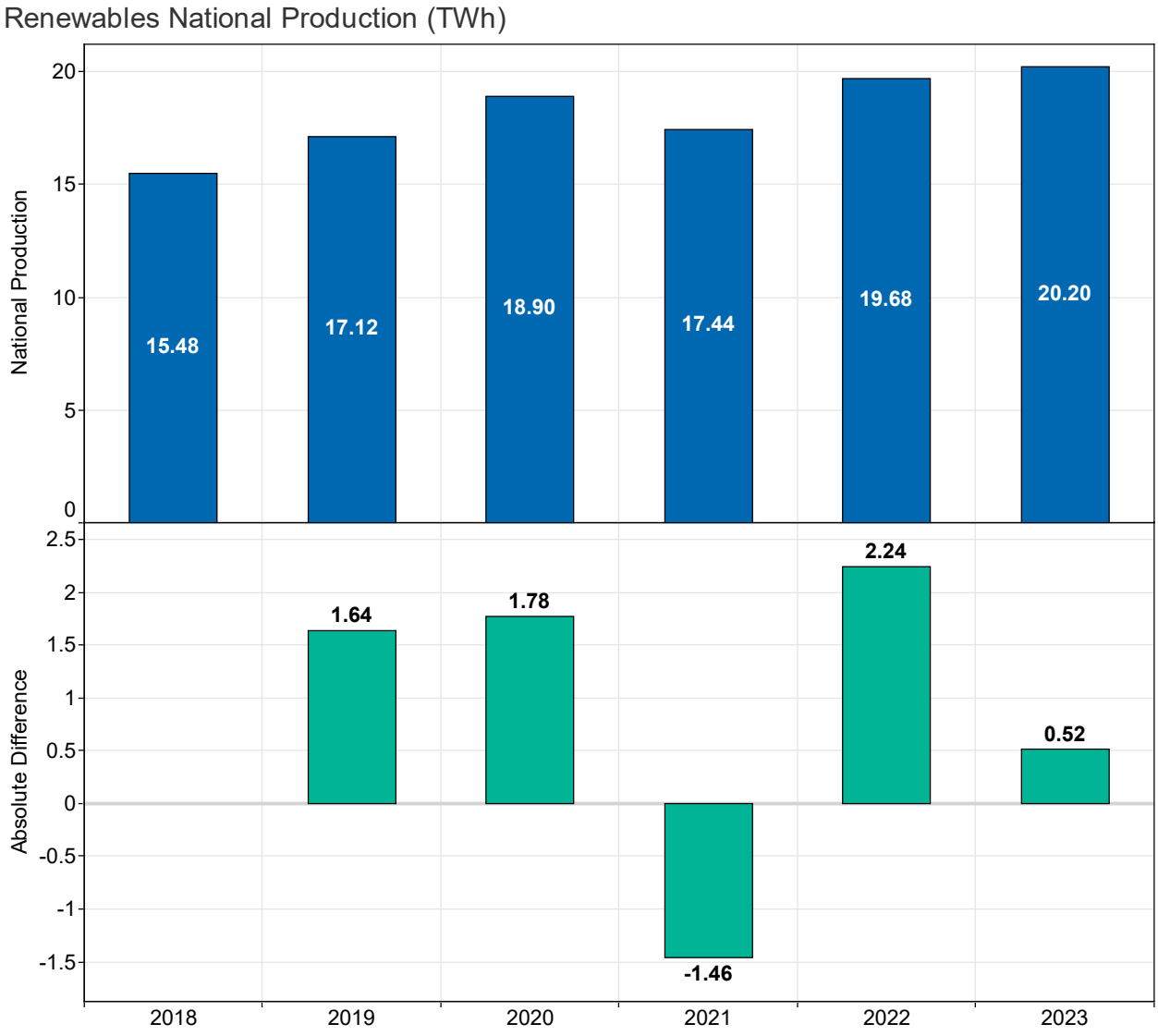
2.3 Renewables national energy production and annual change

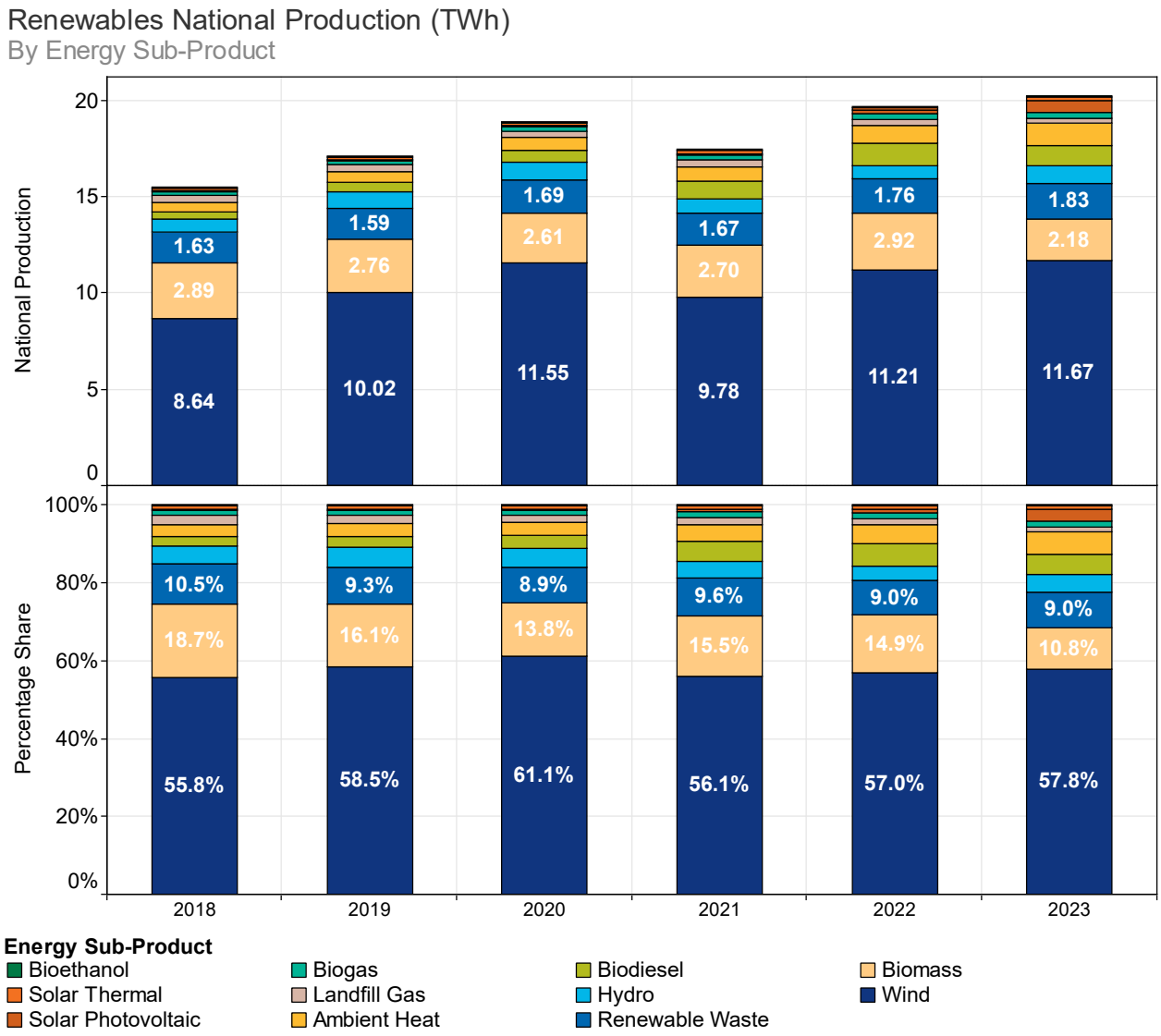
Figure 2.3 (top) shows Ireland's annual renewables national energy production for the last 6-years. Figure 2.3 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual renewables national energy production for the last 6-years, *i.e.* the value in 2023 is the difference between the renewables national energy production in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

2.4 Renewables national energy production by energy sub-product

Figure 2.4 (top) shows the national energy production of renewables with its energy sub-product breakdown. Figure 2.4 (bottom) shows the energy sub-product breakdown displayed as a percentage of the renewables national production. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

3 Ireland's international import and export of energy

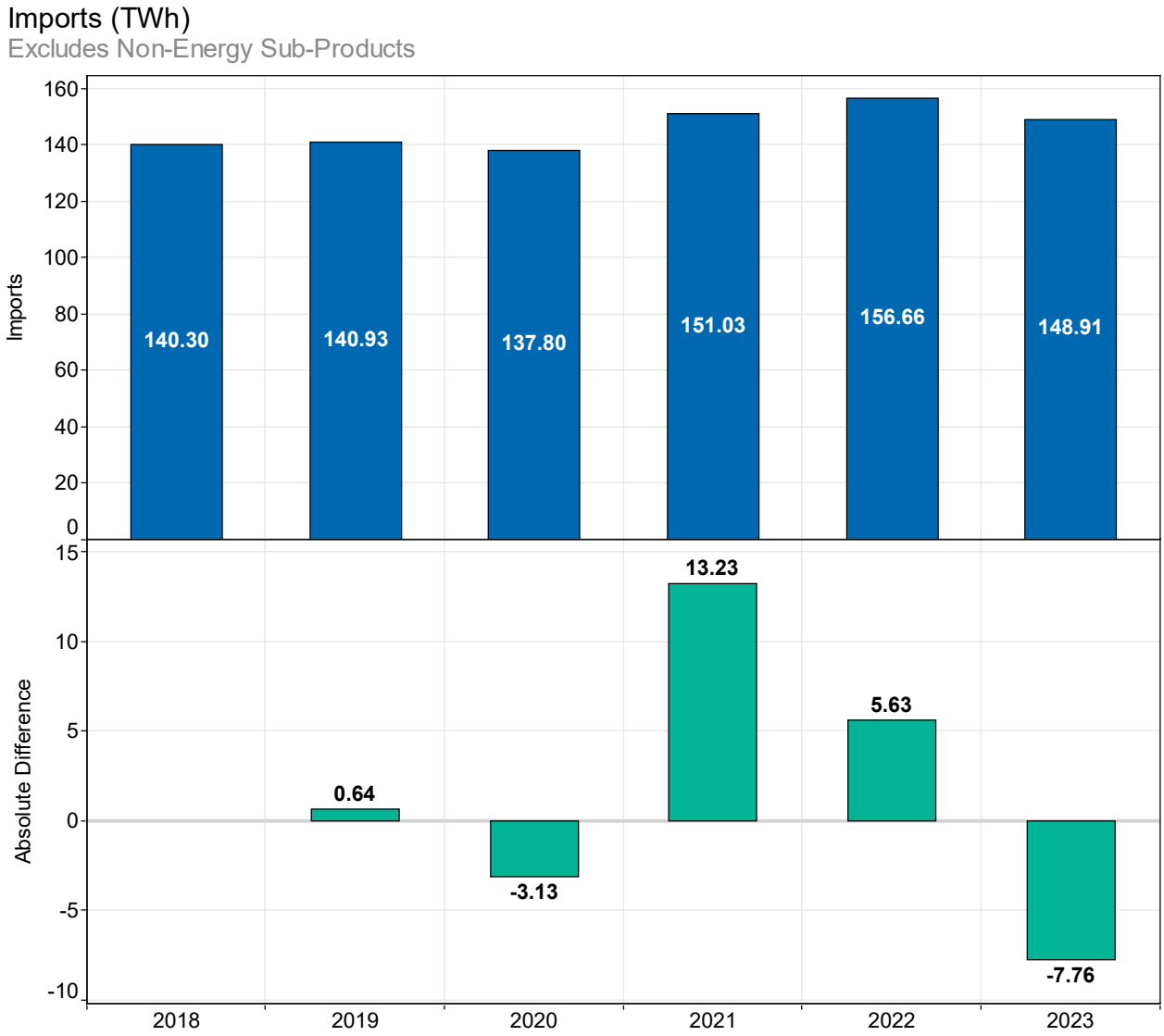
International import and export of energy is energy which is has crossed Ireland's national boundaries into and out of the country, respectively.

Import and export data has been informed by survey responses received from organisations, including energy producers, import/export companies, network operators and energy supply companies. It is also includes aggregated public administrative data from the Revenue Commissioners and the Oil Levy Application (OLA) database.

Data is collected in a range of physical and energy units based on the energy sub-product type (*e.g.* kilotonnes, kilolitres, terajoules, million cubic meters, gigawatt hours) and converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) by SEAI using conversion factors on a net calorific value basis.

3.1 Energy imports and annual change

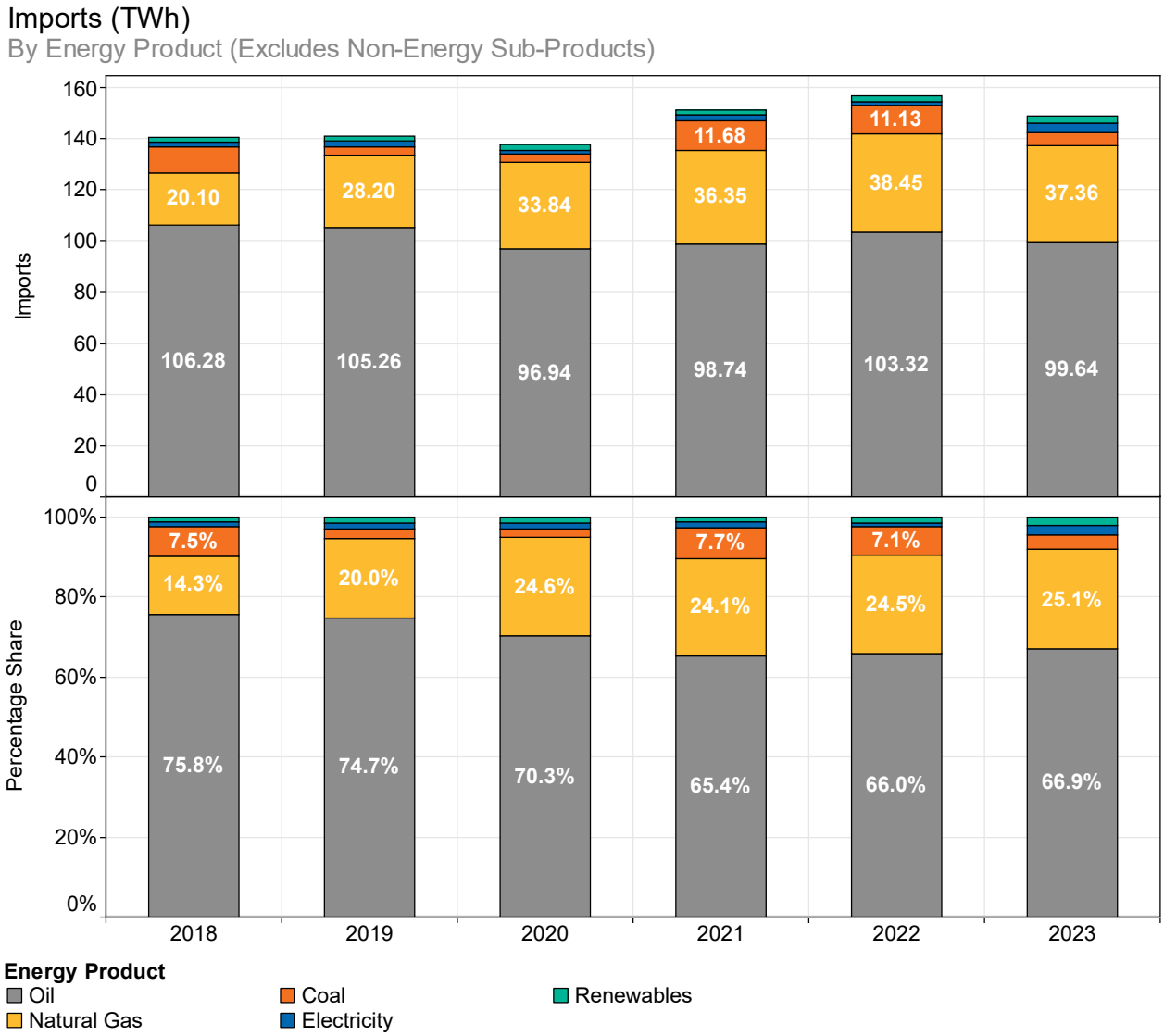
Figure 3.1 (top) shows Ireland's annual total energy imports for the last 6-years. Figure 3.1 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual total energy imports for the last 6-years, *i.e.* the value in 2023 is the difference between the total energy imports in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

3.2 Energy imports by energy product

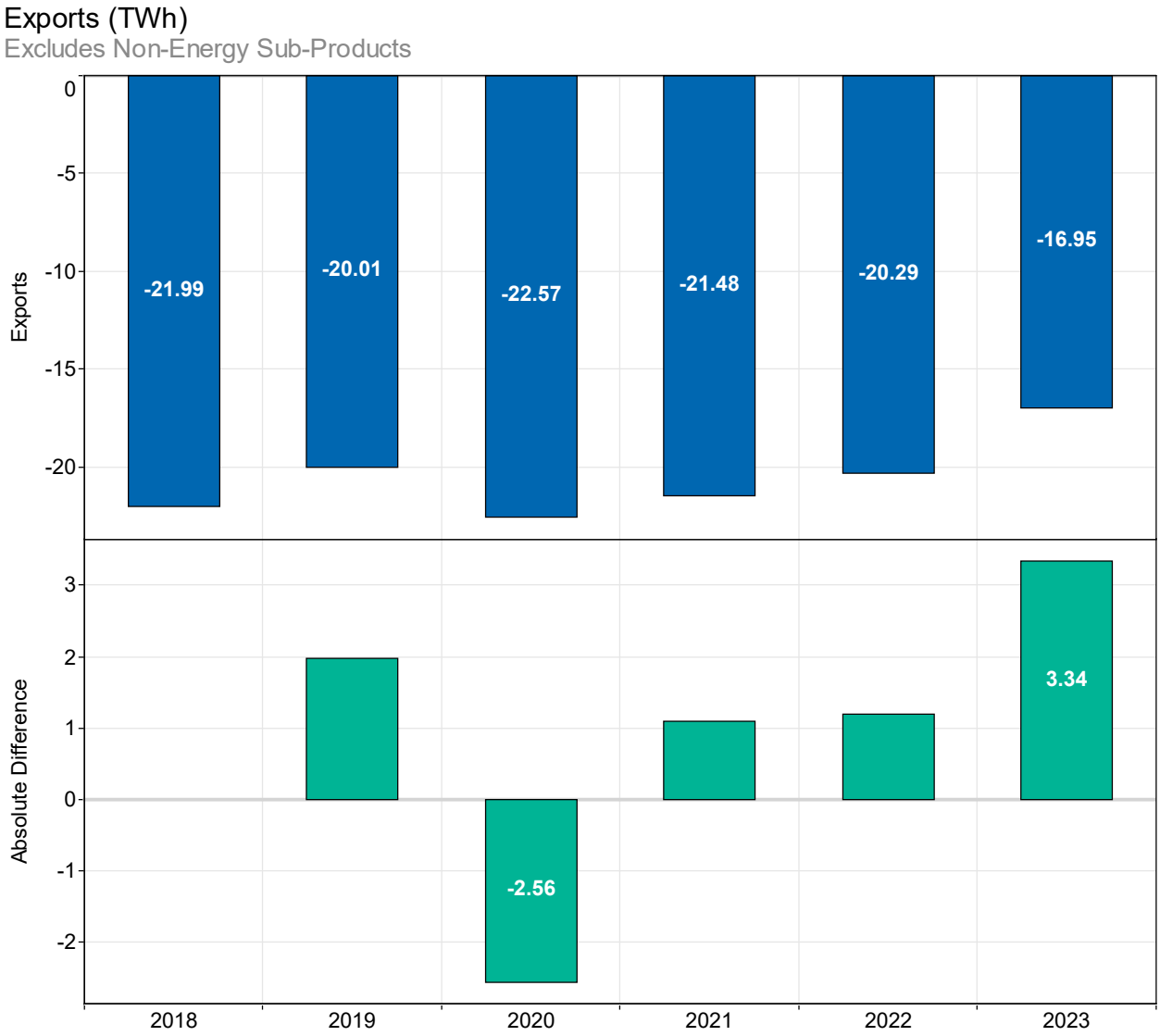
Figure 3.2 (top) shows the total energy imports with its energy product breakdown (top). Figure 3.2 (bottom) shows the energy product breakdown displayed as a percentage of the total energy imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

3.3 Energy exports and annual change

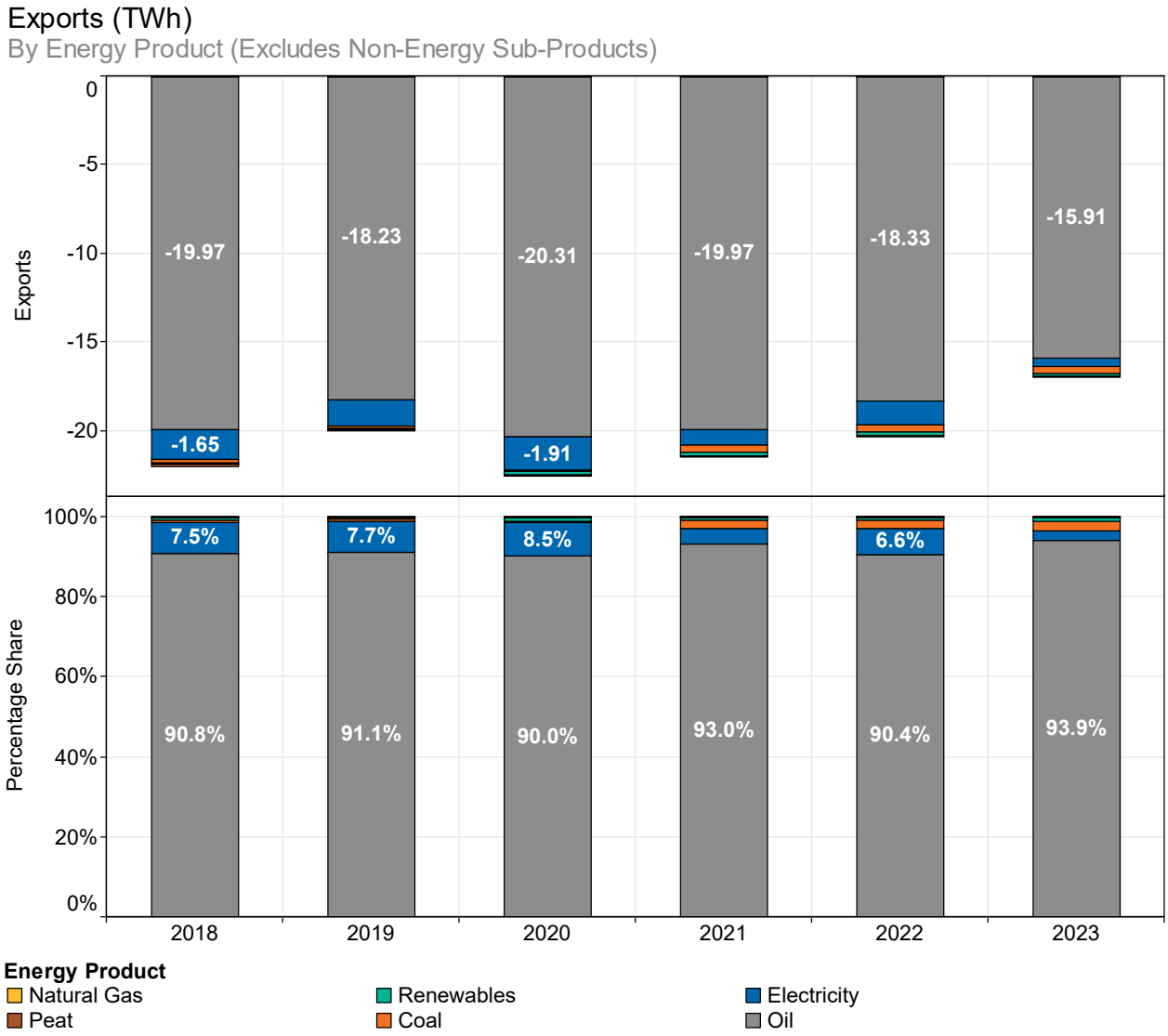
Figure 3.3 (top) shows Ireland's annual total energy exports for the last 6-years. Figure 3.3 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual total energy exports for the last 6-years, *i.e.* the value in 2023 is the difference between the total energy exports in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

3.4 Energy exports by energy product

Figure 3.4 shows the total energy exports with its energy product breakdown (top). Figure 3.4 (bottom) shows the energy product breakdown displayed as a percentage of the total energy exports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4 Trends in key renewable energy supply

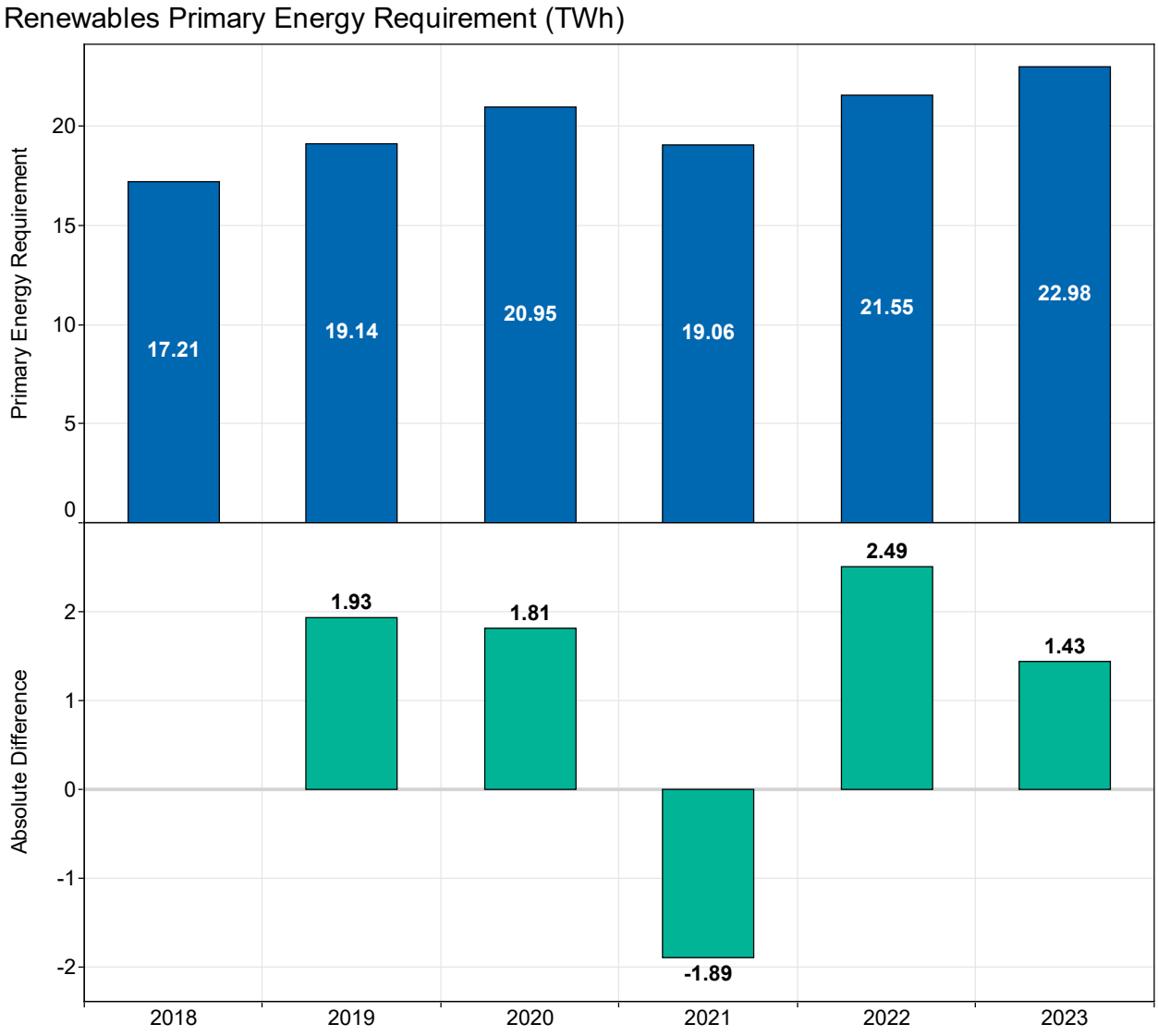
Renewables supply, transformation and, exchange and transfers data has been informed by survey responses, as well as generation and capacity data received from organisations, including energy producers, import/export companies and energy supply companies. It also includes multiple public administration datasets including EU-ETS data provided by the the Environmental Protection Agency (EPA), other evironmental data from the EPA, the Oil Levy Assessment (OLA), and SEAI grant data, along with historical data from the Heat Pump Association of Ireland.

Data is collected in a range of physical and energy units based on the energy sub-product type (*e.g.* kilotonnes, kilolitres, terajoules, gigawatt hours) and converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) by SEAI using conversion factors on a net calorific value basis.

Electricity generation from non-combustible renewable sources (*e.g.* wind, hydro, solar PV) have been set at 100% efficient as electricity production is the first point of measurement for these renewable sub-types.

4.1 Renewables – primary energy requirement and annual change

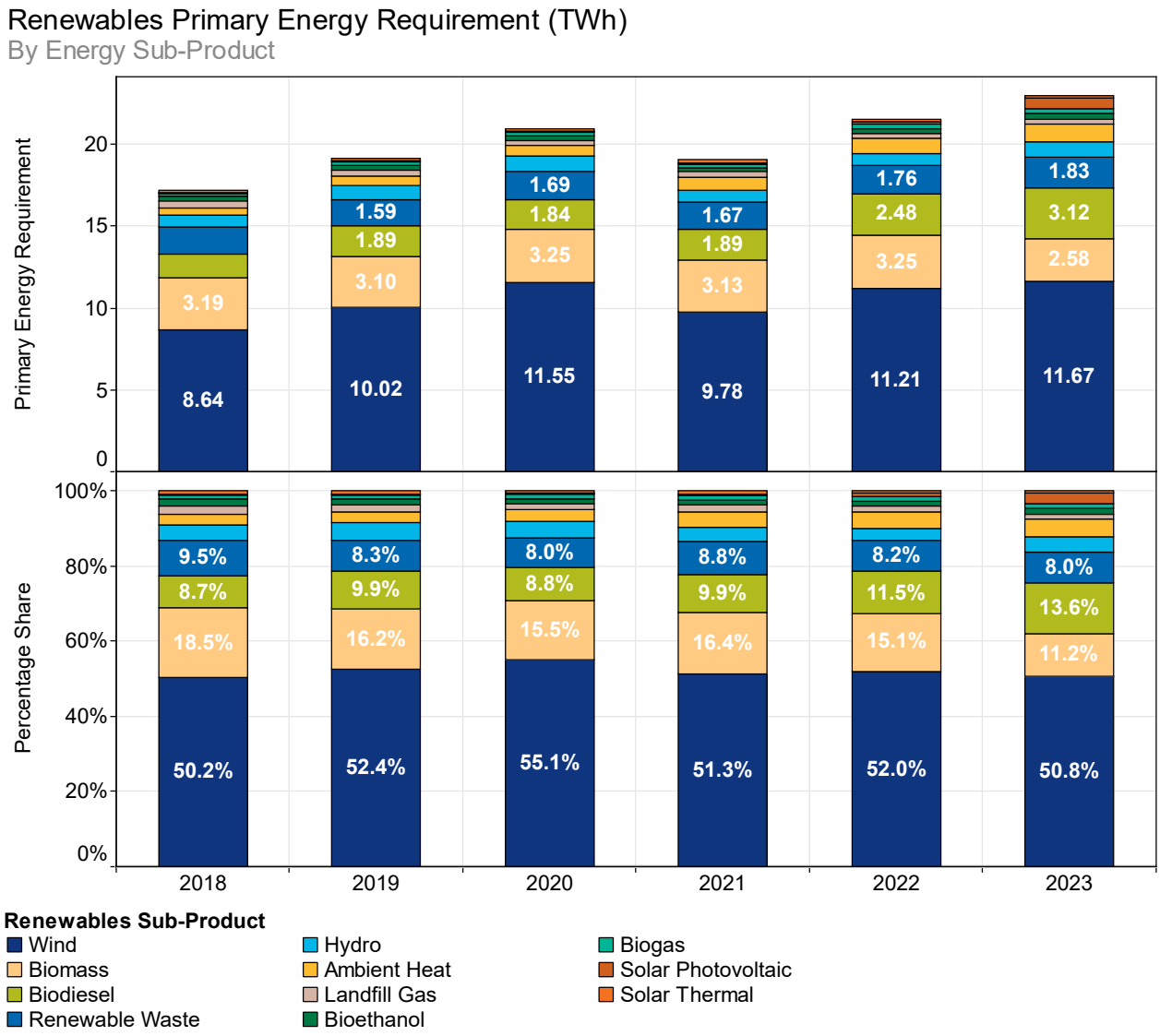
Figure 4.1 (top) shows Ireland's annual renewables primary energy requirement for the last 6-years. Figure 4.1 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual renewables primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the renewables primary energy requirement in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.2 Renewables – primary energy requirement by energy sub-product

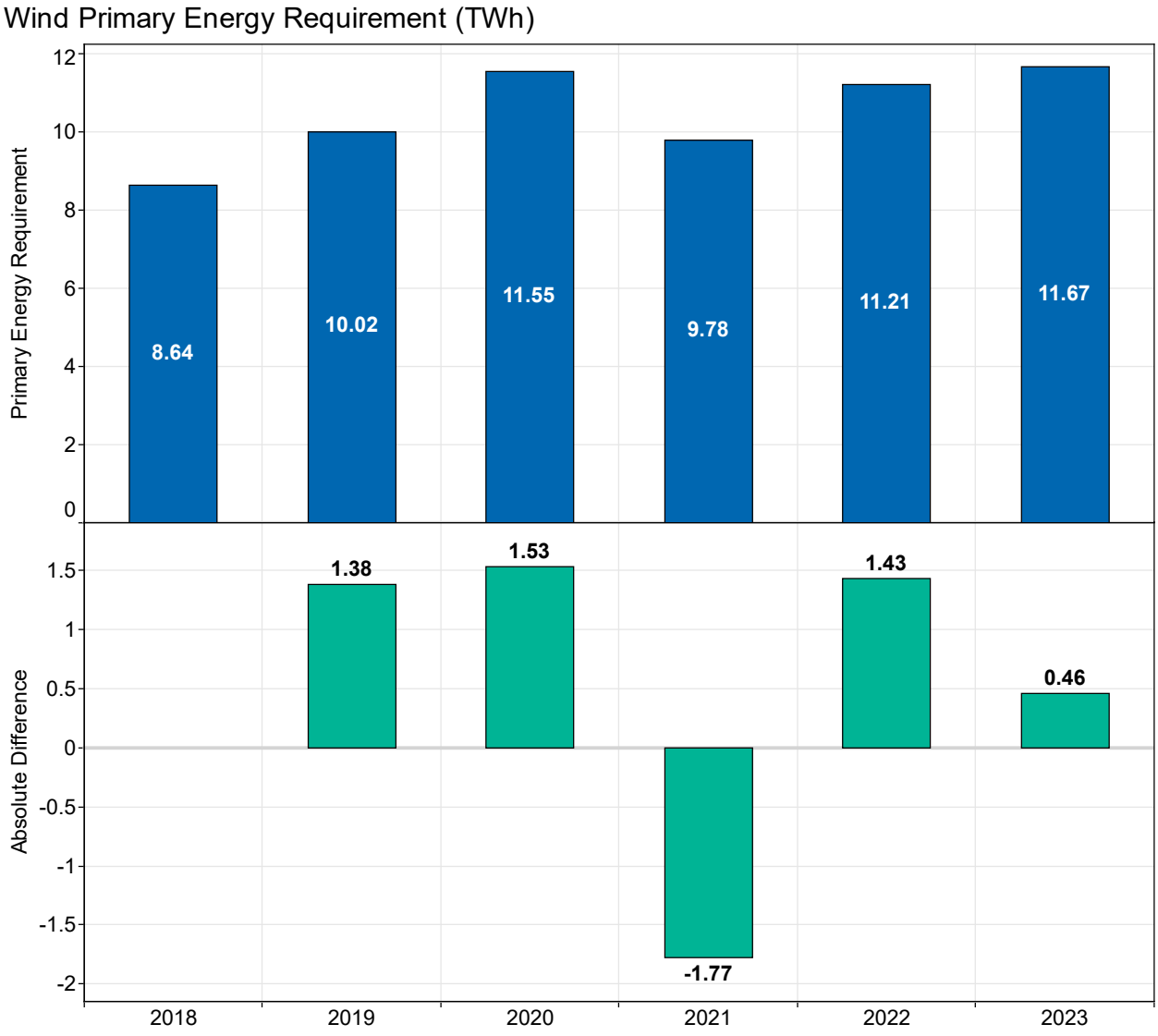
Figure 4.2 shows the annual renewables primary energy requirement with its energy sub-product breakdown (top). Figure 4.2 (bottom) shows the energy sub-product breakdown displayed as a percentage of the total renewables primary energy requirement. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.3 Wind - primary energy requirement and annual change

Figure 4.3 (top) shows Ireland's annual wind primary energy requirement for the last 6-years. Figure 4.3 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual wind primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the wind primary energy requirement in 2023 *vs.* 2022.



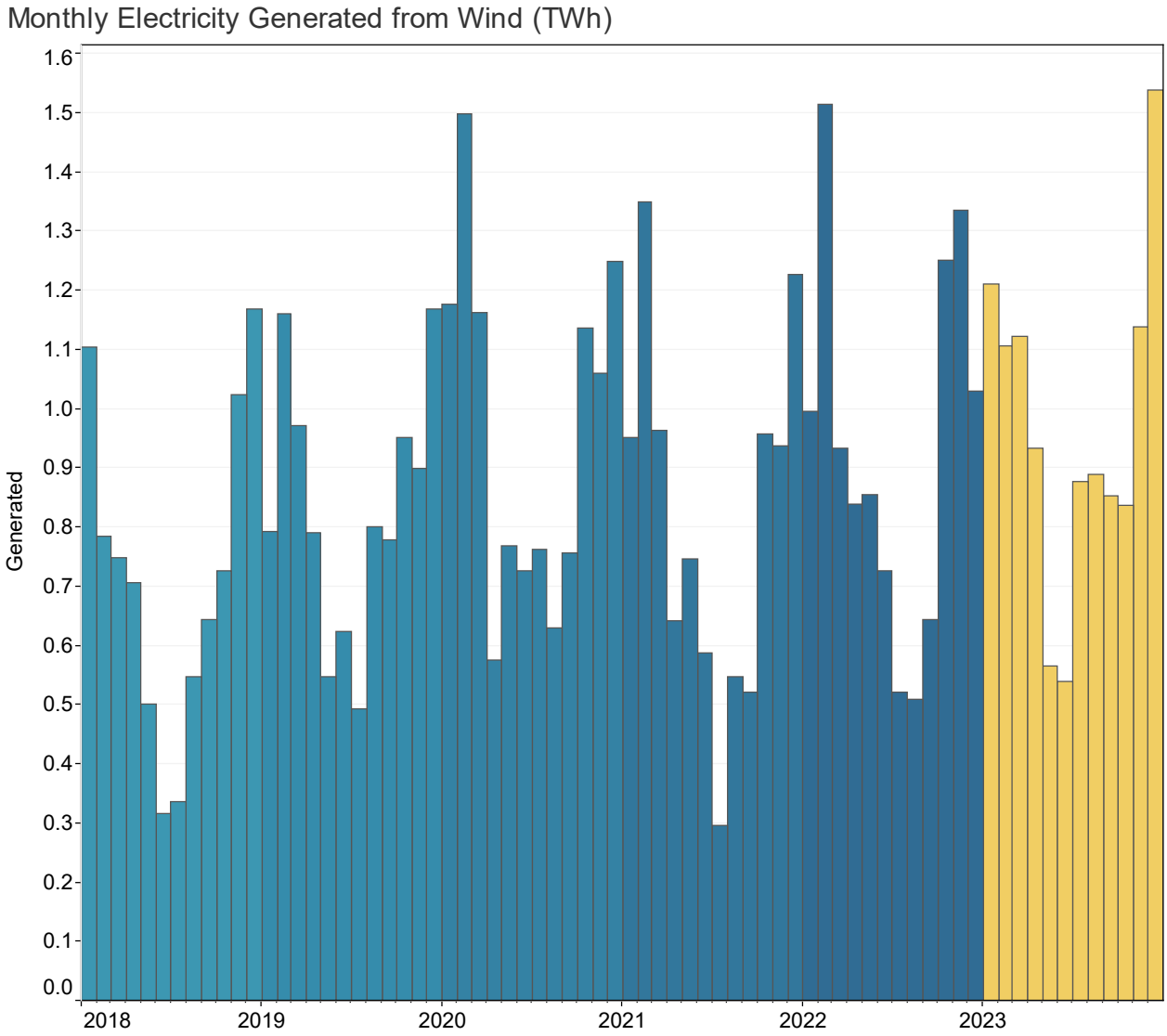
Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.4 Wind - monthly electricity generated

Figure 4.4 shows the total monthly electricity generated from wind. The bar-chart helps identify seasonal variations (and any short-term "shocks") in the monthly electricity generated from wind. For clarity and ease of comparison, the most recent year is coloured yellow, whereas, previous years are coloured in different shades of blue.

The values in the figure below are based on data provided to SEAI by EirGrid and are provisional.

Data is provided by EirGrid in megawatt hours (MWh) in terms of a net electricity production basis and converted to terawatt hours (TWh) by SEAI.

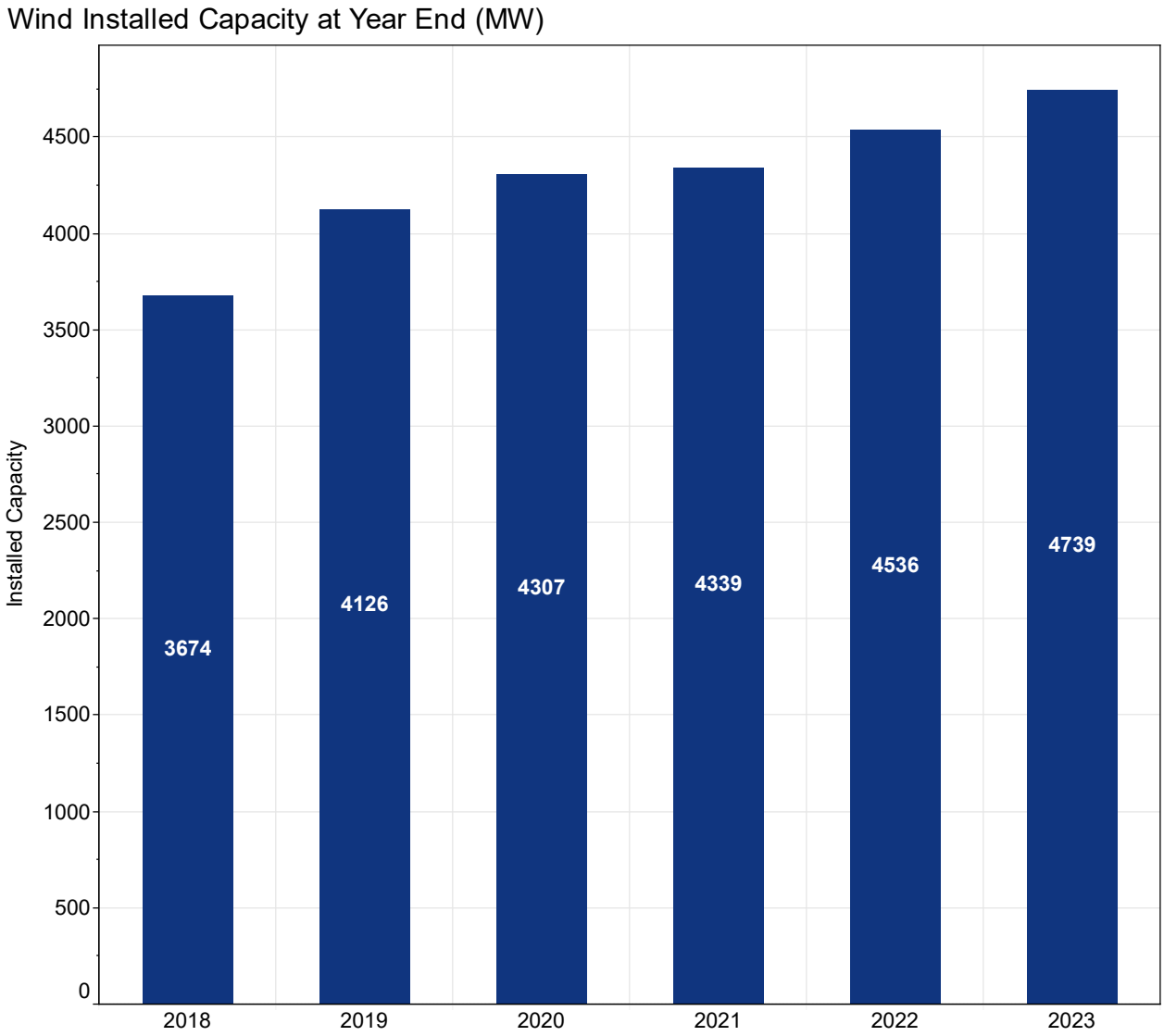


Source: The data in the figure above is based on provisional monthly survey returns, and is available from the SEAI website:
https://www.seai.ie/data-and-insights/seai-statistics/monthly-energy-data/electricity-monthly/

4.5 Wind - installed capacity at year end

Figure 4.5 shows the total wind installed capacity at year end and includes transmission system operator (TSO), distribution system operator (DSO) and autoproducers. TSO and DSO installed capacities are available for download on the Eirgrid website[2]. Autoproducer data is informed by survey responses received by SEAI.

For TSO and autoproducer installations, data is related to the installed capacity. However, for DSO installations, data is related to the maximum export capacity (MEC). All data is collected in MW units.



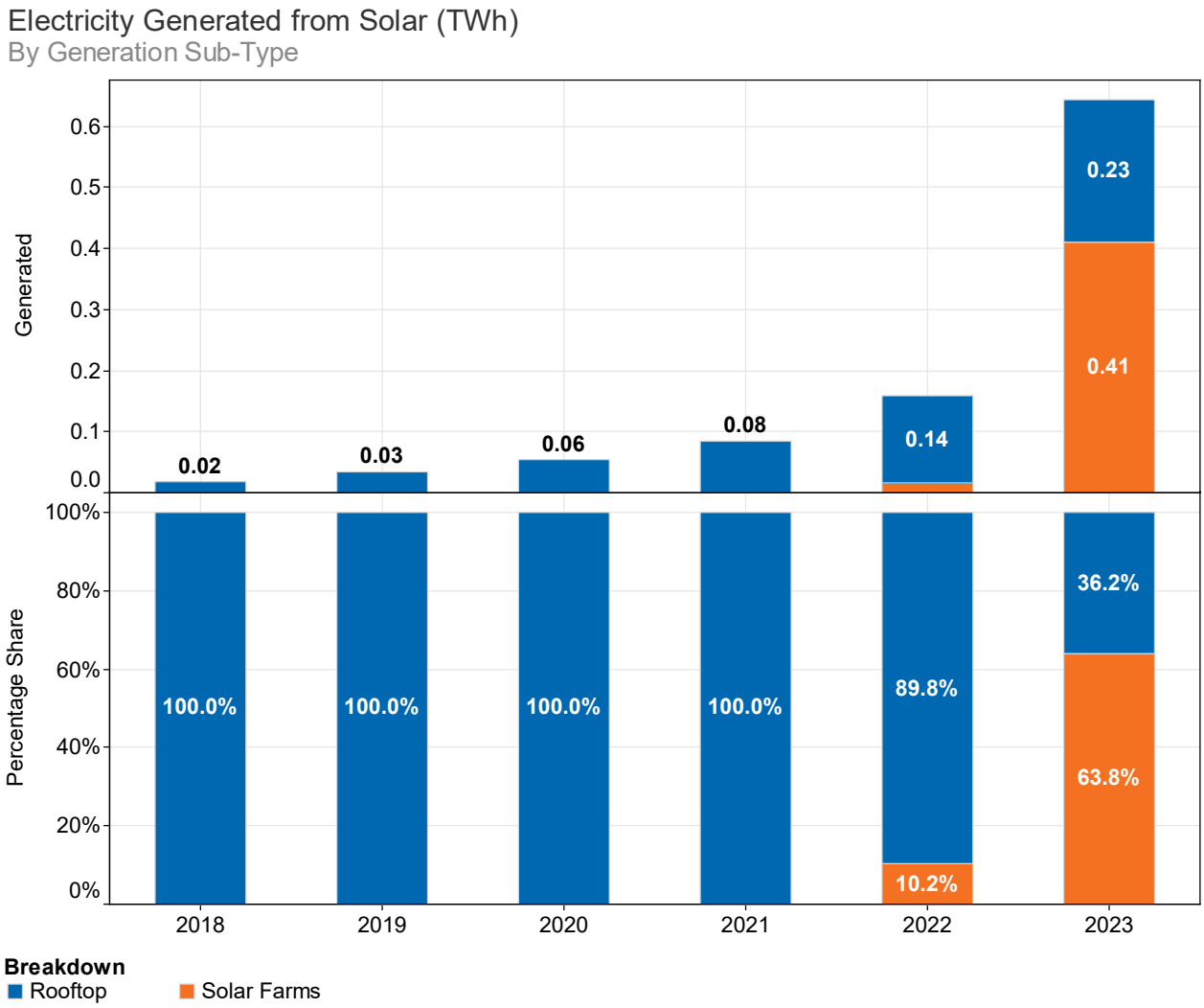
Source: The data in the figure above is available in the Appendix of this note – section 10.2.

[2] EirGrid, "System and Renewable Data Summary Report," [Online]. https://www.eirgrid.ie/grid/system-and-renewable-data-reports

4.6 Solar PV - annual electricity generated by sub-type

Figure 4.6 (top) shows the total monthly electricity generated from solar PV with its generation sub-type breakdown. Figure 4.6 (bottom) shows the generation sub-type breakdown displayed as a percentage of the electricity generated by solar PV.

Monthly generation data related to solar farms is provided to SEAI by EirGrid. Data related to rooftop installations (*i.e.* residential and other) is informed by public administration data from SEAI (*i.e.* the BER database and grant data, respectively). Depending on the datasource, the energy delivered from rooftop installations is either summed directly or calculated from kilowatt peat (kWp) DC capacities using the methodology published in the DEAP manual[3].



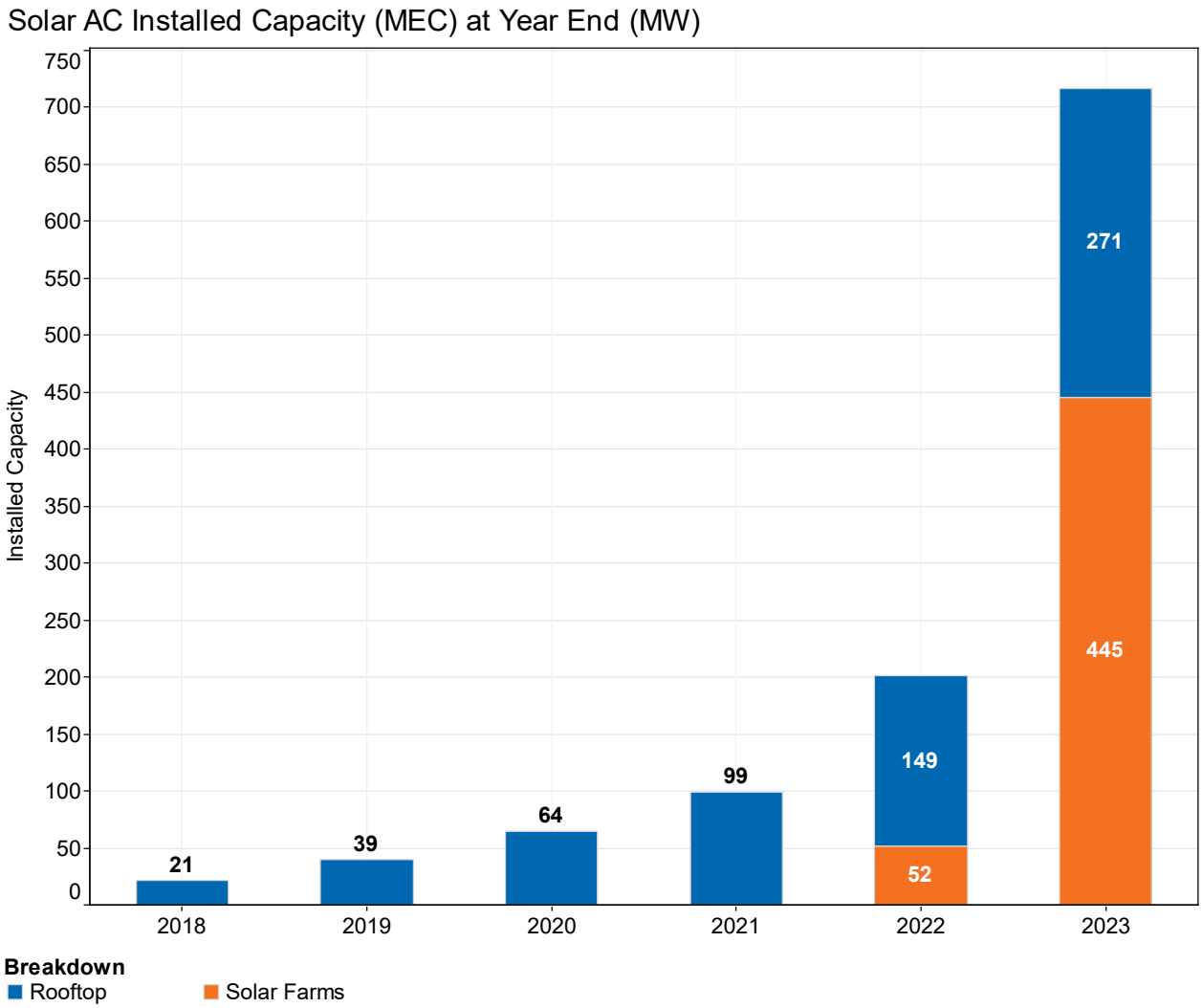
Source: The data in the figure above is available in the Appendix of this note – section 10.3.

[3] SEAI, December 2023, *Domestic Energy Assessment Procedure (DEAP), Ireland's official method for calculating and rating the energy performance of dwellings*, p143. https://www.seai.ie/publications/DEAP_Manual.pdf

4.7 Solar PV - AC installed capacity at year end

Figure 4.7 shows the total solar PV AC installed capacity at year end with its sub-type breakdown.

For data related to solar farm installations, AC maximum export capacities (MEC) are provided to SEAI by EirGrid. Data related to TSO and DSO solar PV maximum export capacities are also available for download on the EirGrid website[4]. Data related to rooftop installations (*i.e.* residential and other) is informed by public administration data from SEAI (*i.e.* the BER database and grant data, respectively). Depending on the datasource, kilowatt peat (kWp) DC capacities are either summed directly or back-calculated from the delivered energy using the methodology published in the DEAP manual[5] and converted to AC capacities in megawatts (MW) to facilitate comparison.



Source: The data in the figure above is available in the Appendix of this note – section 10.4.

[4] EirGrid, "System and Renewable Data Summary Report," [Online]. https://www.eirgrid.ie/grid/system-and-renewable-data-reports.

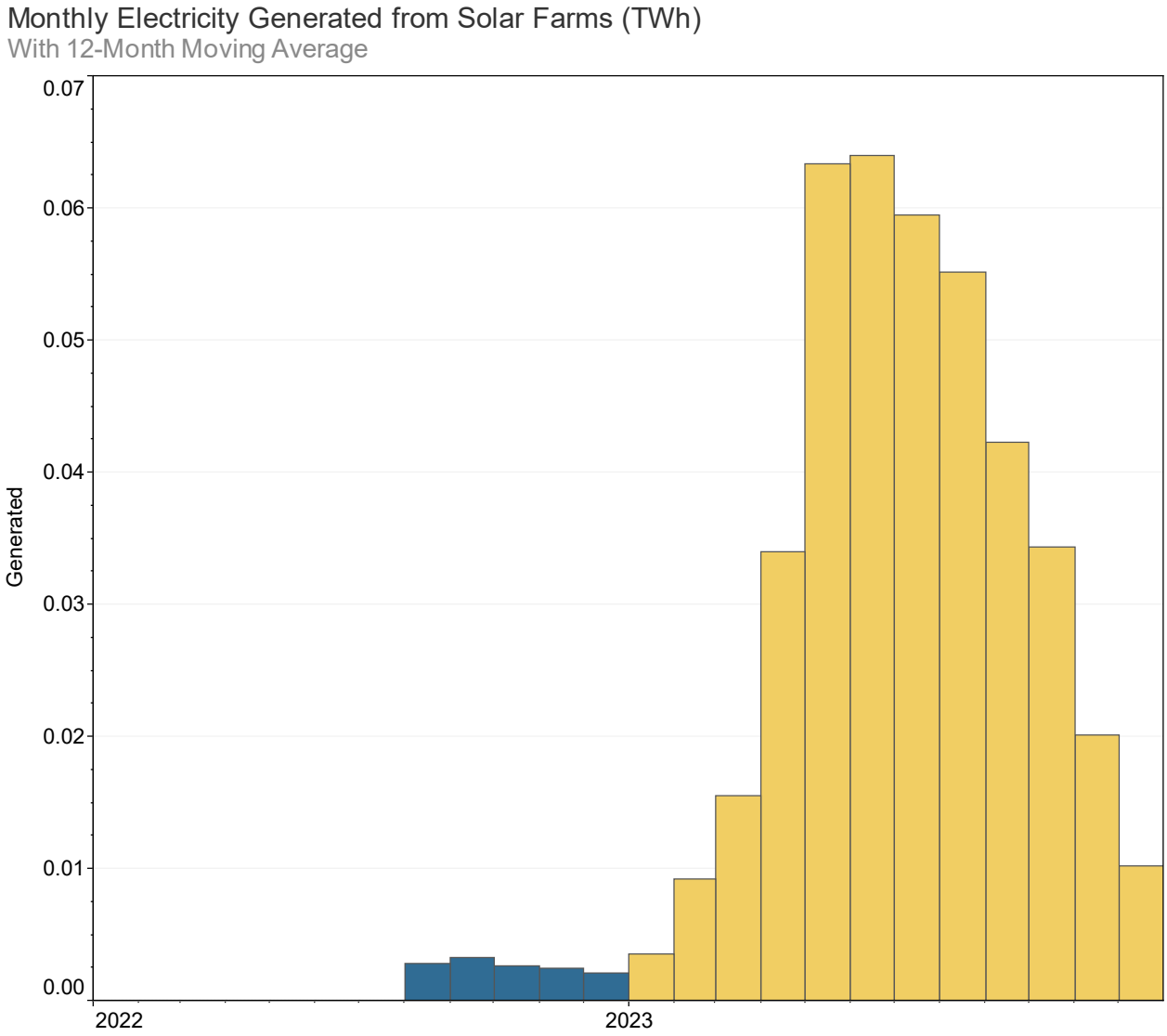
[5] SEAI, December 2023, *Domestic Energy Assessment Procedure (DEAP), Ireland's official method for calculating and rating the energy performance of dwellings*, p143. https://www.seai.ie/publications/DEAP_Manual.pdf

4.8 Solar farms - monthly electricity generated

Figure 4.8 shows the total monthly electricity generated from solar farms. The bar-chart helps identify seasonal variations (and any short-term "shocks") in the monthly electricity generated from solar farms. For clarity and ease of comparison, the most recent year is coloured yellow, whereas, previous years are coloured in different shades of blue.

The values in the figure below are based on data provided to SEAI by EirGrid and are provisional.

Data is provided by EirGrid in megawatt hours (MWh) in terms of a net electricity production basis and converted to terawatt hours (TWh) by SEAI.

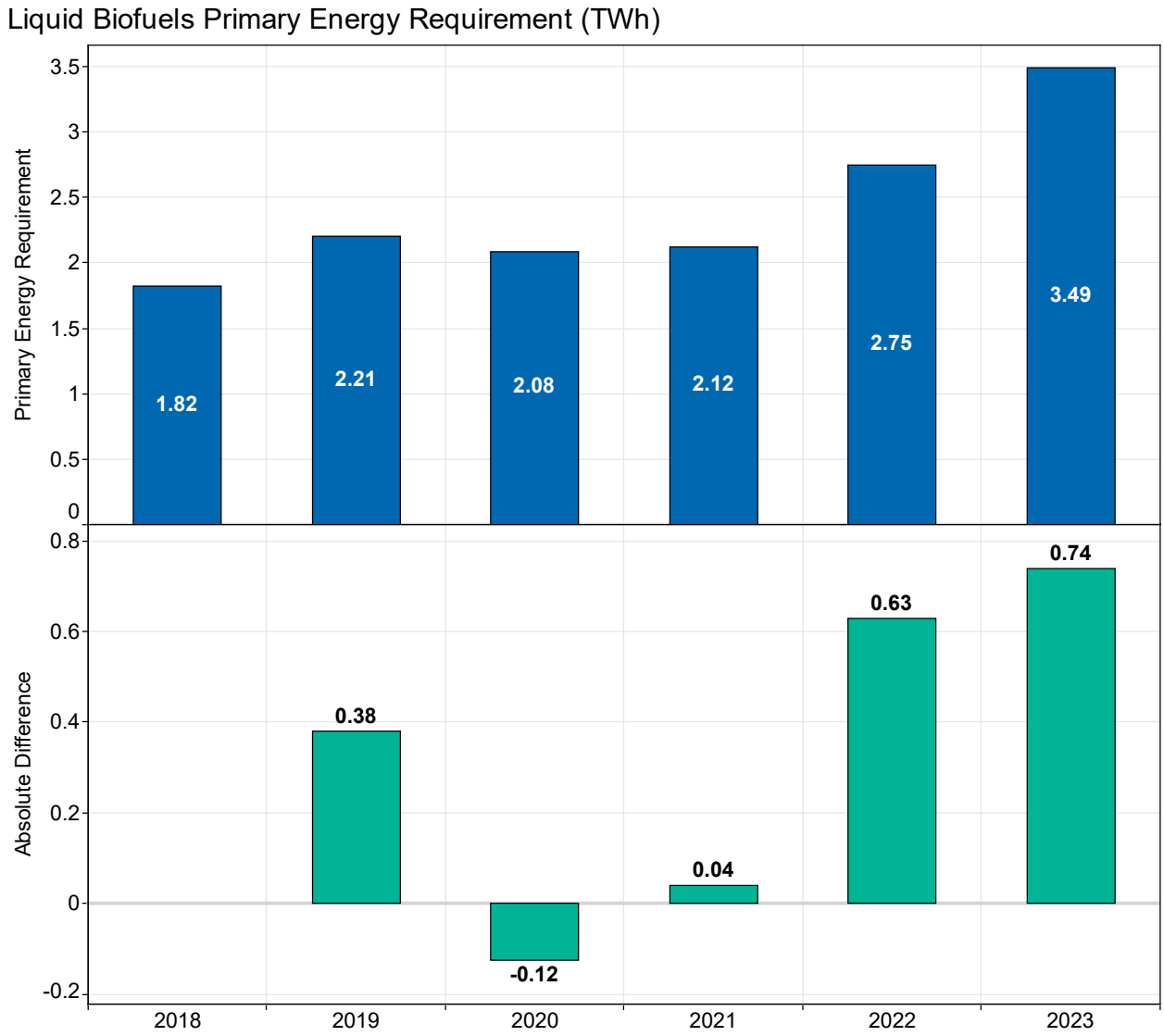


Source: The data in the figure above is based on provisional monthly survey returns, and is available from the SEAI website:
https://www.seai.ie/data-and-insights/seai-statistics/monthly-energy-data/electricity-monthly/

4.9 Liquid biofuels - primary energy requirement and annual change

Figure 4.9 (top) shows Ireland's annual liquid biofuels primary energy requirement for the last 6-years. Figure 4.9 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual liquid biofuels primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the liquid biofuels primary energy requirement in 2023 *vs.* 2022.

The energy sub-products aggregated into the 'liquid biofuels' category are biodiesel and bioethanol.

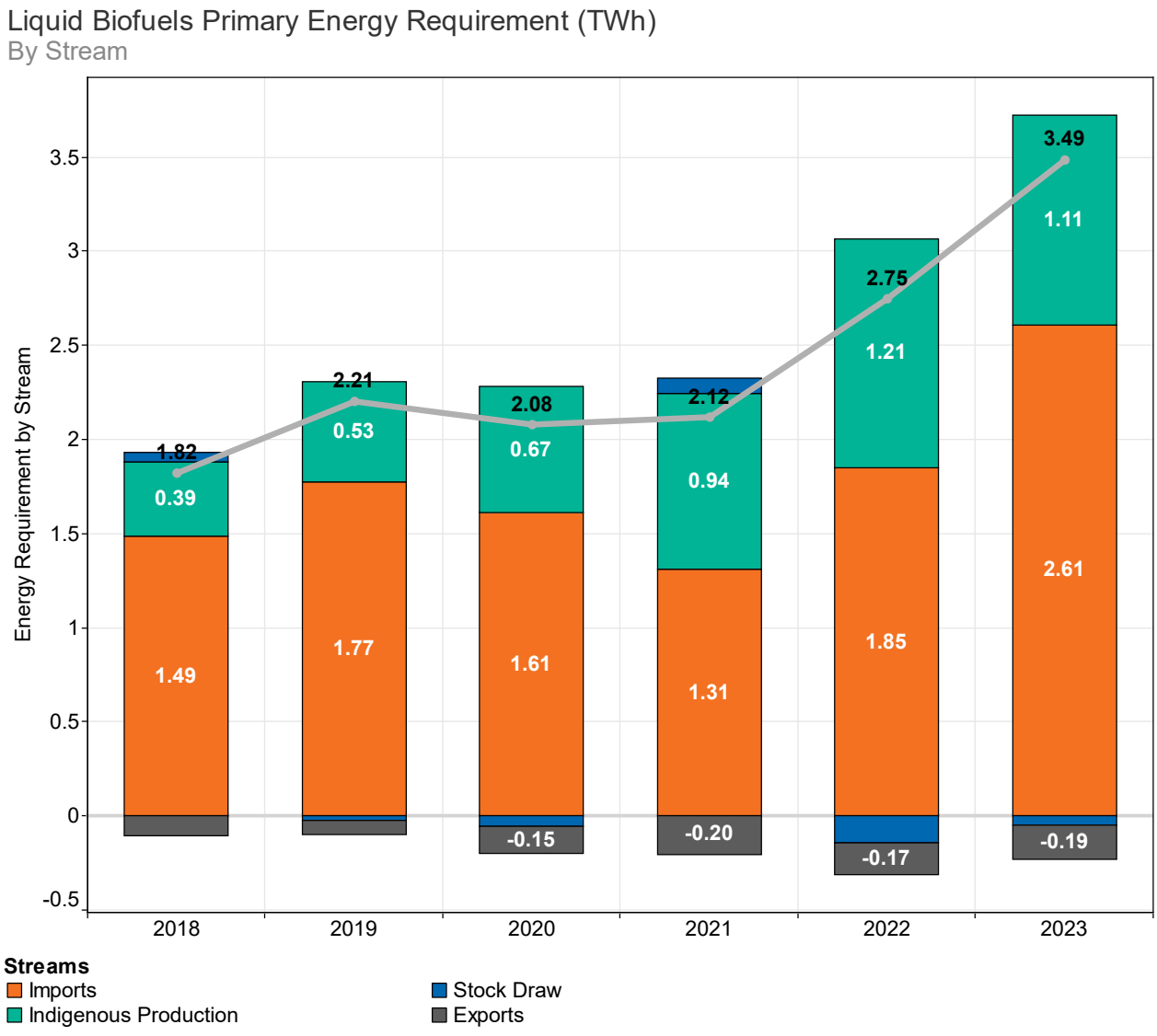


Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.10 Liquid biofuels - primary energy requirement by stream

Figure 4.10 shows the annual liquid biofuels primary energy requirement broken out by stream. The bars show the absolute energy quantity delivered or removed from the liquid biofuels primary energy requirement by each stream and the line shows the net primary energy requirement, calculated as a sum of the individual streams. National production, energy imports and net stock draw add to the TPER, while energy exports, marine bunkers and net stock build reduce the value of the primary energy requirement. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

The energy sub-products aggregated into the 'liquid biofuels' category are biodiesel and bioethanol.

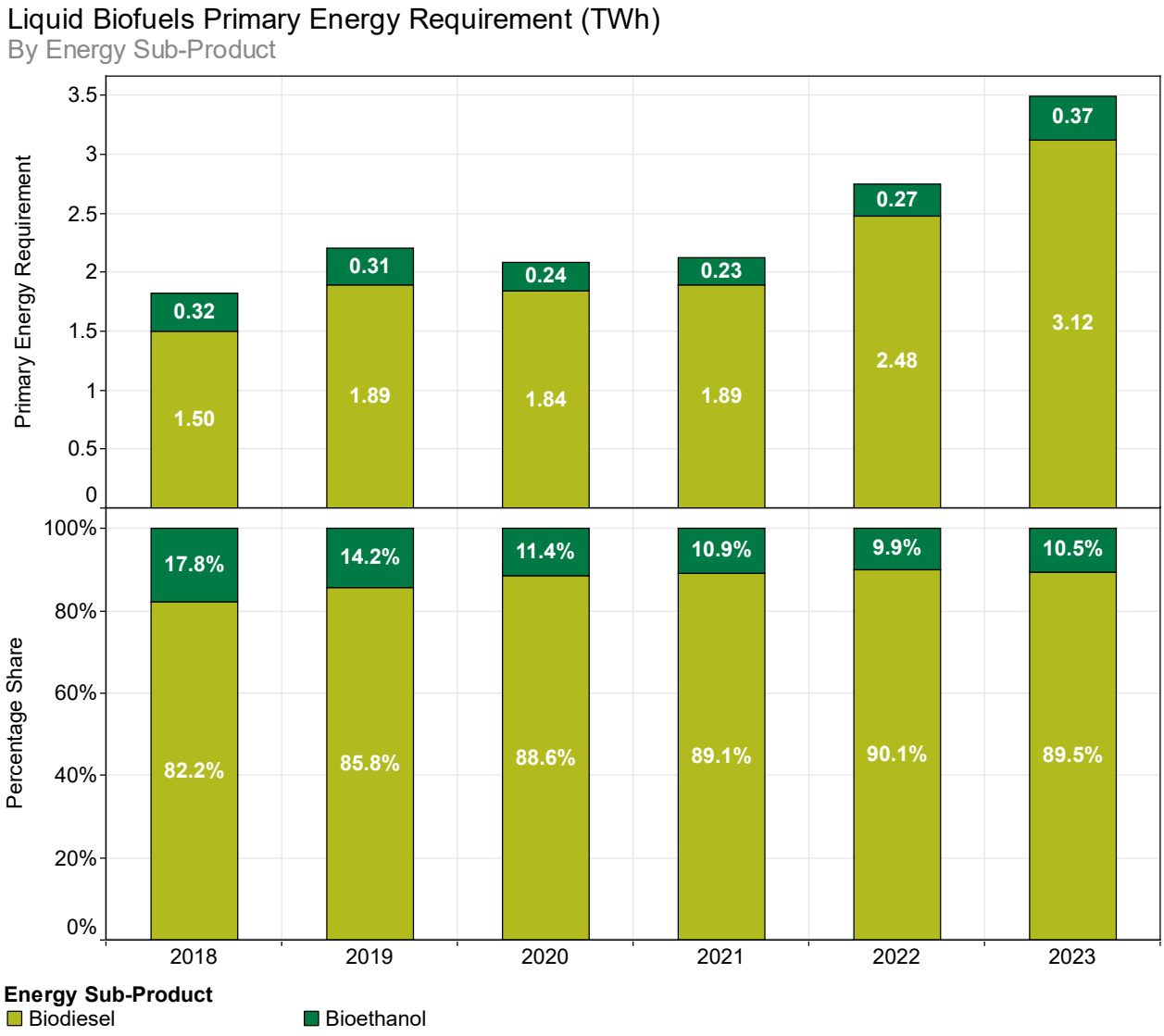


Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.11 Liquid biofuels - primary energy requirement by energy sub-product

Figure 4.11 (top) shows the annual renewables primary energy requirement with its energy sub-product breakdown. Figure 4.11 (bottom) shows the energy sub-product breakdown displayed as a percentage of the total liquid biofuels primary energy requirement. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

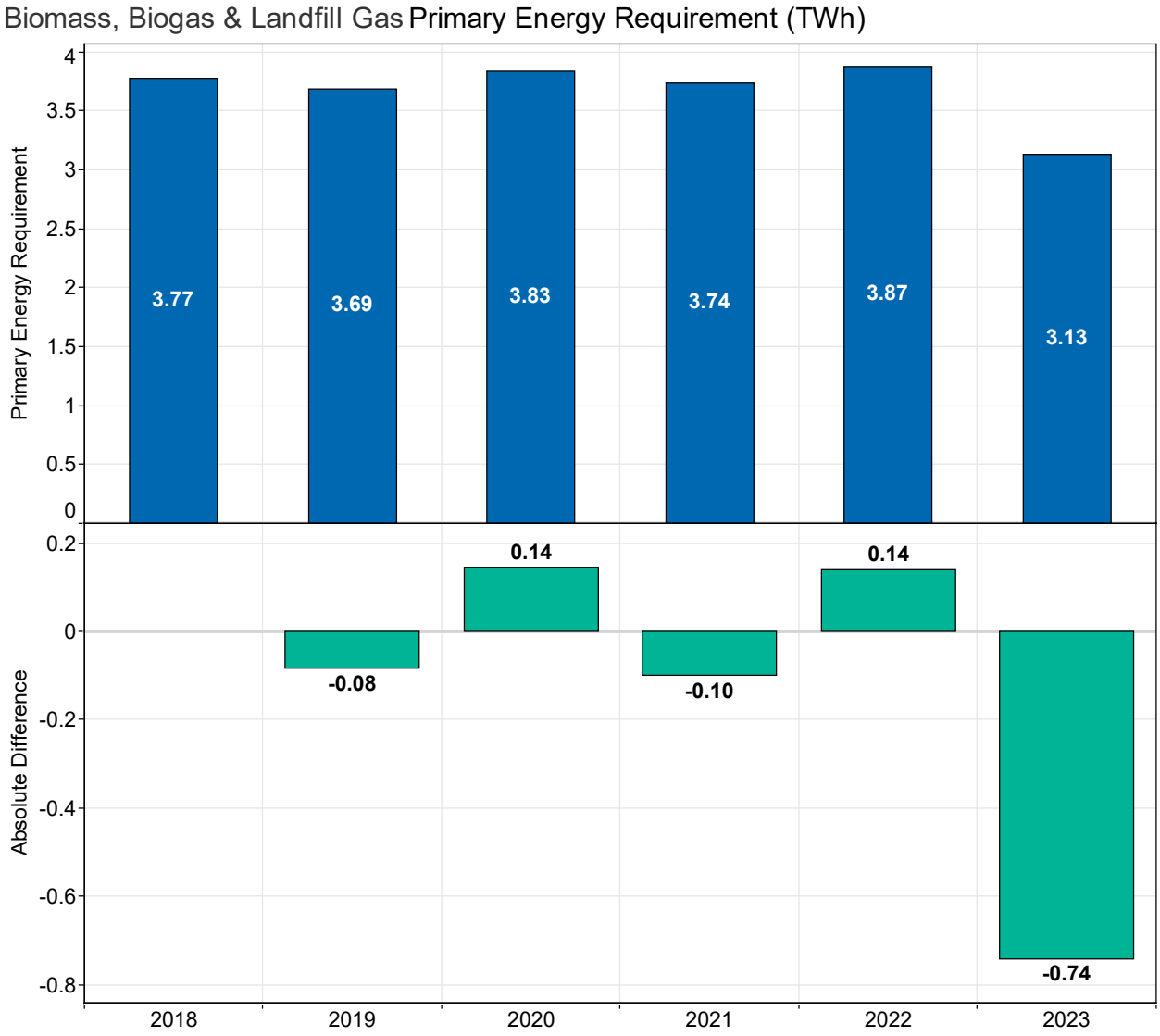
The energy sub-products aggregated into the 'liquid biofuels' category are biodiesel and bioethanol.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.12 Biomass, biogas and landfill gas - primary energy requirement and annual change

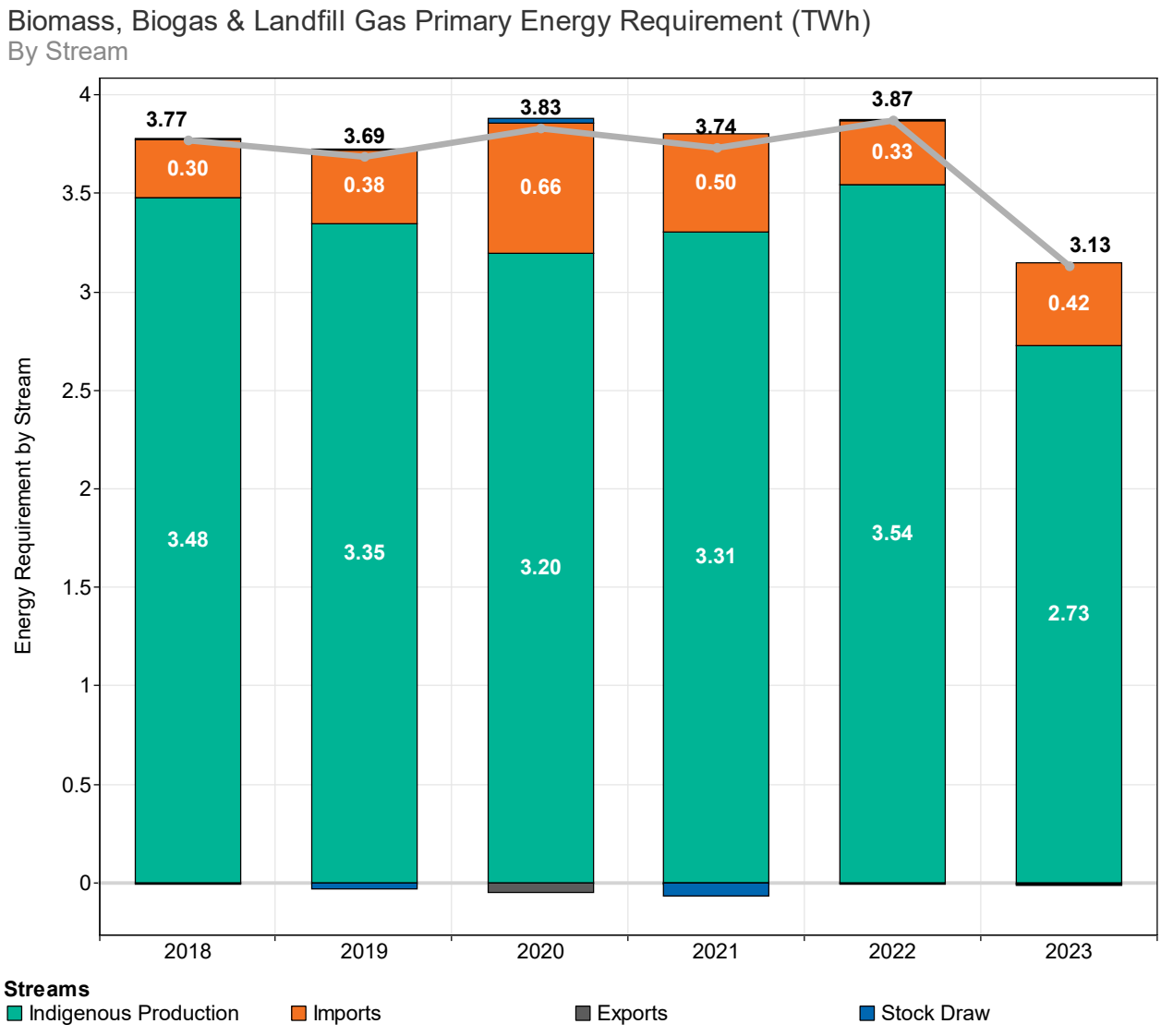
Figure 4.12 (top) shows Ireland's annual biomass, biogas and landfill gas primary energy requirement for the last 6-years. Figure 4.12 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual biomass, biogas and landfill gas primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the biomass, biogas and landfill gas primary energy requirement in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.13 Biomass, biogas and landfill gas - primary energy requirement by stream

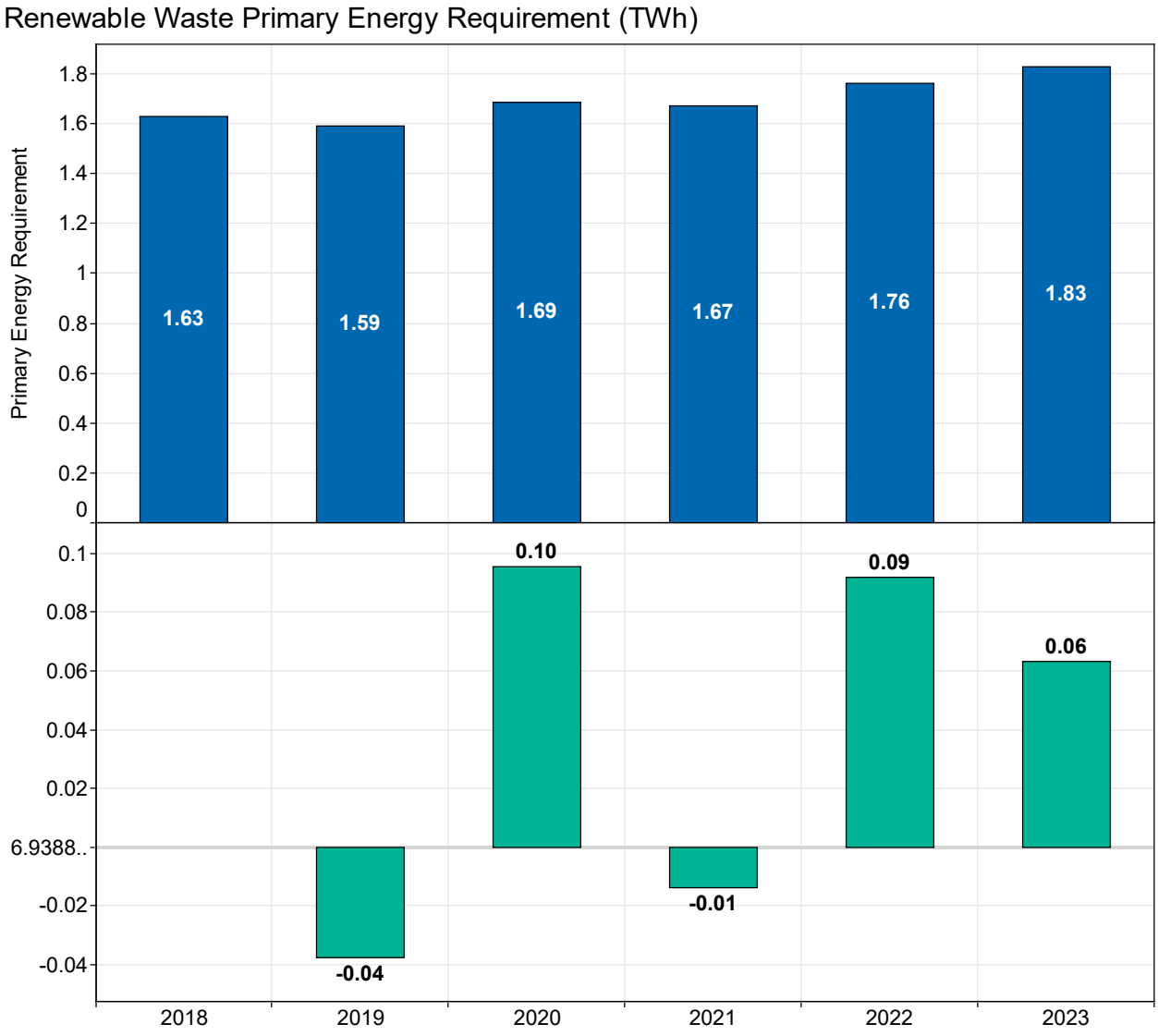
Figure 4.13 shows the annual biomass, biogas and landfill gas primary energy requirement broken out by stream. The bars show the absolute energy quantity delivered or removed from the biomass, biogas and landfill gas primary energy requirement by each stream and the line shows the net primary energy requirement, calculated as a sum of the individual streams. National production, energy imports and net stock draw add to the TPER, while energy exports, marine bunkers and net stock build reduce the value of the primary energy requirement. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.14 Renewable waste - primary energy requirement and annual change

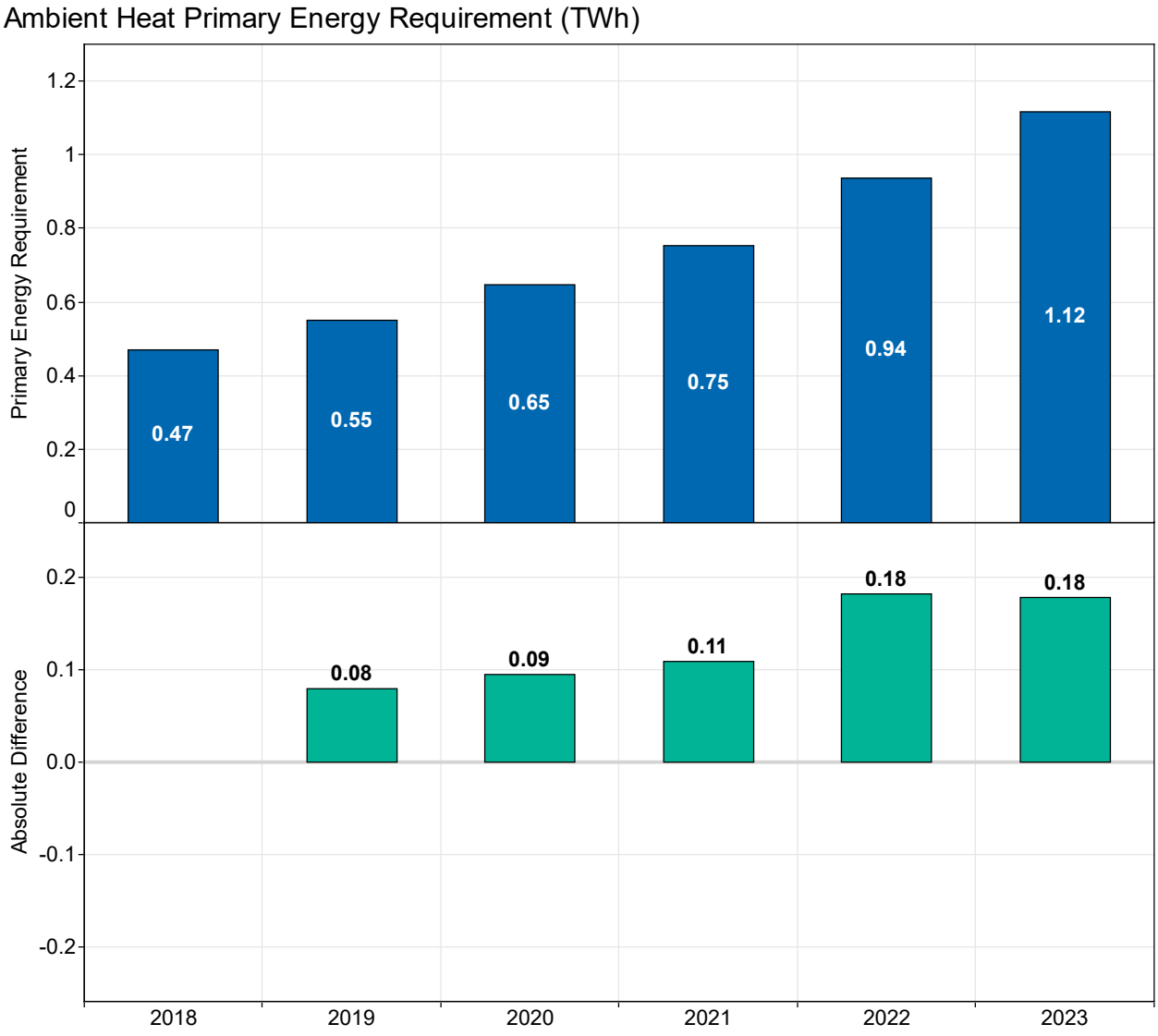
Figure 4.14 (top) shows Ireland's annual renewable waste primary energy requirement for the last 6-years. Figure 4.14 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual renewable waste primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the renewable waste primary energy requirement in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.15 Ambient heat - primary energy requirement and annual change

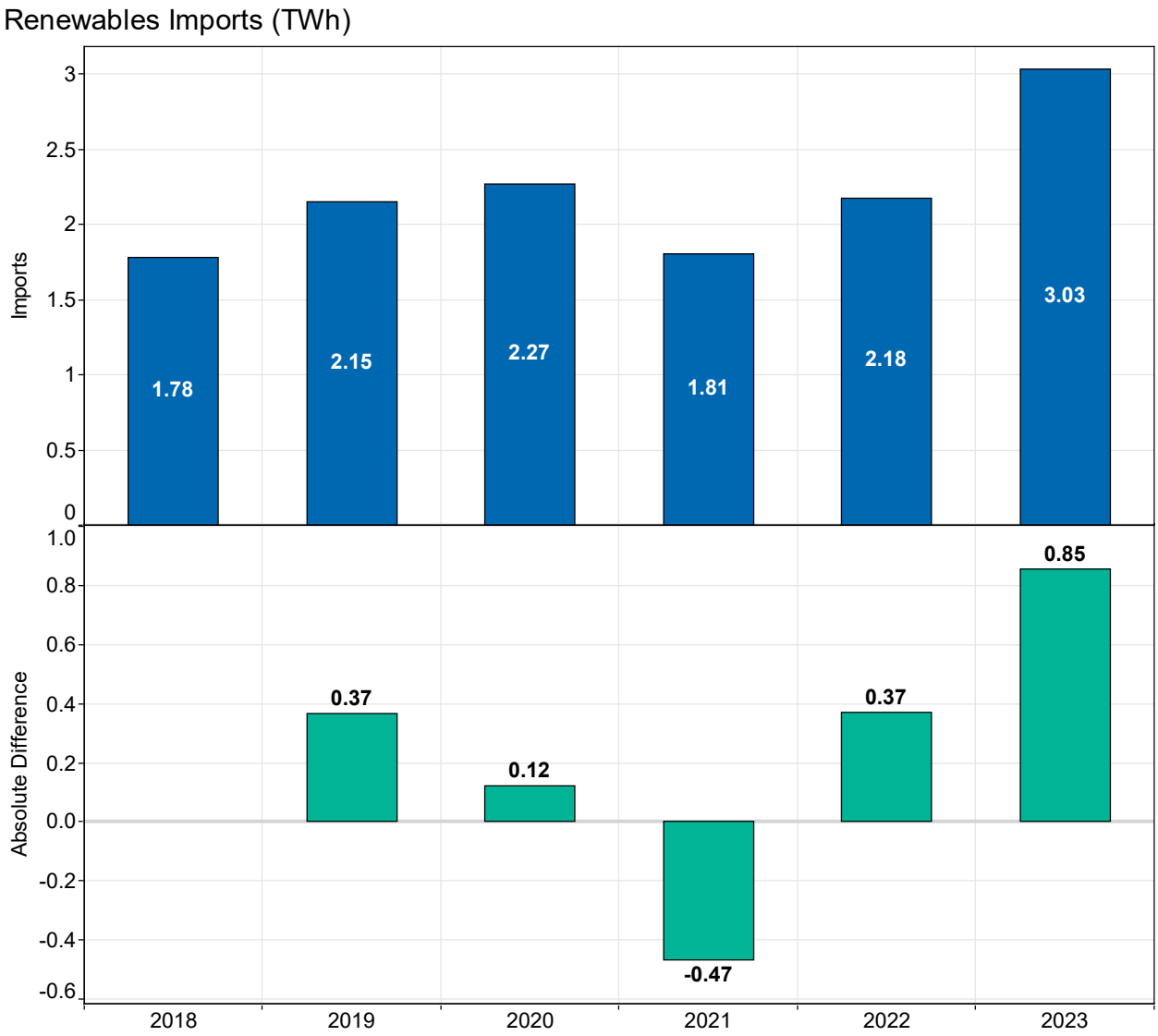
Figure 4.15 (top) shows Ireland's annual ambient heat primary energy requirement for the last 6-years. Figure 4.15 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual ambient heat primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the ambient heat primary energy requirement in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.16 Renewables – imports and annual change

Figure 4.16 (top) shows Ireland's annual renewables energy imports for the last 6-years. Figure 4.16 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual renewables energy imports for the last 6-years, *i.e.* the value in 2023 is the difference between the renewables energy imports in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

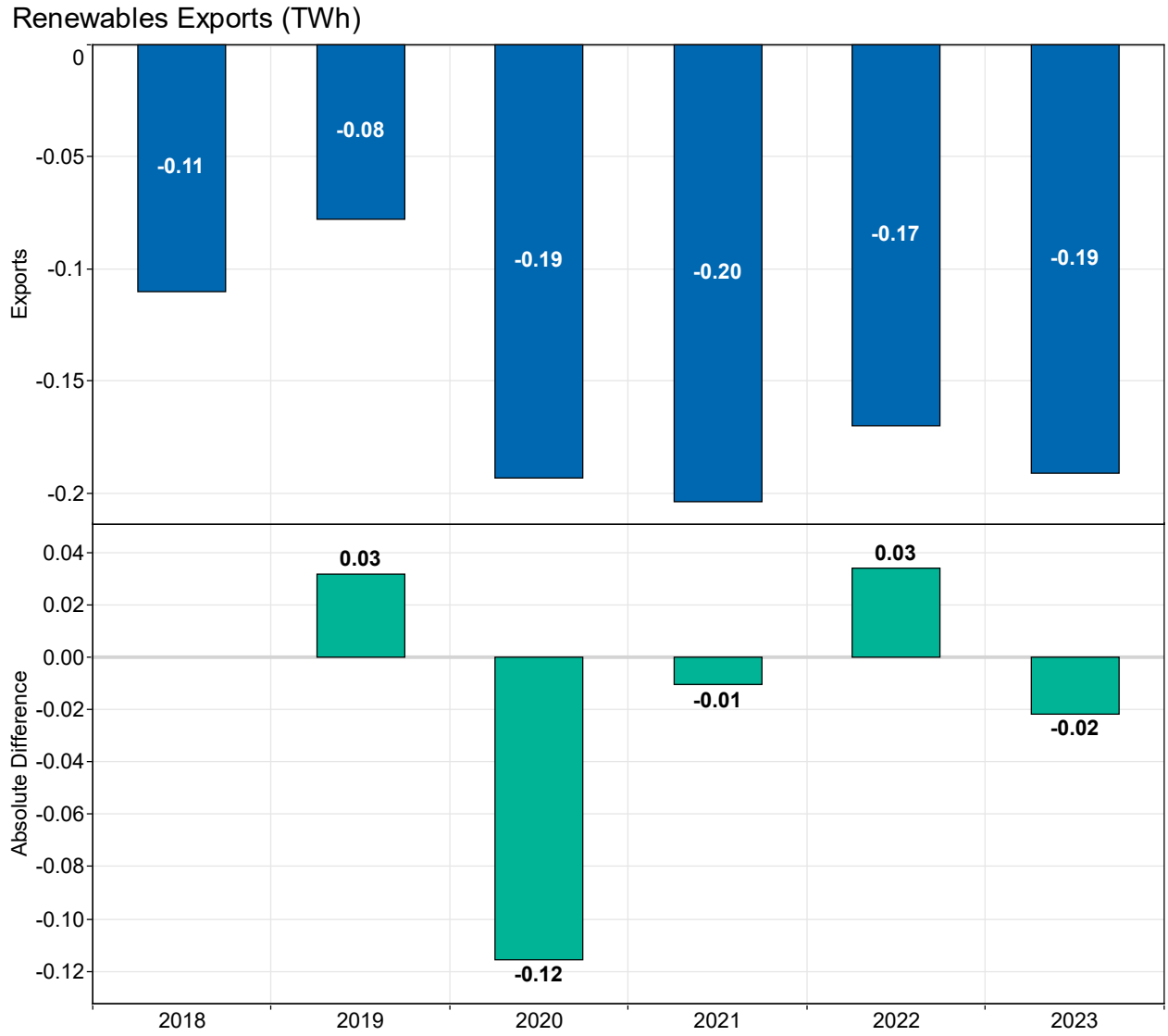
4.17 Renewables - imports by energy sub-product

Figure 4.17 (top) shows the annual renewables imports with its energy product breakdown. Figure 4.17 (bottom) shows the energy product breakdown displayed as a percentage of the renewables imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.18 Renewables – exports and annual change

Figure 4.18 (top) shows Ireland's annual renewables energy exports for the last 6-years. Figure 4.18 (bottom) is a swing plot that shows the year-to-year changes in Ireland's renewables energy exports for the last 6-years, *i.e.* the value in 2023 is the difference between the renewables energy exports in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

4.19 Renewables - exports by energy sub-product

Figure 4.19 (top) shows the annual renewables exports with its energy product breakdown. Figure 4.19 (bottom) shows the energy product breakdown displayed as a percentage of the renewables exports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

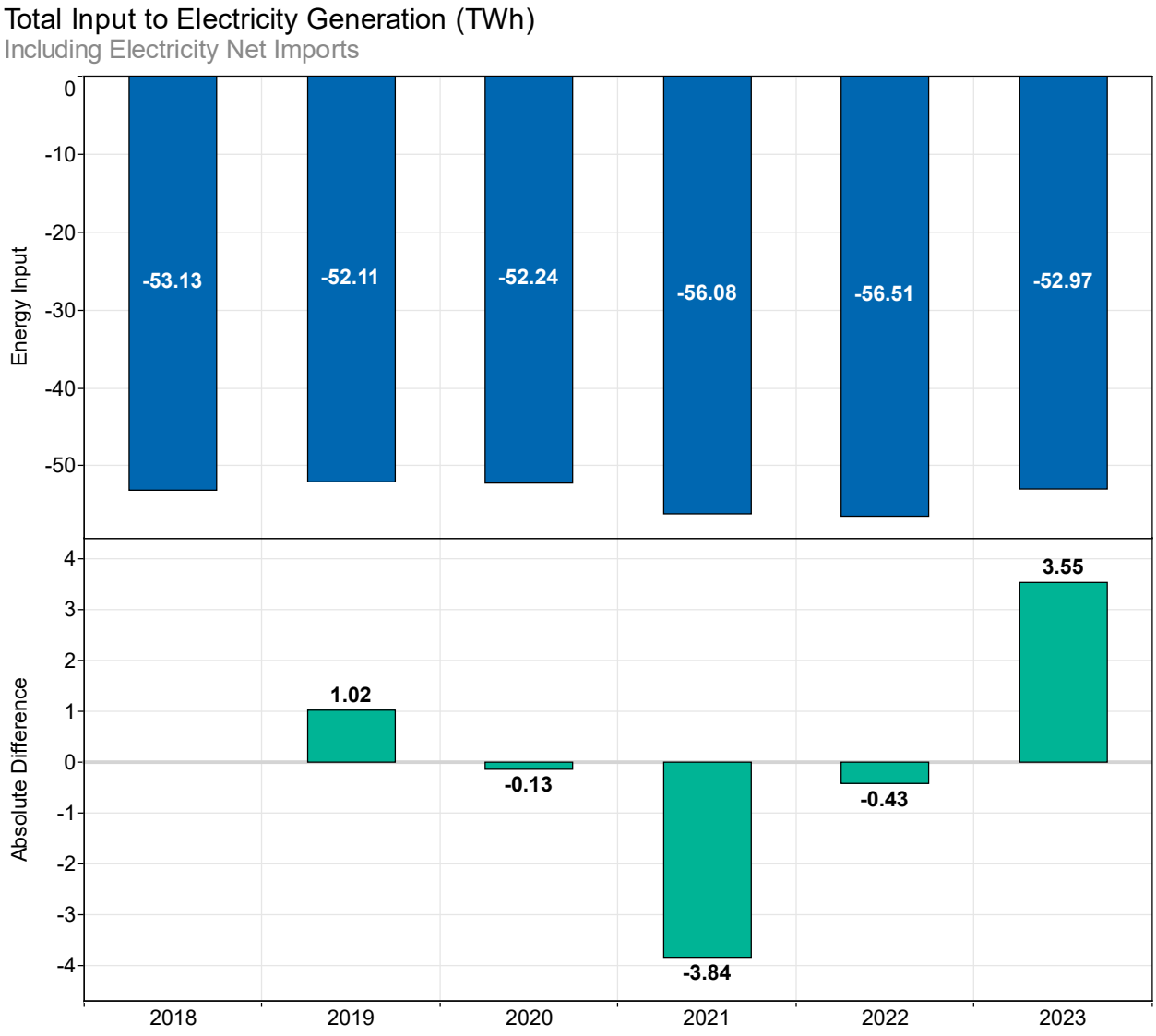
5 Trends in electricity supply

Electricity supply data from imports, exports, energy product input to electricity generation, electricity outputs and electricity exchange and transfers has been informed by survey responses received from the network operator EirGrid, electricity producers (*i.e.* main activity producers and autoproducers) and suppliers. Data related to electricity exchange and transfers and the transformation of other energy products into electricity (*i.e.* thermally generated electricity) also includes public administrative data including data from SEAI and EU-ETS data provided by the EPA to SEAI.

Data is collected in a range of physical (*e.g.* million cubic meters) and energy units (*e.g.* terajoules, gigawatt hours) depending on the activity and energy input type or output type and converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) by SEAI using conversion factors and densitities on a net calorific value basis.

5.1 Electricity generation - total input and annual change

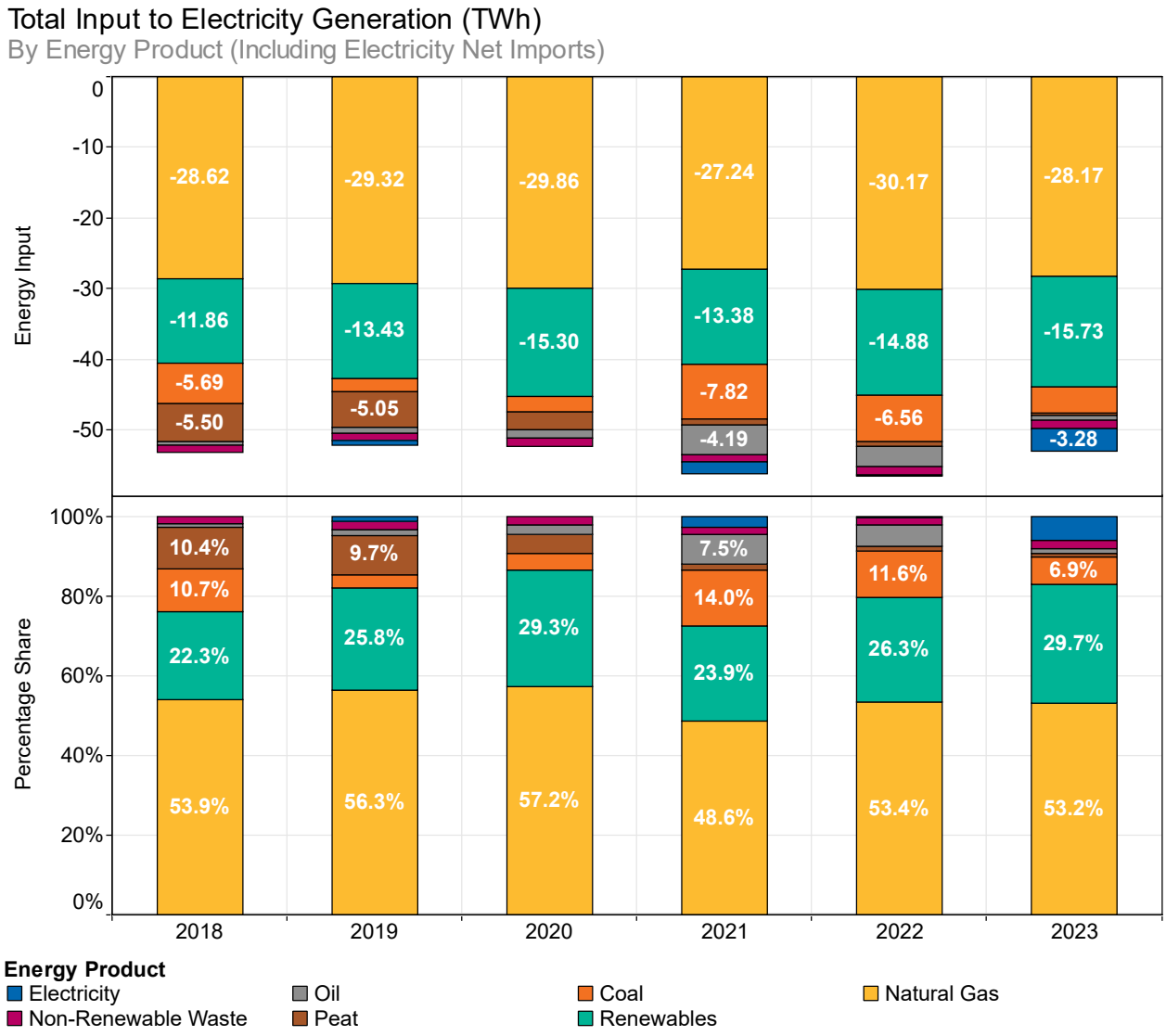
Figure 5.1 (top) shows the annual energy input to electricity generation, summed across public thermal power plants (PTPP) input, combined heat and power plants (CHP) input, electricity exchange and transfers and net imports. Figure 5.1 (bottom) is a swing plot that shows the year-to-year changes in the annual energy input to electricity generation for the last 6-years, *i.e.* the value in 2023 is the difference between the annual energy inputs to electricity generation in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

5.2 Electricity generation - total input by energy product

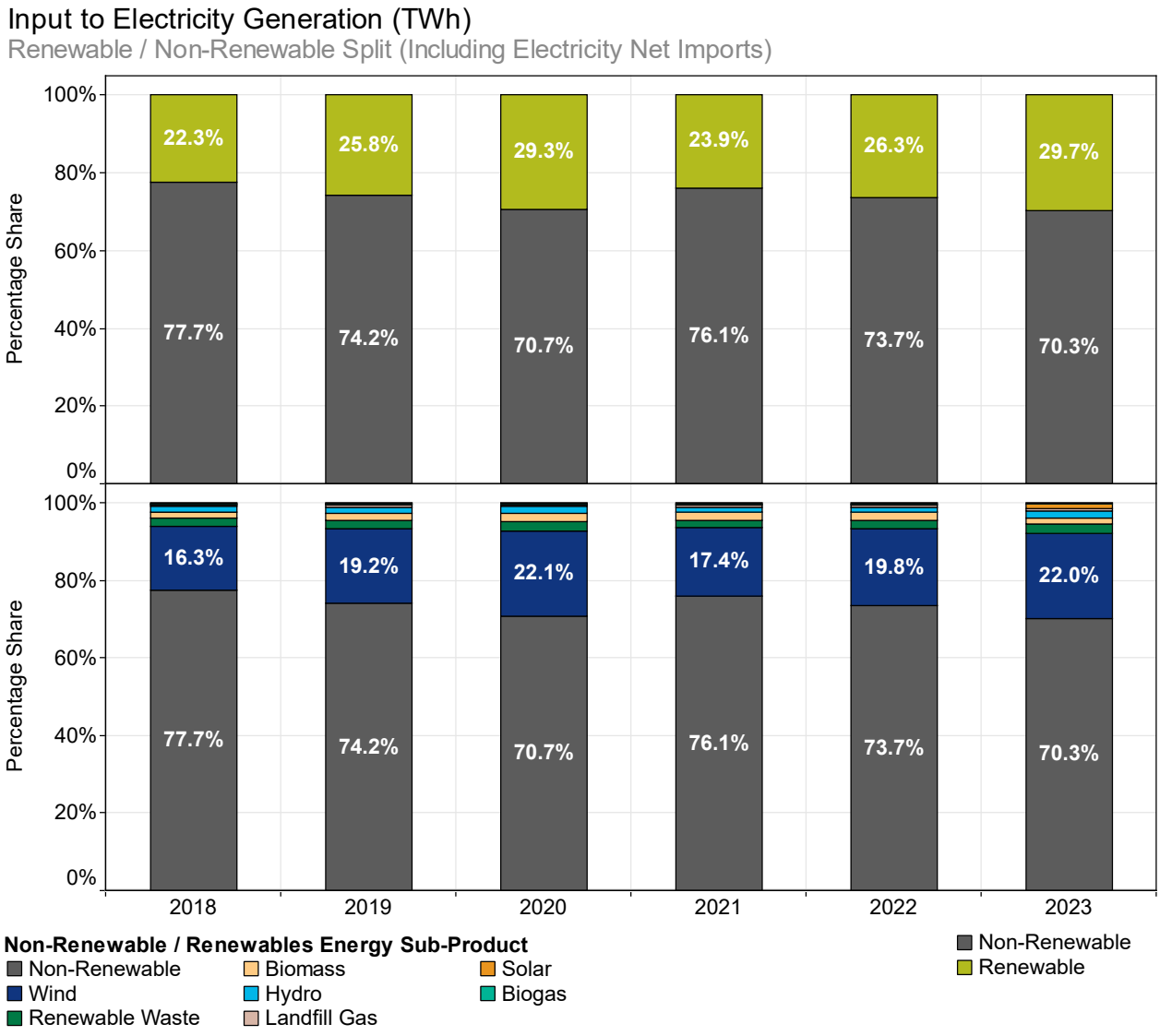
Figure 5.2 (top) shows the annual energy input to electricity generation, summed across public thermal power plants (PTPP) input, combined heat and power plants (CHP) input, electricity exchange and transfers and net imports. Figure 5.2 (bottom) shows the energy product breakdown displayed as a percentage of the total energy input to electricity generation in a given year. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

5.3 Electricity generation - renewable/non-renewable split of total energy input

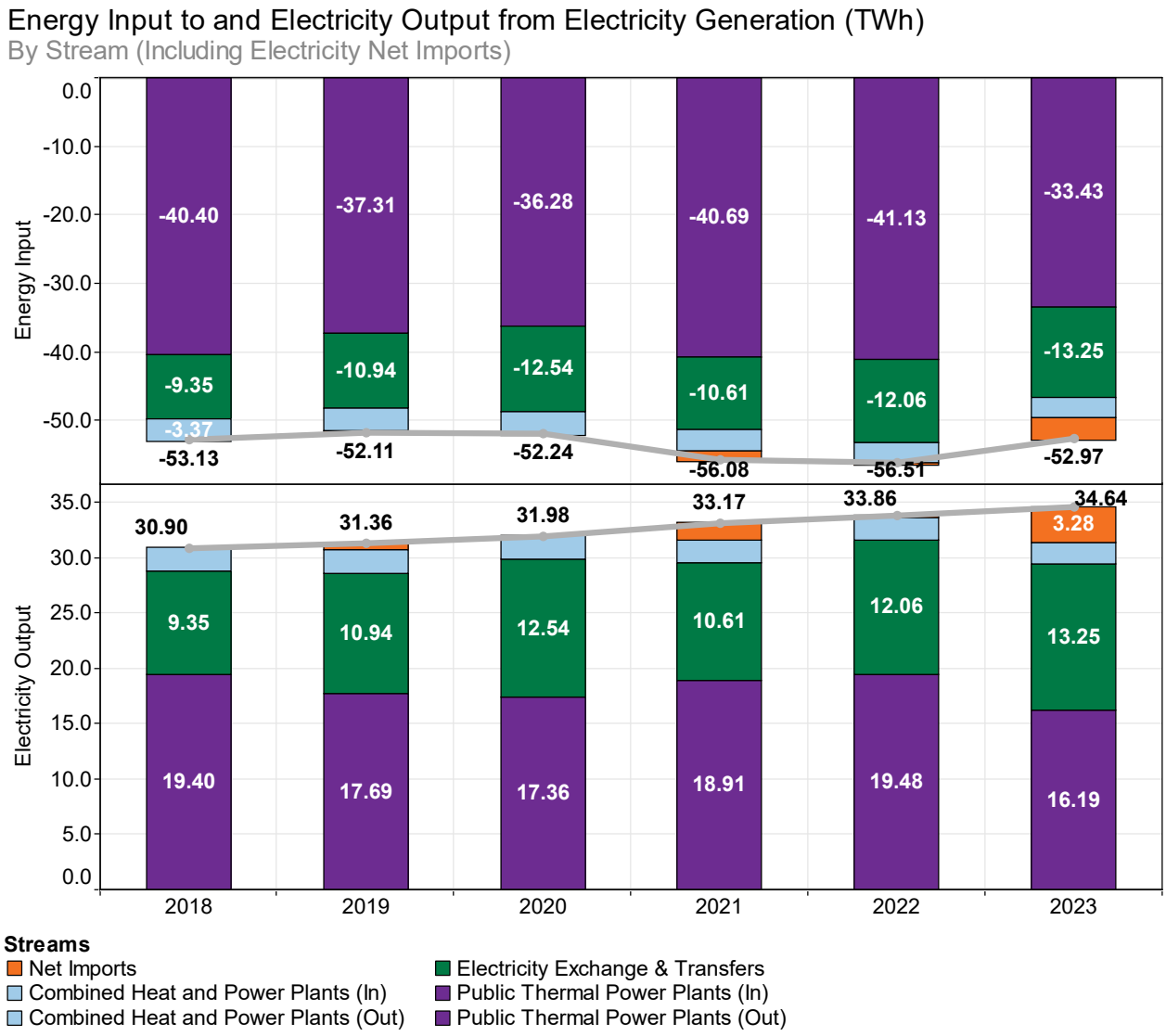
Figure 5.3 (top) shows the renewable/non-renewable breakdown of annual energy input to electricity generation, summed across public thermal power plants (PTPP) input, combined heat and power plants (CHP) input, electricity exchange and transfers and net imports, displayed as a percentage share. Figure 5.3 (bottom) shows the non-renewable/renewable energy sub-product breakdown. These are displayed as a percentage of the total energy input to electricity generation in a given year. This breakdown is not the basis of the RES-E calculation and does not include weightings, for example.



Source: The data in the figure above is available in the Appendix of this note – section 10.5.

5.4 Electricity generation – total energy input to and electricity output by stream

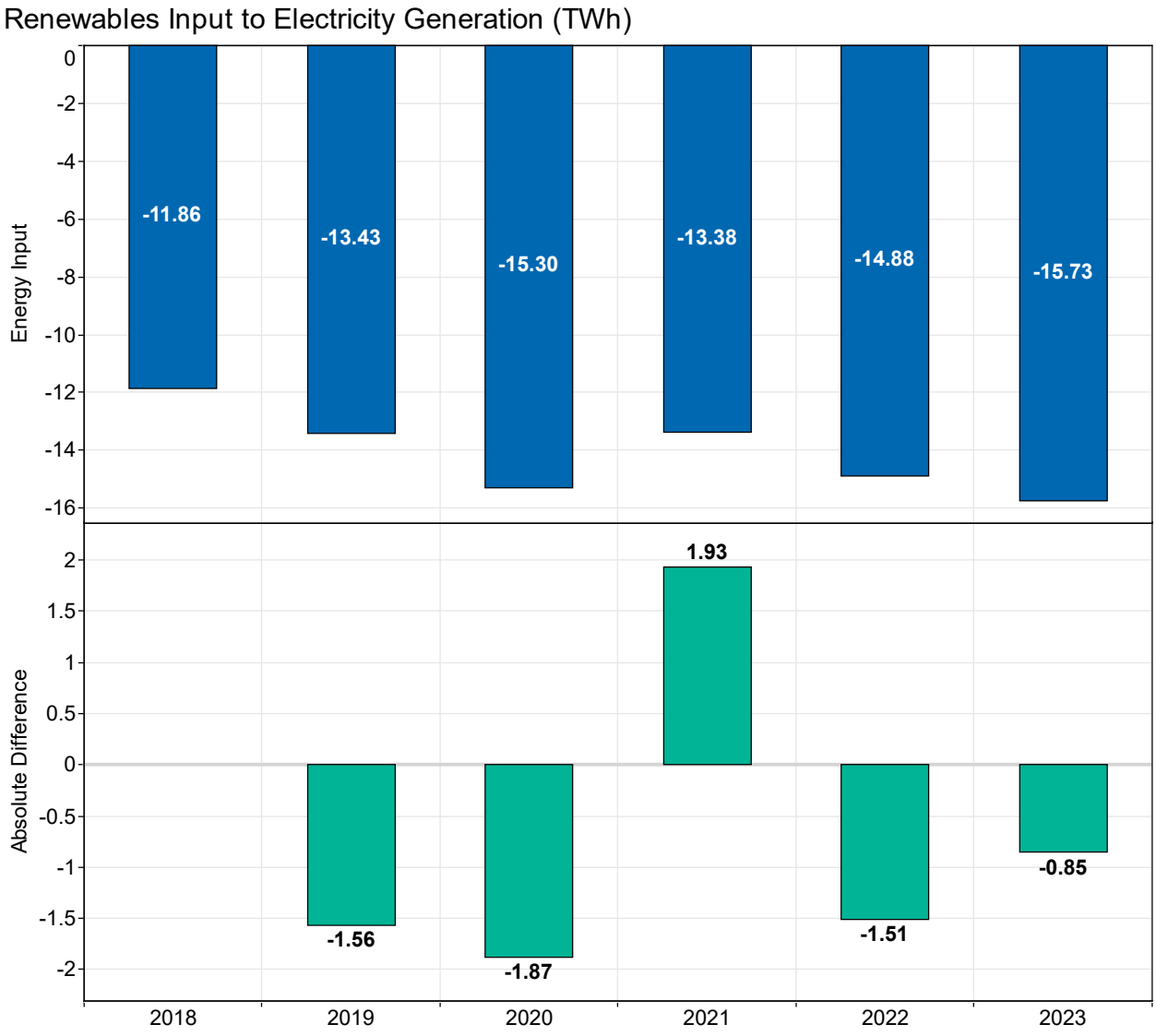
Figure 5.4 shows the total annual energy input to (top), and electricity output from (bottom), electricity generation, across all streams (bars): public thermal power plants (PTPP), combined heat and power plants (CHP), electricity exchange and transfers and net imports. The line is related to the sum of the streams.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

5.5 Electricity generation - renewables input and annual change

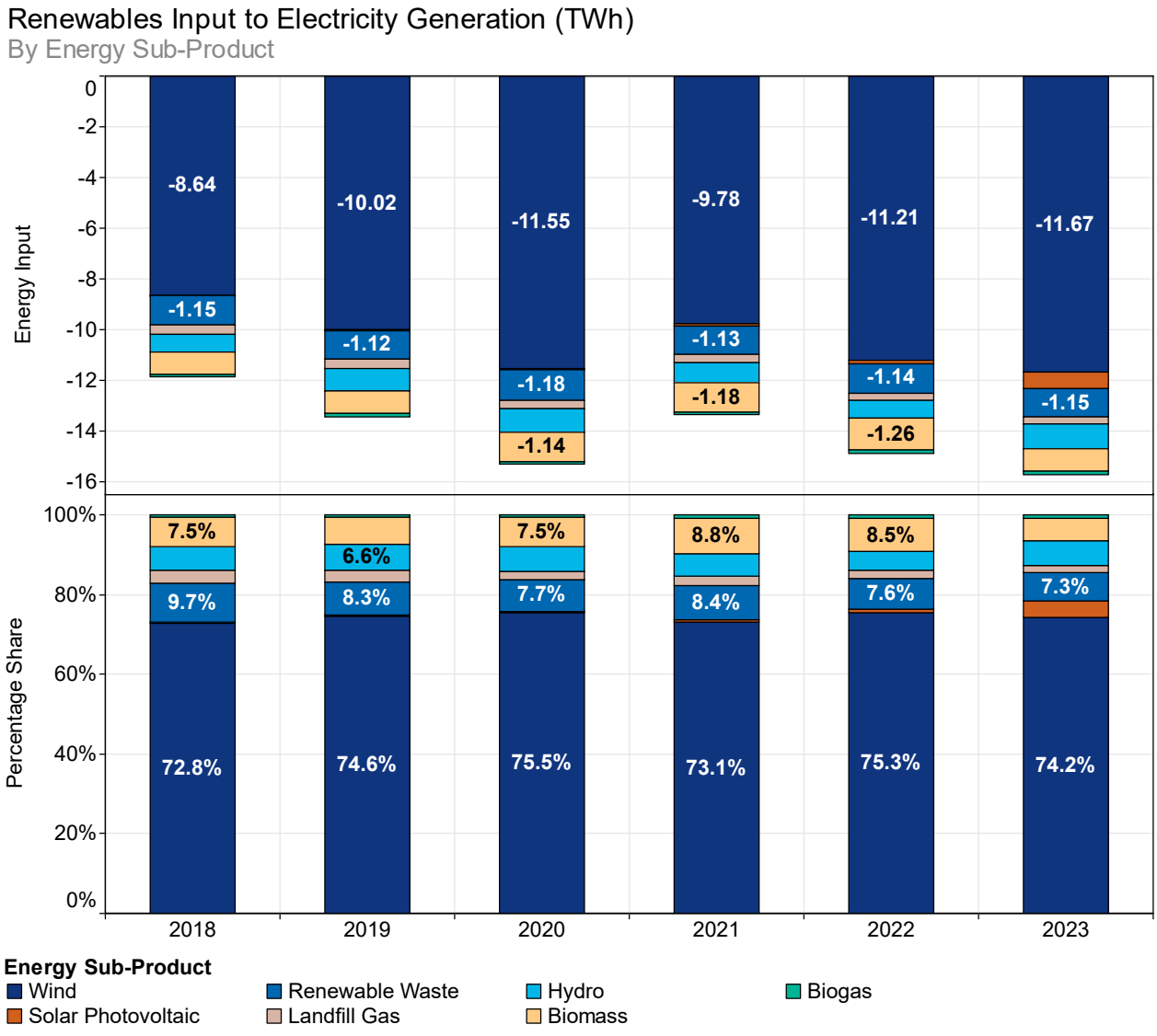
Figure 5.5 (top) shows the annual renewables energy input to electricity generation, summed across public thermal power plants (PTPP) input, combined heat and power plants (CHP) input and electricity exchange and transfers. Figure 5.5 (bottom) is a swing plot that shows the year-to-year changes in the annual renewables energy input to electricity generation for the last 6-years, *i.e.* the value in 2023 is the difference between the annual renewables energy inputs to electricity generation in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

5.6 Electricity generation - renewables input by energy sub-product

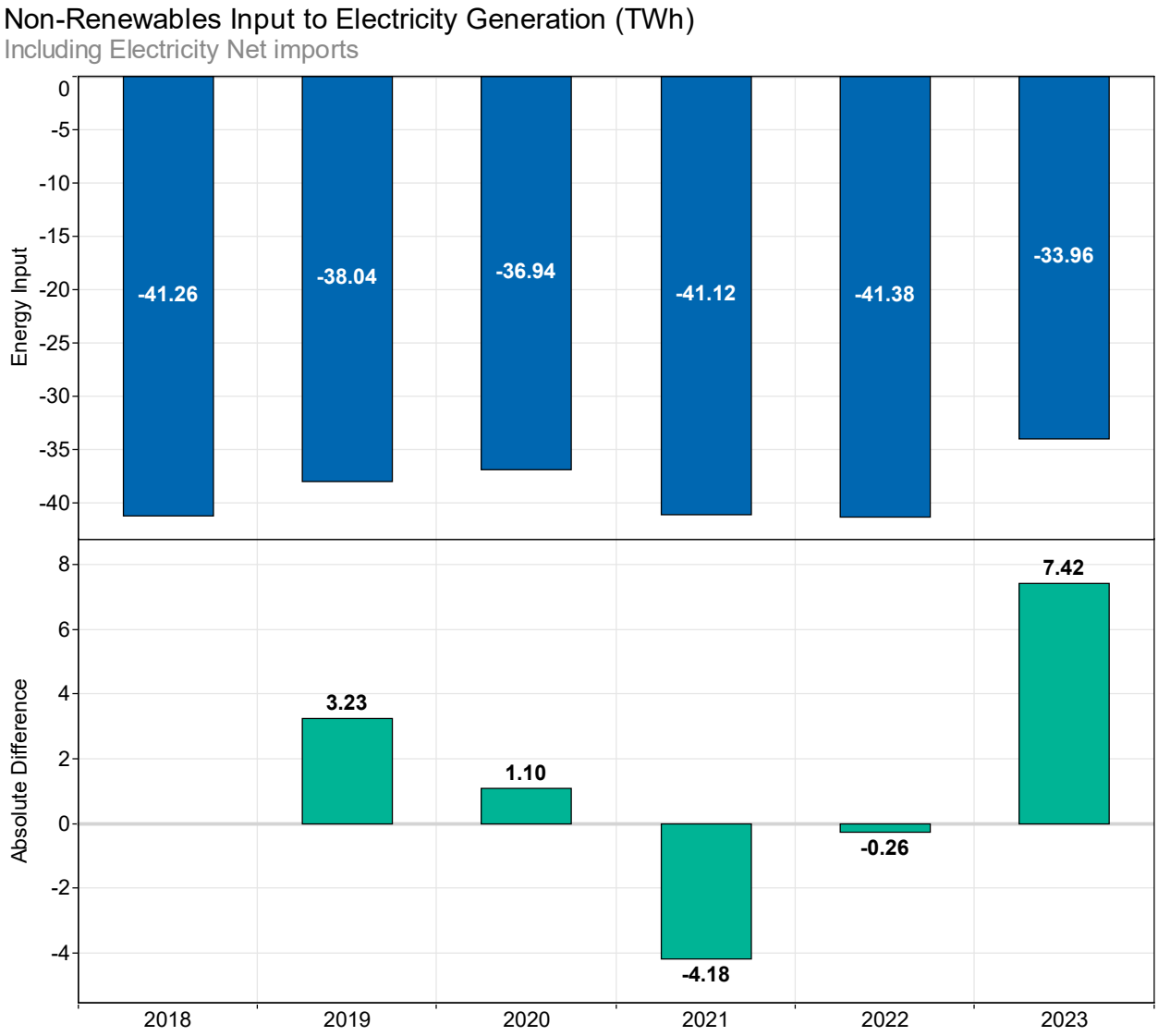
Figure 5.6 (top) shows the annual energy input to electricity generation from renewables, summed across public thermal power plants (PTPP) input, combined heat and power plants (CHP) input and electricity exchange and transfers. Figure 5.6 (bottom) shows the energy product breakdown displayed as a percentage of the total energy input to electricity generation from renewables in a given year. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

5.7 Electricity generation - non-renewables input and annual change

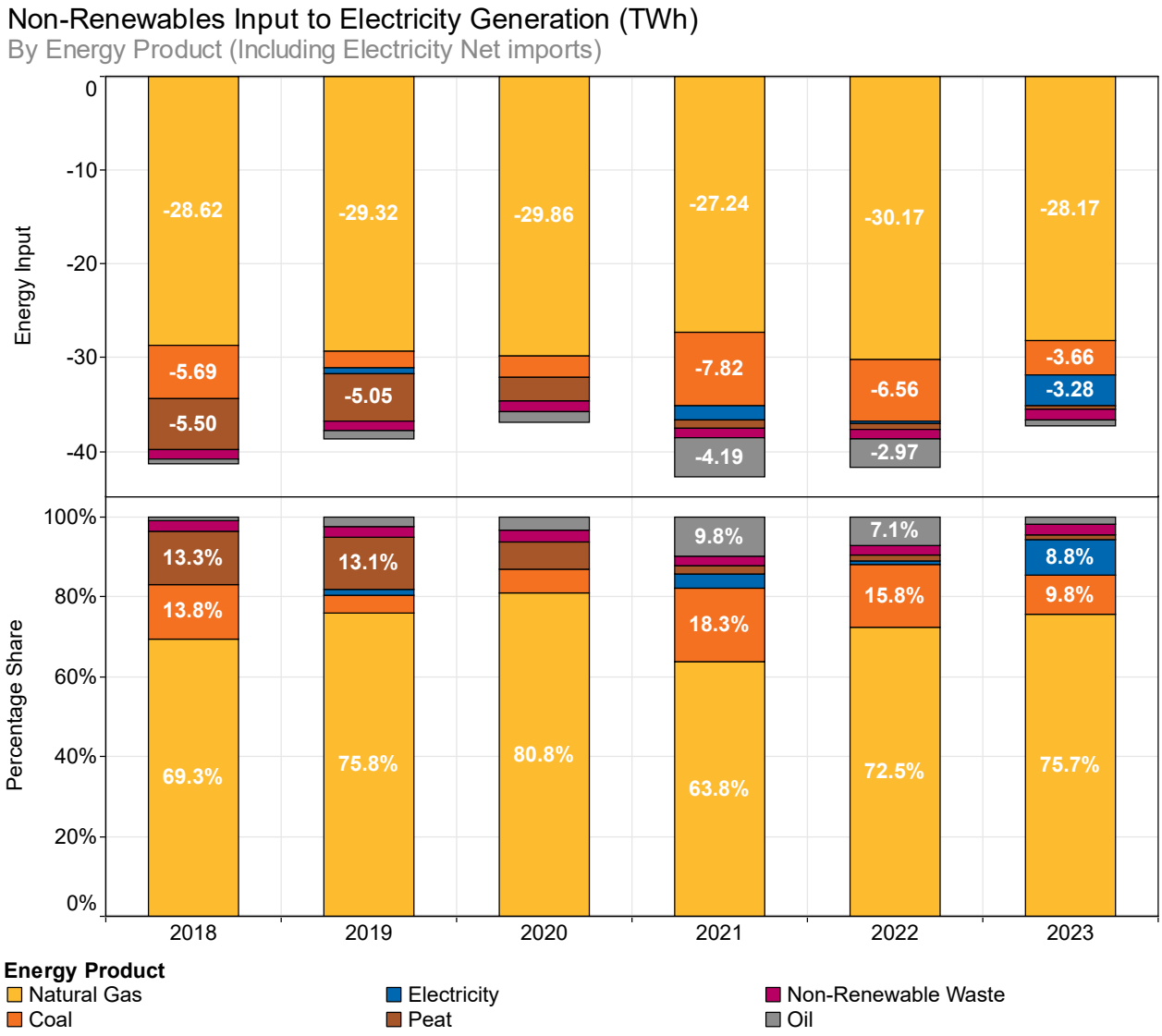
Figure 5.7 (top) shows the annual non-renewables energy input to electricity generation, summed across public thermal power plants (PTPP) input, combined heat and power plants (CHP) input and net imports. Figure 5.7 (bottom) is a swing plot that shows the year-to-year changes in the annual non-renewables energy input to electricity generation for the last 6-years, *i.e.* the value in 2023 is the difference between the annual non-renewables energy inputs to electricity generation in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

5.8 Electricity generation - non-renewables input by energy sub-product

Figure 5.8 (top) shows the annual energy input to electricity generation from non-renewables, summed across public thermal power plants (PTPP) input, combined heat and power plants (CHP) input and net electricity imports. Figure 5.8 (bottom) shows the energy product breakdown displayed as a percentage of the total energy input to electricity generation from non-renewables in a given year. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

5.9 Interconnected electricity - imports and exports

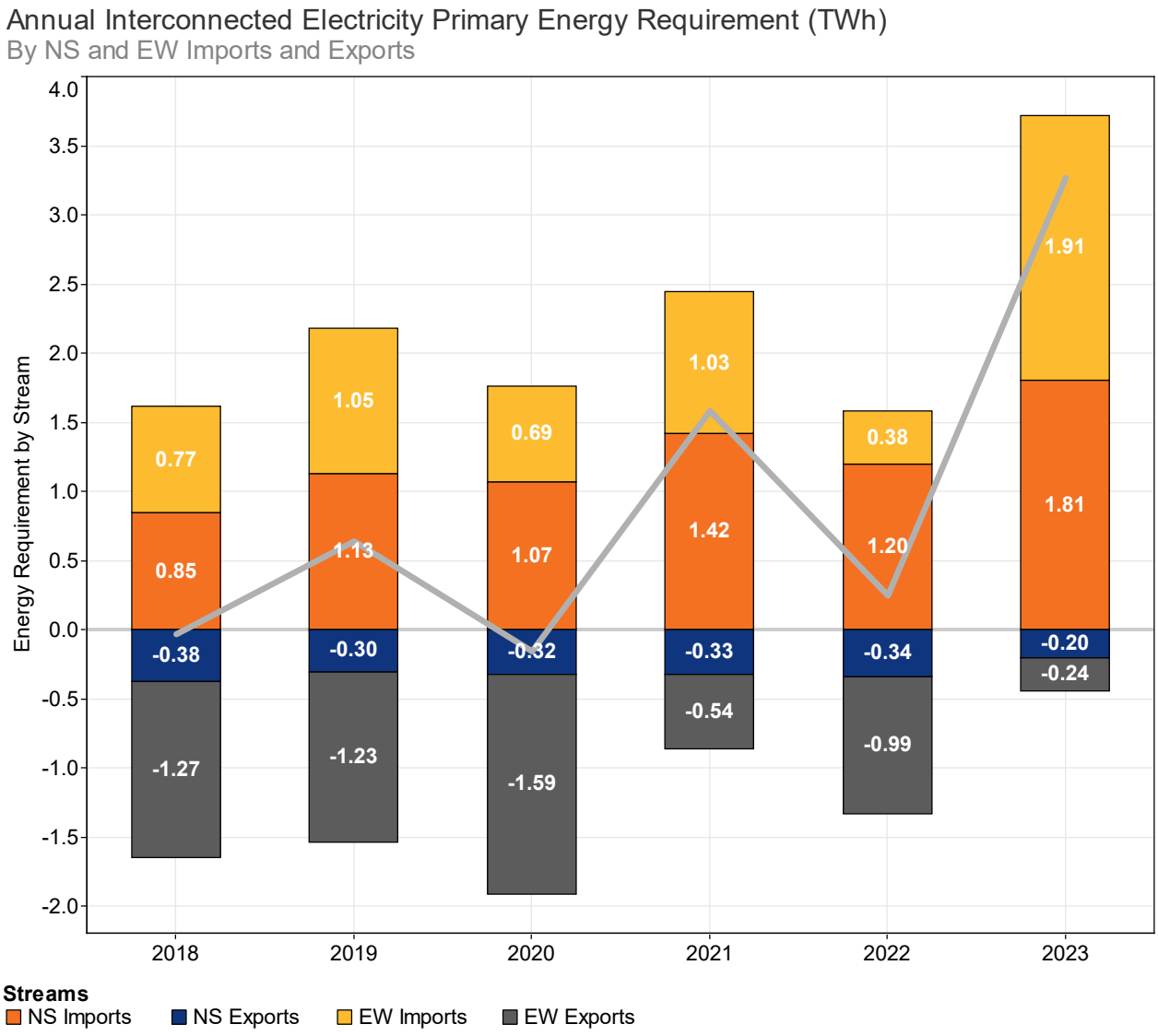
The integrated single electricity market (SEM) is the wholesale electricity market for Ireland and Northern Ireland. The SEM allows electricity to be freely traded between market participants in either jurisdiction. Although they occur within the SEM, the flow of electricity between Northern Ireland and Ireland (i.e. the North-South interconnector) are treated as international imports and exports for the purposes of national energy statistics. The SEM is connected to the GB electricity market through two other interconnectors - the Moyle Interconnector between Northern Ireland and Scotland, and the East-West Interconnector between Ireland and Wales. The GB electricity market is further connected to other European markets via interconnectors to France, Belgium, the Netherlands, and Norway. Imports of electricity to Ireland are influenced by market factors within the SEM, the GB electricity market, and the wider European markets beyond, as well as by the physical limitations of interconnectors and other grid infrastructure.

5.9.1 Interconnected electricity - annual imports and exports by stream

Figure 5.9.1 shows the total annual import and export of interconnected electricity into and out of Ireland, displayed as absolute values (bars) and as net imports/exports (line). The absolute values are broken down by interconnector steam, *i.e.* north-south (NS) and east-west (EW).

The values in the figure below are based on data provided to SEAI by EirGrid.

Data is provided by EirGrid in gigawatt hours (GWh) and converted to terawatt hours (TWh) by SEAI.



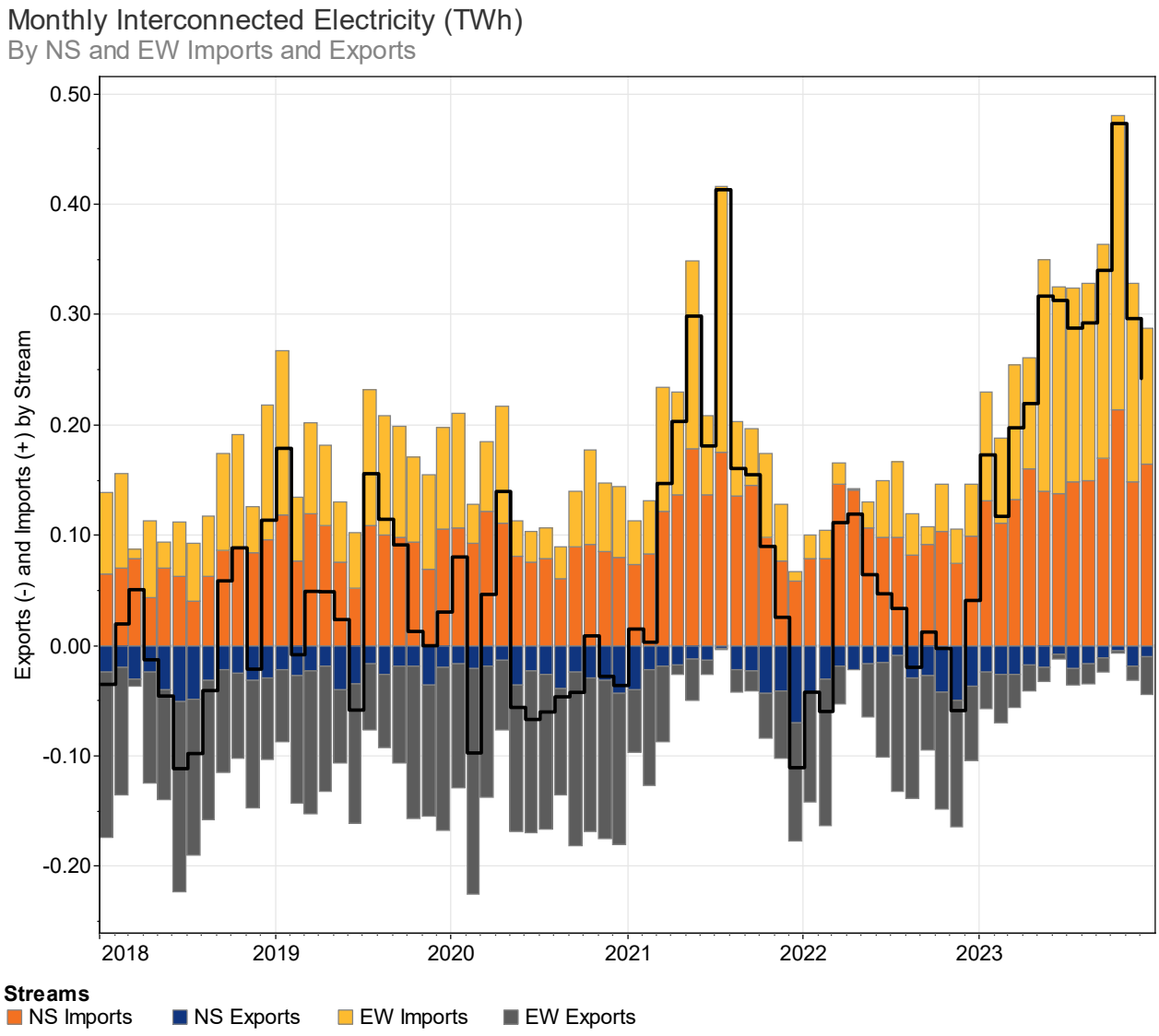
Source: The data in the figure above is available in the Appendix of this note – section 10.6.

5.9.2 Interconnected electricity – monthly imports and exports by stream

Figure 5.9.2 shows the total monthly import and export of interconnected electricity into and out of Ireland, displayed as absolute values (bars) and as net imports/exports (line). The absolute values are broken down by interconnector steam, *i.e.* north-south (NS) and east-west (EW).

The values in the figure below are based on data provided to SEAI by EirGrid and are provisional.

Data is provided by EirGrid in gigawatt hours (GWh) and converted to terawatt hours (TWh) by SEAI.



Source: The data in the figure above is available in the Appendix of this note – section 10.7.

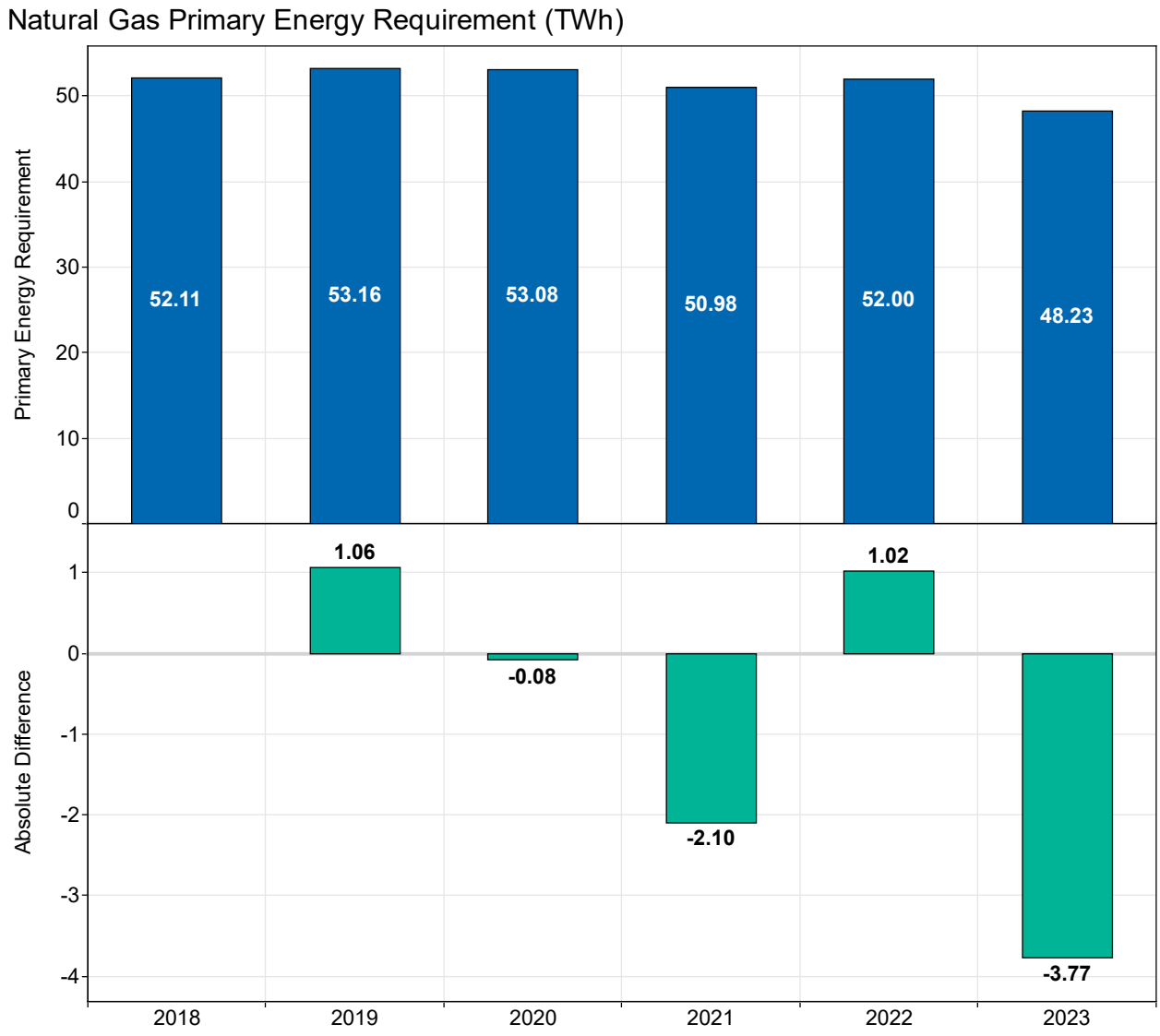
6 Trends in natural gas supply

Natural gas supply data has been informed by data received from the network operator, natural gas producers and suppliers. Natural gas transformation data also includes survey responses from main activity and CHP operators and it also includes public administrative data including data from EU-ETS provided by the EPA to SEAI.

Data is collected in a range of physical (*e.g.* million cubic meters) and gross energy units (*e.g.* terajoules, gigawatt hours) depending on the activity type and converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) by SEAI using conversion factors and densitities on a net calorific value basis.

6.1 Natural gas - primary energy requirement and annual change

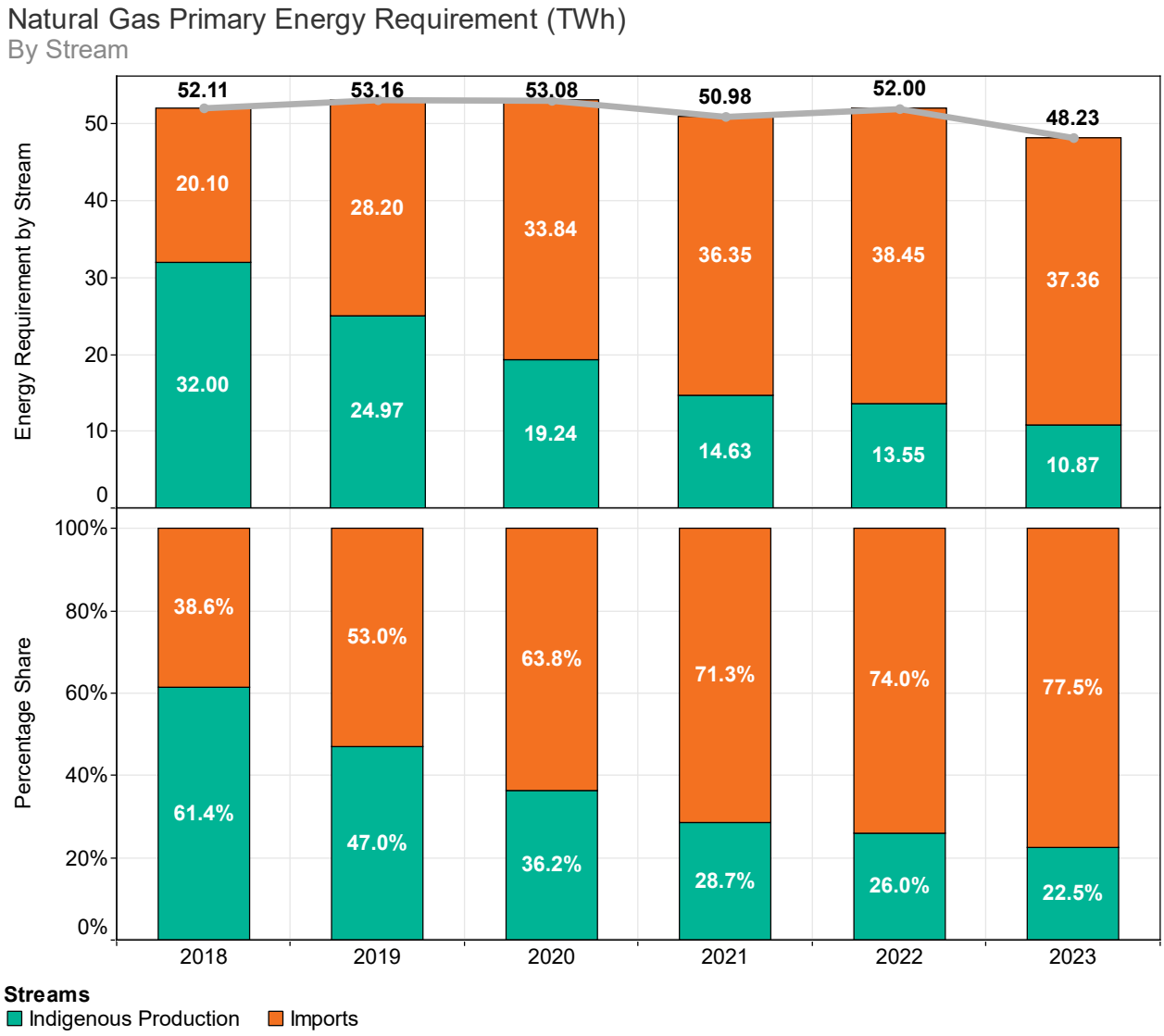
Figure 6.1 (top) shows Ireland's annual natural gas primary energy requirement for the last 6-years. Figure 6.1 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual natural gas primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the natural gas primary energy requirement in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

6.2 Natural gas - primary energy requirement by stream

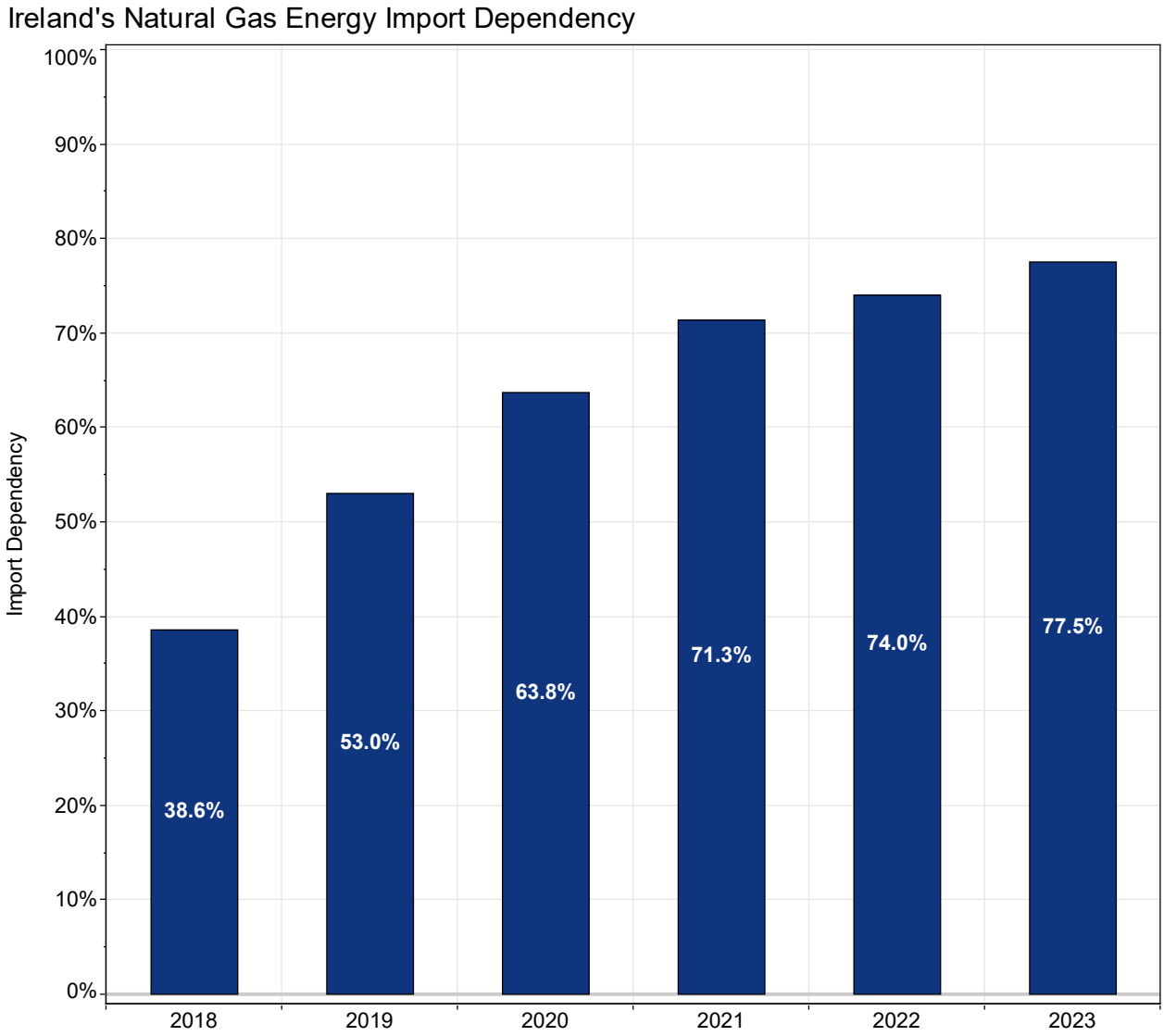
Figure 6.2 shows the annual natural gas primary energy requirement broken out by stream. The bars show the absolute energy quantity delivered or removed from natural gas primary energy requirement by each stream and the line shows the net natural gas primary energy requirement, calculated as a sum of the individual streams (top). The stream breakdown is also displayed as a percentage of the natural gas primary energy requirement (bottom). Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

6.3 Natural gas - import dependency

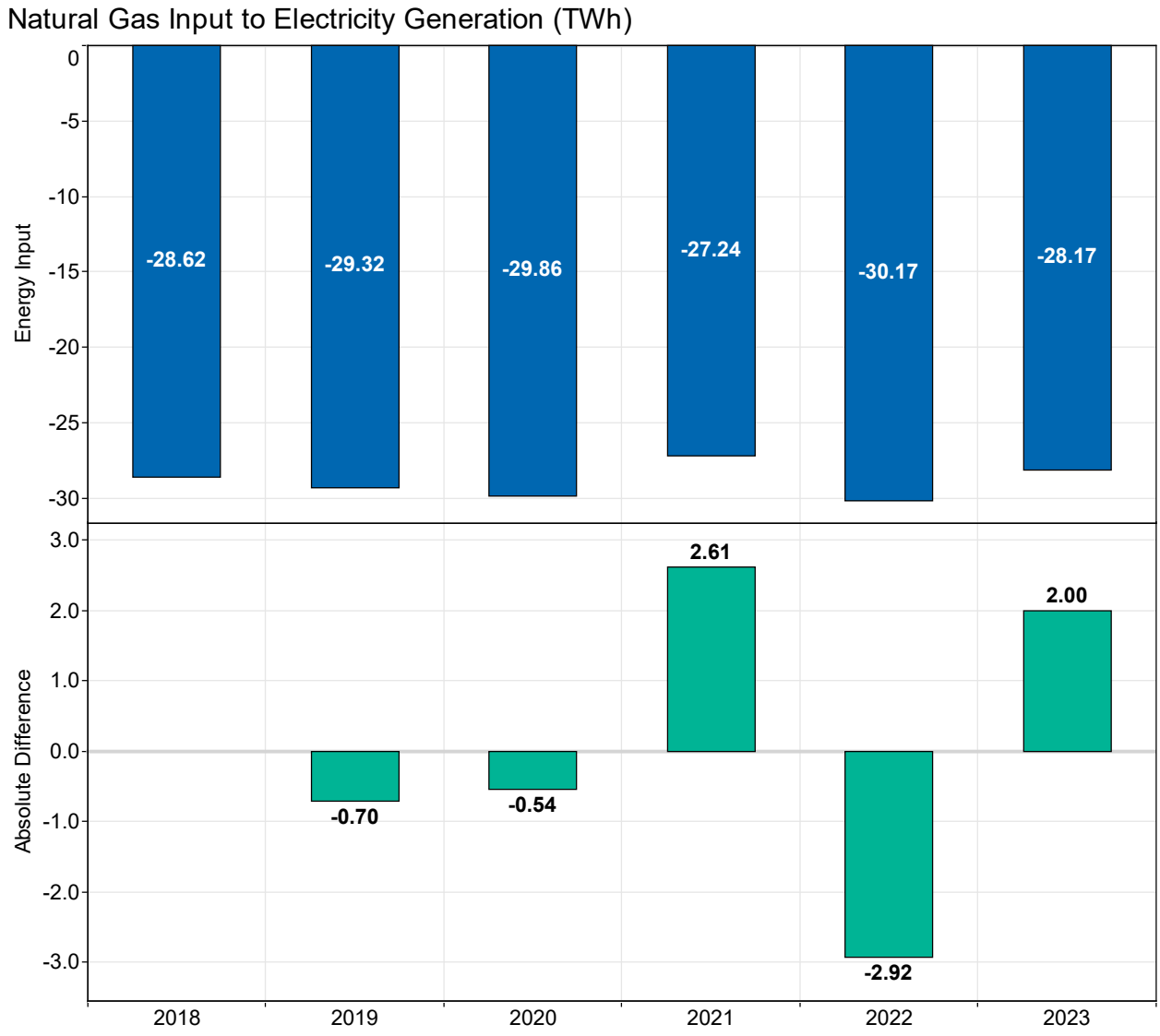
Figure 6.3 shows Ireland's natural gas imports dependency. This is a ratio of Ireland's total gross available natural gas which is met by net imports of natural gas from other countries and is expressed as a percentage. Ireland's overall imports dependency is shown in section 1.2.1.



Source: The data in the figure above is available in the Appendix of this note – section 10.8.

6.4 Natural gas - input to electricity generation and annual change

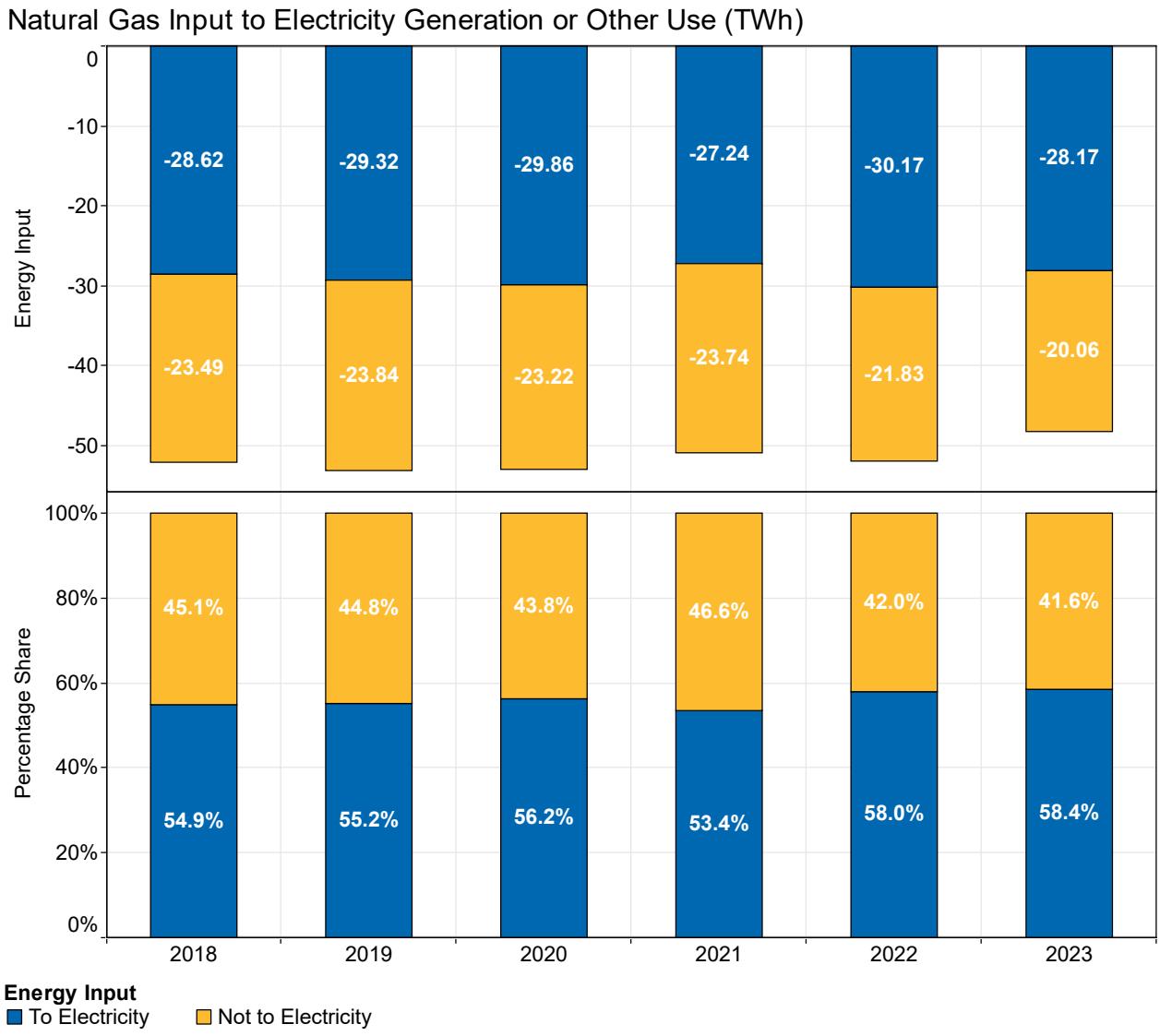
Figure 6.4 (top) shows the annual natural gas energy input to electricity generation, summed across public thermal power plants (PTPP) input and combined heat and power plants (CHP) input. Figure 6.4 (bottom) is a swing plot that shows the year-to-year changes in the annual natural gas energy input to electricity generation for the last 6-years, *i.e.* the value in 2023 is the difference between the annual natural gas energy input to electricity generation in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

6.5 Natural gas - input to electricity generation or other uses

Figure 6.5 (top) shows the annual net primary energy requirement of natural gas, summed across all relevant streams: national production, imports, exports and stock change. Figure 6.5 (bottom) shows the breakdown between natural gas energy input to electricity generation or other uses. This is displayed as a percentage of natural gas primary energy requirement in a given year (bottom).



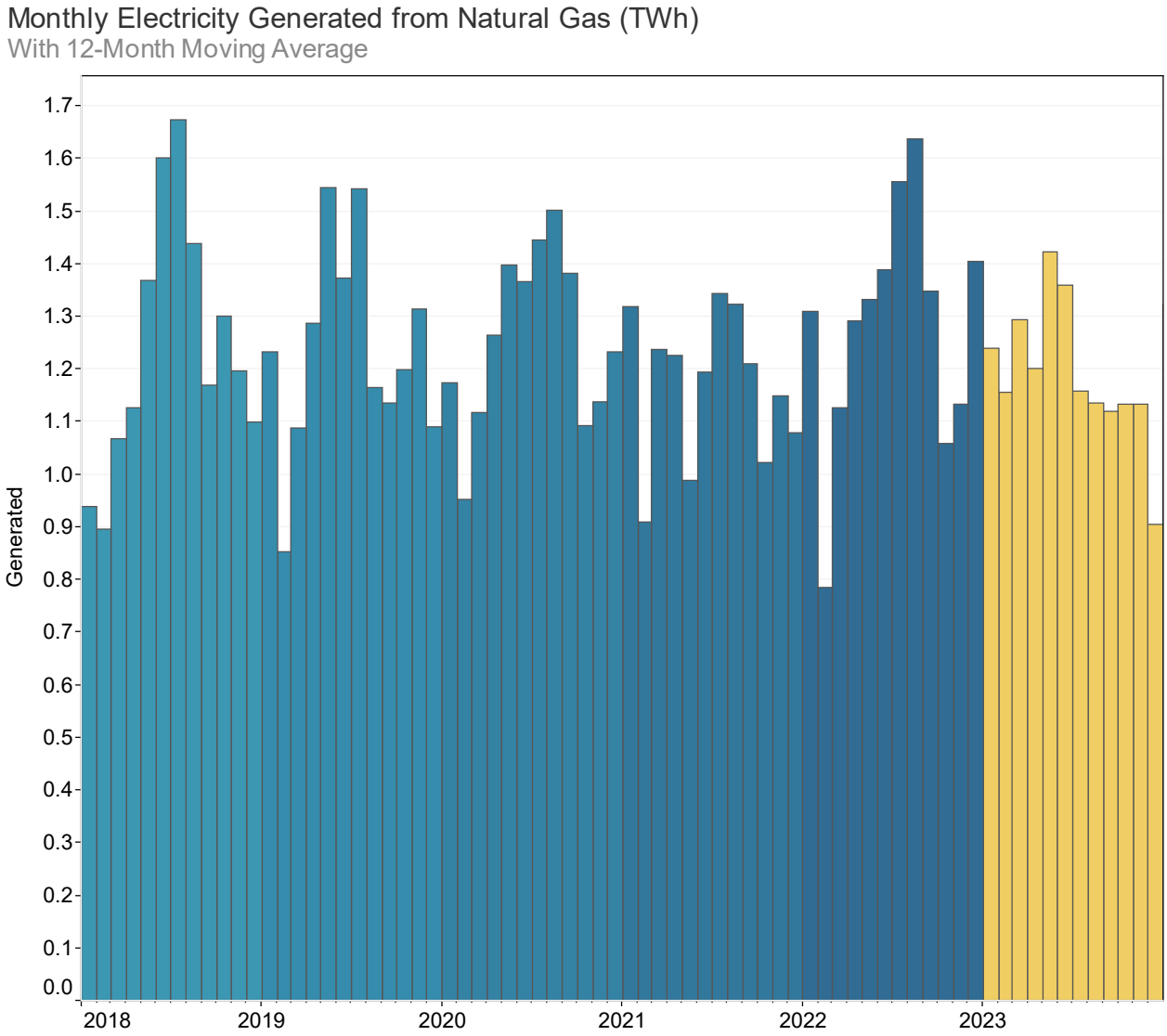
Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

6.6 Natural gas - monthly electricity generated

Figure 6.6 shows the total monthly electricity generated from natural gas. The bar-chart helps identify seasonal variations (and any short-term "shocks") in the monthly electricity generated from natural gas. For clarity and ease of comparison, the most recent year is coloured yellow, whereas, previous years are coloured in different shades of blue.

The values in the figure below are based on data provided to SEAI by EirGrid and are provisional.

Data is provided by EirGrid in megawatt hours (MWh) in terms of a net electricity production basis and converted to terawatt hours (TWh) by SEAI.



Source: The data in the figure above is based on provisional monthly survey returns, and is available from the SEAI website:
https://www.seai.ie/data-and-insights/seai-statistics/monthly-energy-data/electricity-monthly/

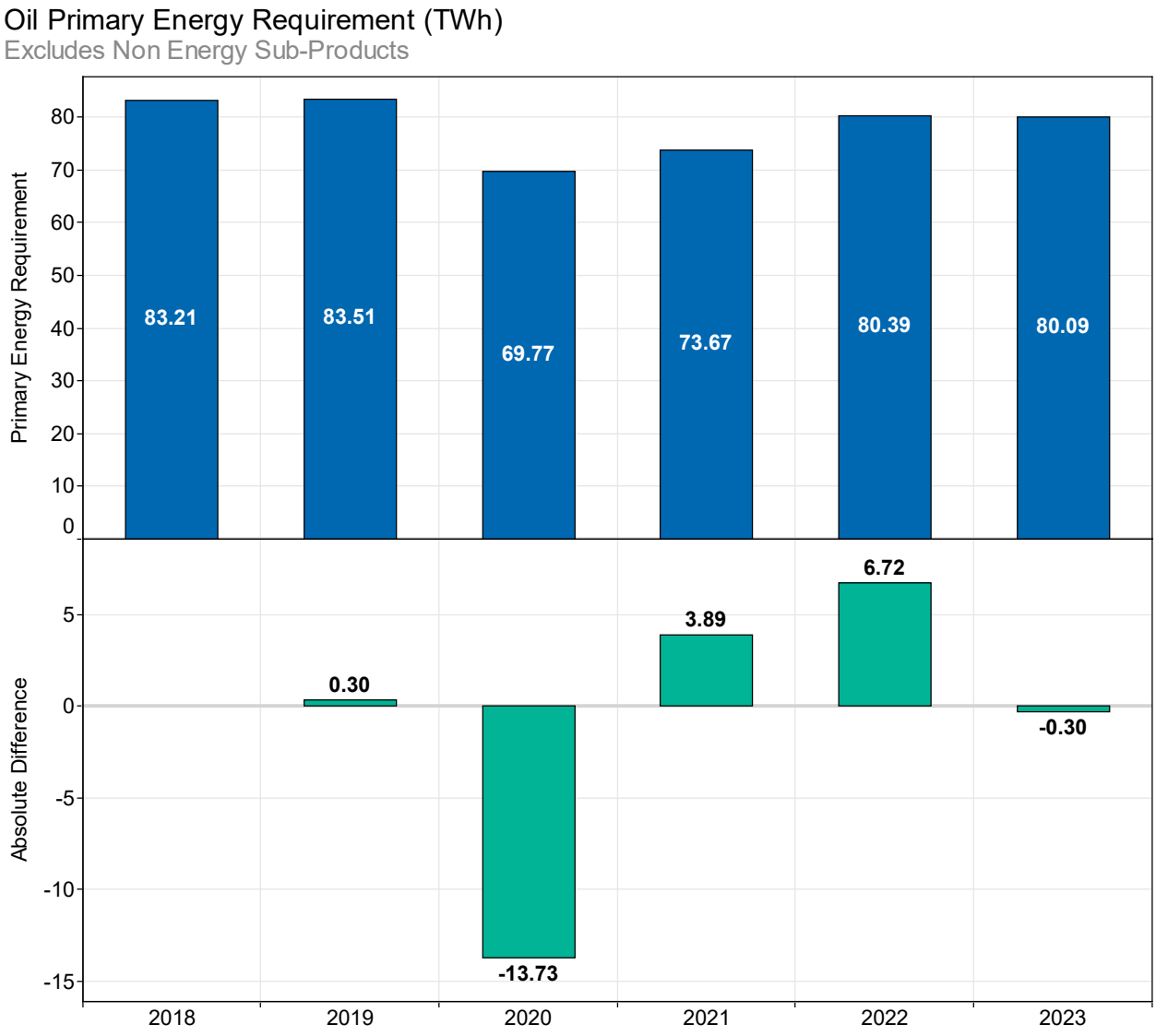
7 Trends in oil supply

Oil supply and transformation data has been informed by the national Oil Levy Application (OLA) database administered by The Department of the Environment, Climate and Communications (DECC).

Data is collected in physical units (*i.e.* kilotonnes) and converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) energy units by SEAI using conversion factors and densities on a net calorific value basis.

7.1 Oil - primary energy requirement and annual change

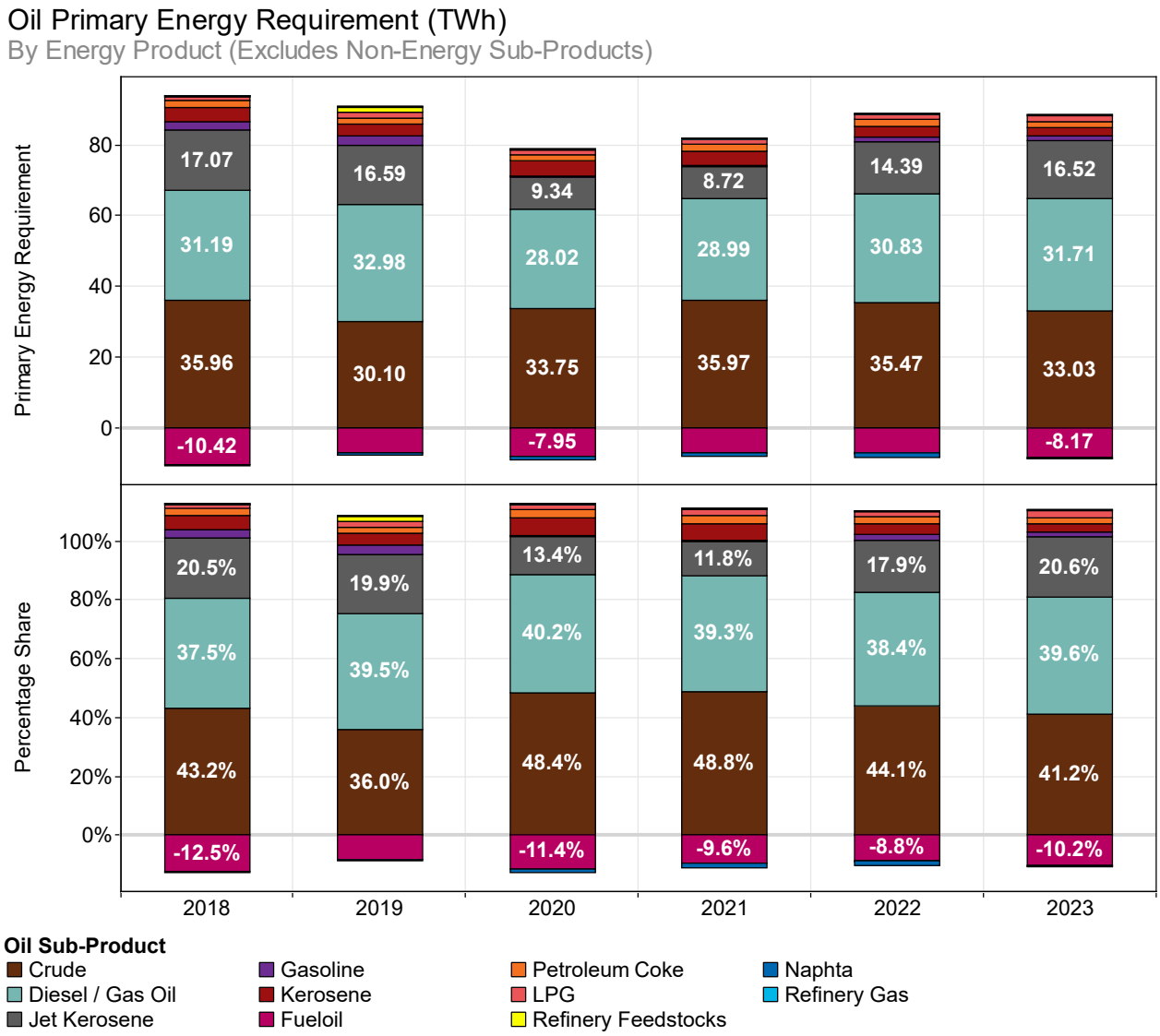
Figure 7.1 (top) shows Ireland's annual oil primary energy requirement for the last 6-years. Figure 7.1 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual oil primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the oil primary energy requirement in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.2 Oil – primary energy requirement by energy product

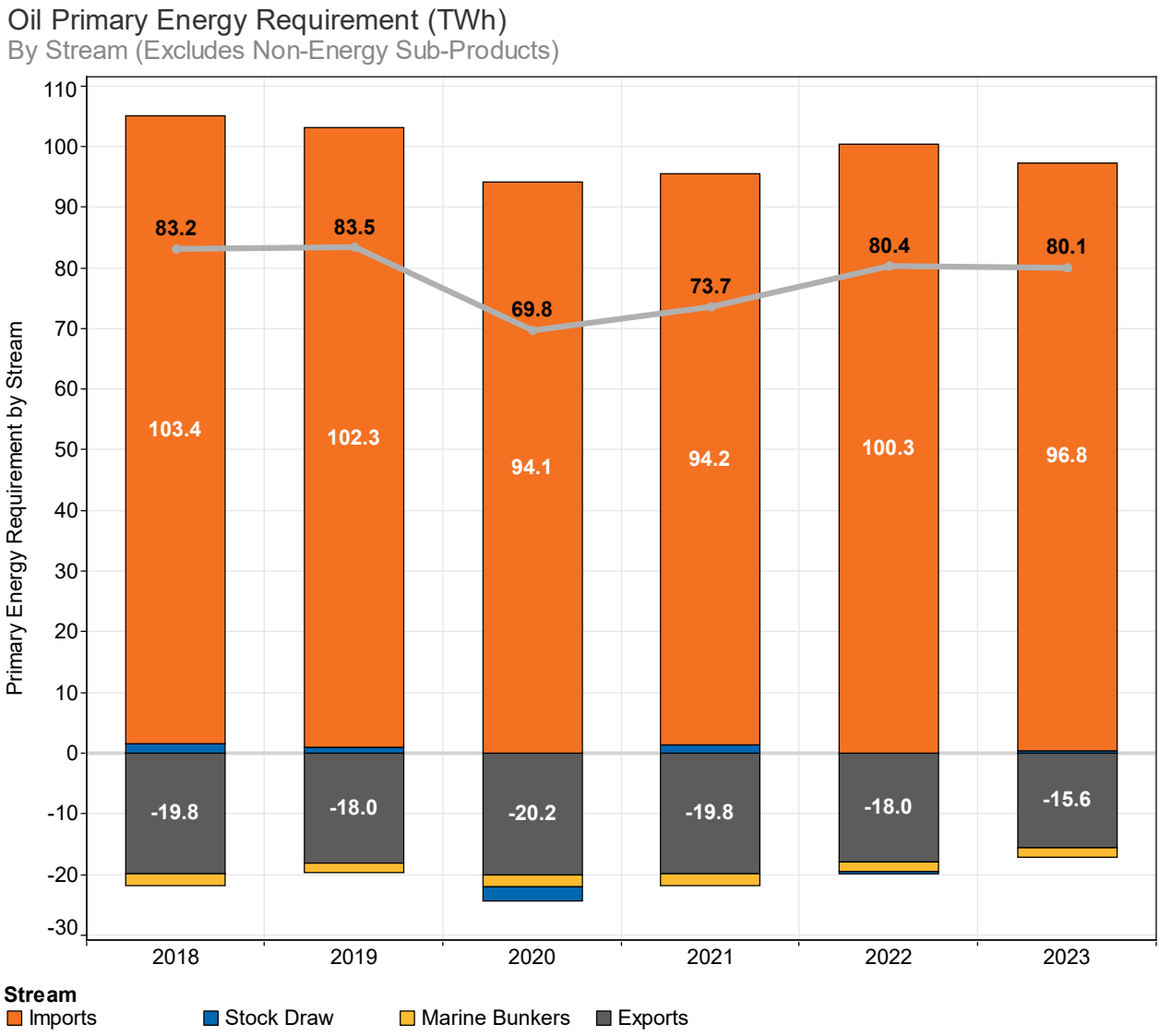
Figure 7.2 (top) shows the annual oil primary energy requirement with its energy sub-product breakdown. Figure 7.2 (bottom) shows the energy sub-product breakdown displayed as a percentage of the total oil primary energy requirement. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.3 Oil – primary energy requirement by stream

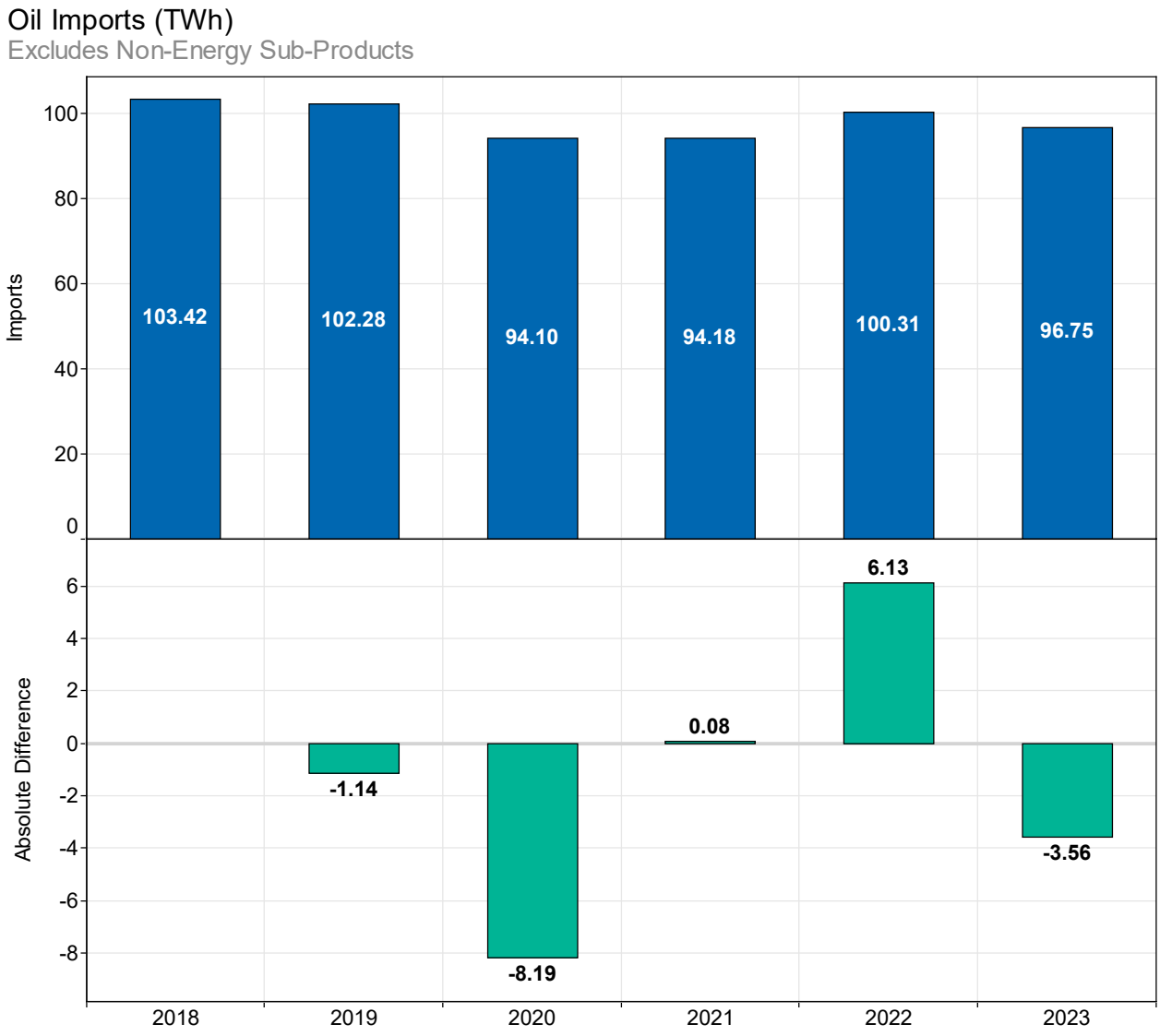
Figure 7.3 shows the annual oil primary energy requirement broken out by stream. The bars show the absolute energy quantity delivered or removed from oil primary energy requirement by each stream and the line shows the net oil primary energy requirement, calculated as a sum of the individual streams (top). Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.4 Oil - imports and annual change

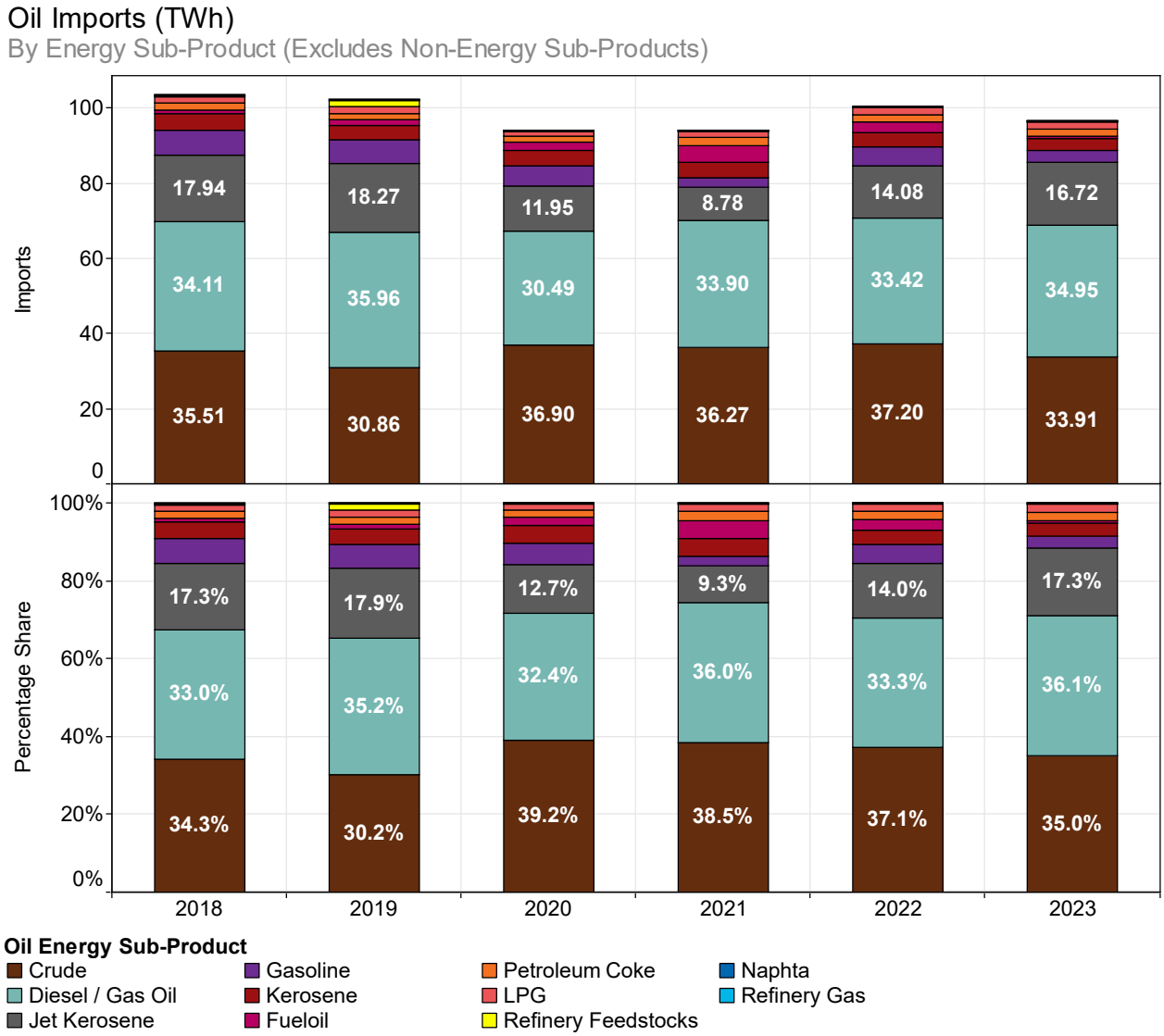
Figure 7.4 (top) shows Ireland's annual oil energy imports for the last 6-years summed across all oil energy sub-product types (excludes bitumen, lubricants and white spirits). Figure 7.4 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual oil energy imports for the last 6-years, *i.e.* the value in 2023 is the difference between the oil energy imports in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.5 Oil - imports by energy sub-product

Figure 7.5 (top) shows the total oil energy imports with its energy sub-product breakdown. Figure 7.5 (bottom) shows the energy sub-product breakdown displayed as a percentage of the total oil energy imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.6 Oil - imports by country of origin

Details on an energy products country of origin can give additional information on the security of supply of that energy product. The energy statistics regulation (ESR)[6] mandates that crude oil imports are reported as the country of ultimate origin *i.e.,* where the crude oil was produced. In contrast, refinery feedstocks and finished products are reported as the country of last consignment.

The figures in this section are based on the data collected from the national Oil Levy Application (OLA) database administered by The Department of the Environment, Climate and Communications (DECC) by SEAI and reported to Eurostat in their monthly and annual questionnaires.

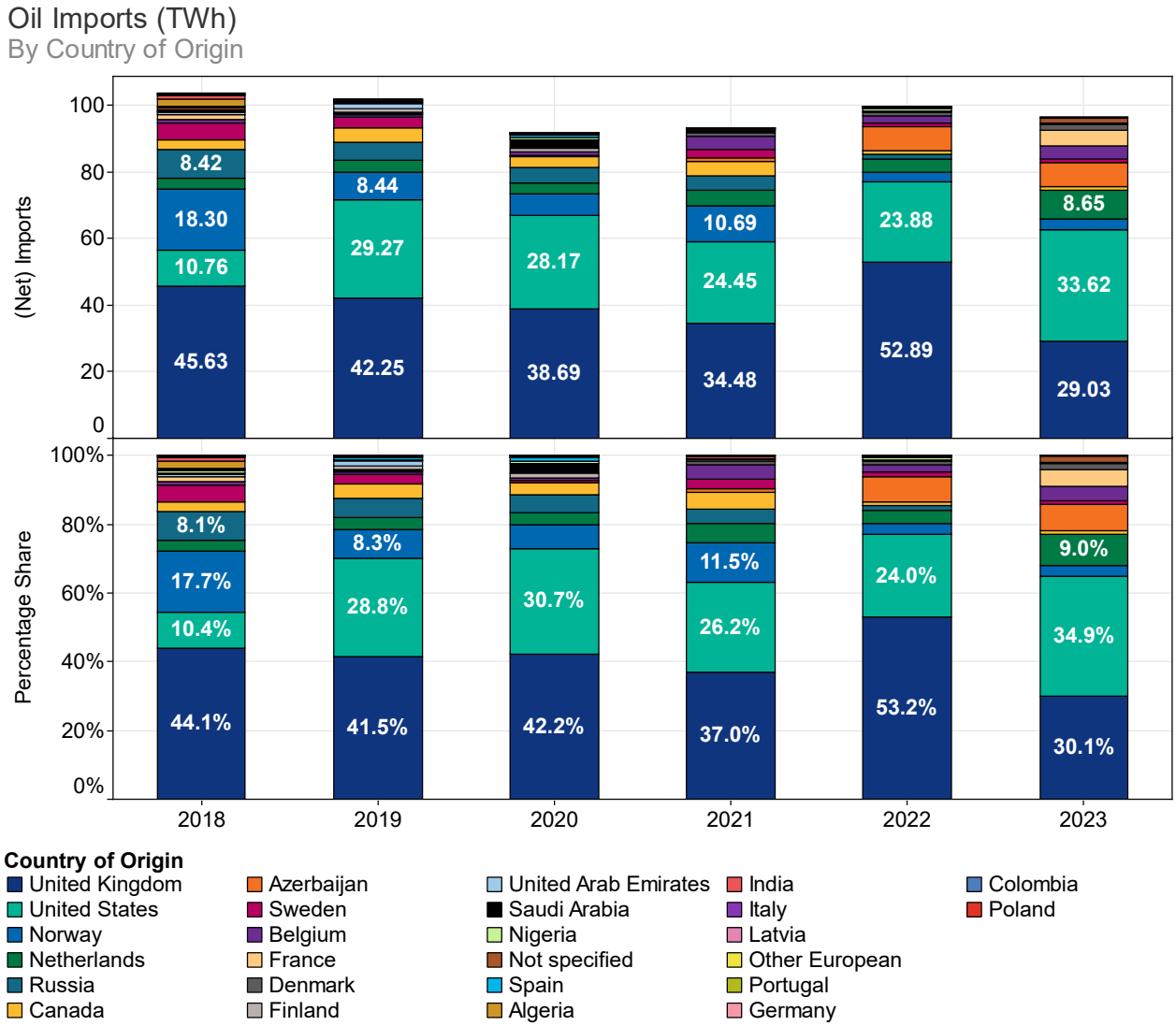
Data is collected and submitted to Eurostat in kilotonnes (kt) and subsequently converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) by SEAI using conversion factors and densities on a net calorific value basis. As Ireland is not a primary producer of crude oil, it is reported to Eurostat on a net imports basis, but finished oil products are reported to Eurostat as absolute quantity imported.

[6] European Union, "Regulation (EC) No 1099/2008 of the European Parliament and of the Council on energy statistics," 2008. [Online]. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008R1099-20240207.

7.6.1 Oil - imports by country of origin

Figure 7.6.1 (top) shows the annual total oil imports into Ireland and the country of origin breakdown. Figure 7.6.1 (bottom) shows the country of origin breakdown displayed as a percentage of the total oil imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

Crude oil is reported to Eurostat by SEAI as net imports while finished products are reported as absolute quantities imported in Eurostat's monthly and annual questionnaires.

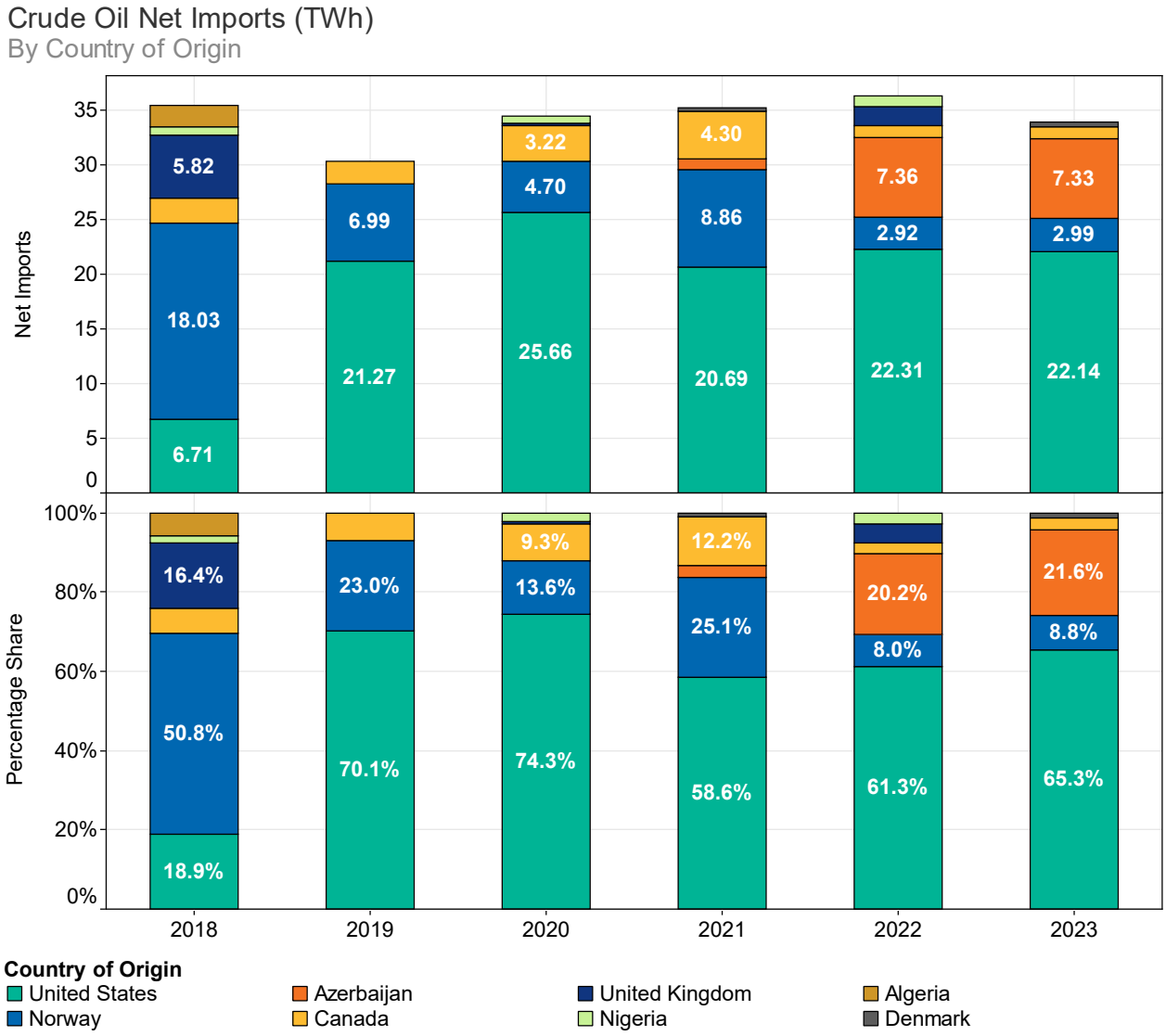


Source: The data in the figure above is a combination of provisional monthly survey returns (latest year) and annual data (preceding years), and is available from the Eurostat website:
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oilm__custom (monthly data)
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oil__custom (annual data)

7.6.2 Crude oil - net imports by country of origin

Figure 7.6.2 (top) shows the annual crude oil net imports into Ireland and the country of origin breakdown. Figure 7.6.2 (bottom) shows the country of origin breakdown displayed as a percentage of the total crude oil imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

Crude oil imports are reported to Eurostat by SEAI as net imports in Eurostat's monthly and annual questionnaires.

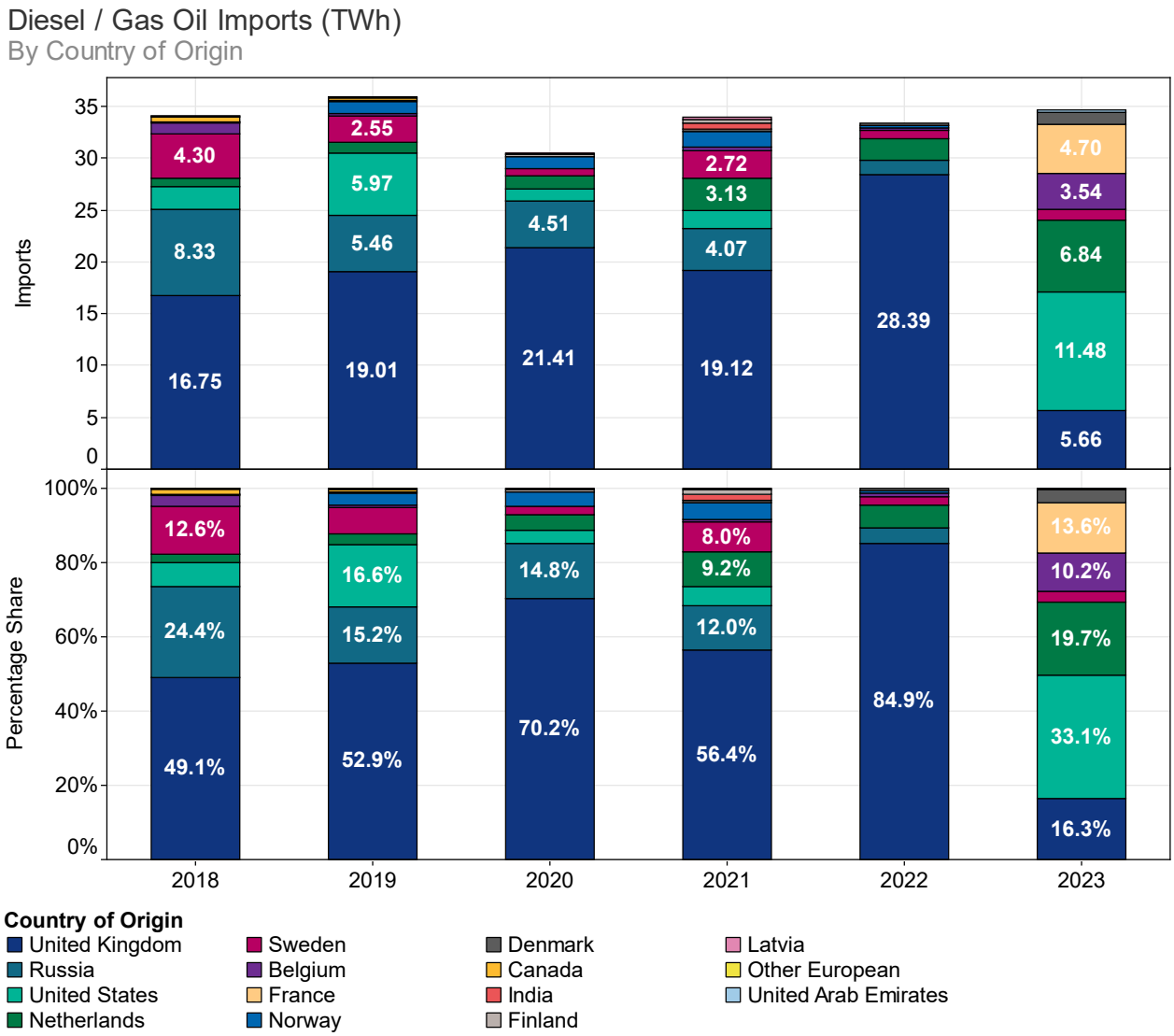


Source: The data in the figure above is a combination of provisional monthly survey returns (latest year) and annual data (preceding years), and is available from the Eurostat website:
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oilm__custom (monthly data)
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oil__custom (annual data)

7.6.3 Diesel / gas oil - imports by country of origin

Figure 7.6.3 (top) shows the annual diesel / gas oil imports into Ireland and the country of origin breakdown. Figure 7.6.3 (bottom) shows the country of origin breakdown displayed as a percentage of the total diesel / gas oil imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

Diesel / gas oil imports are reported to Eurostat by SEAI as absolute quantity imported in Eurostat's monthly and annual questionnaires.

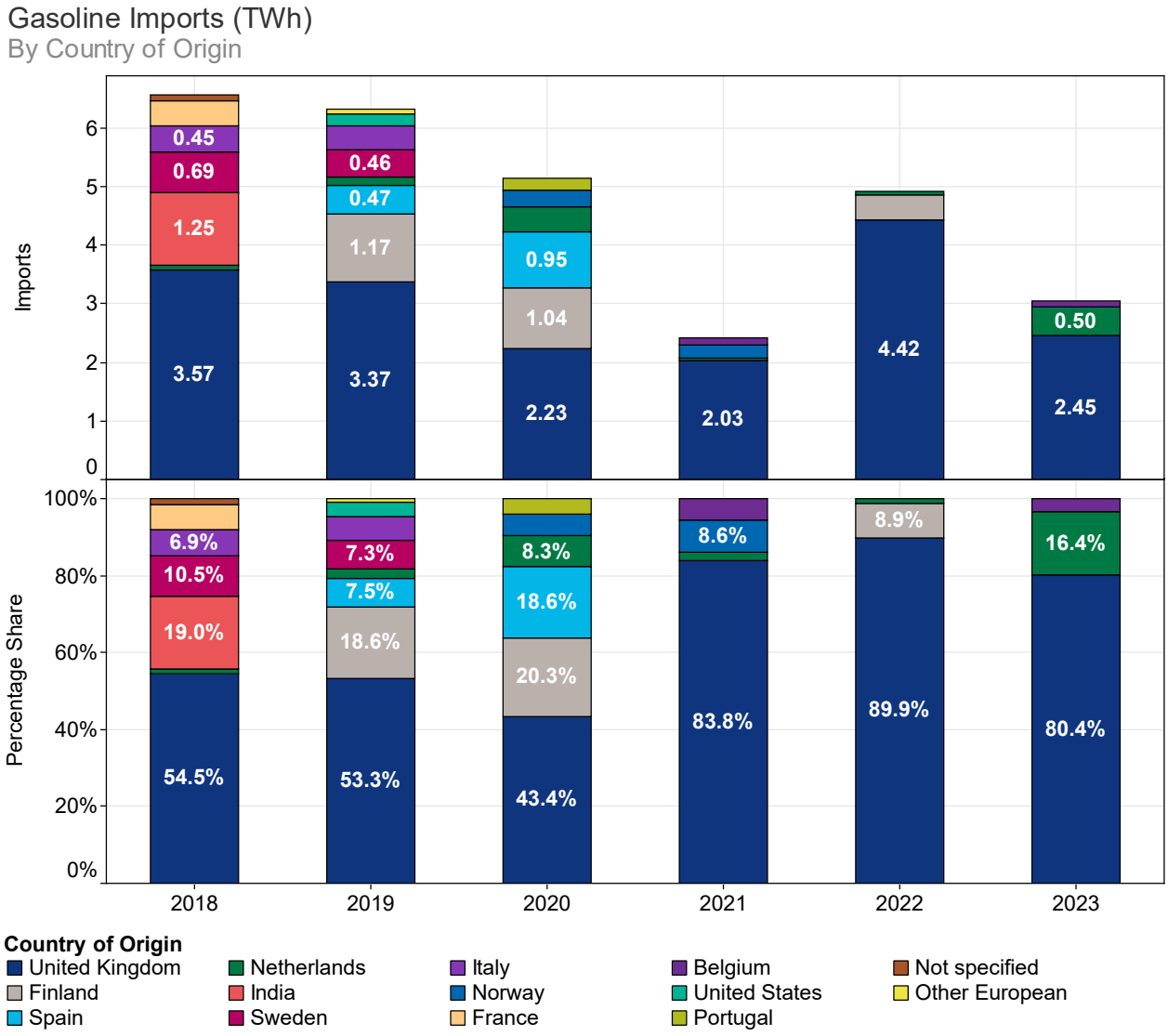


Source: The data in the figure above is a combination of provisional monthly survey returns (latest year) and annual data (preceding years), and is available from the Eurostat website:
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oilm__custom (monthly data)
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oil__custom (annual data)

7.6.4 Gasoline - imports by country of origin

Figure 7.6.4 (top) shows the annual gasoline imports into Ireland and the country of origin breakdown. Figure 7.6.4 (bottom) shows the country of origin breakdown displayed as a percentage of the total gasoline imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

Gasoline imports are reported to Eurostat by SEAI as absolute quantity imported in Eurostat's monthly and annual questionnaires.

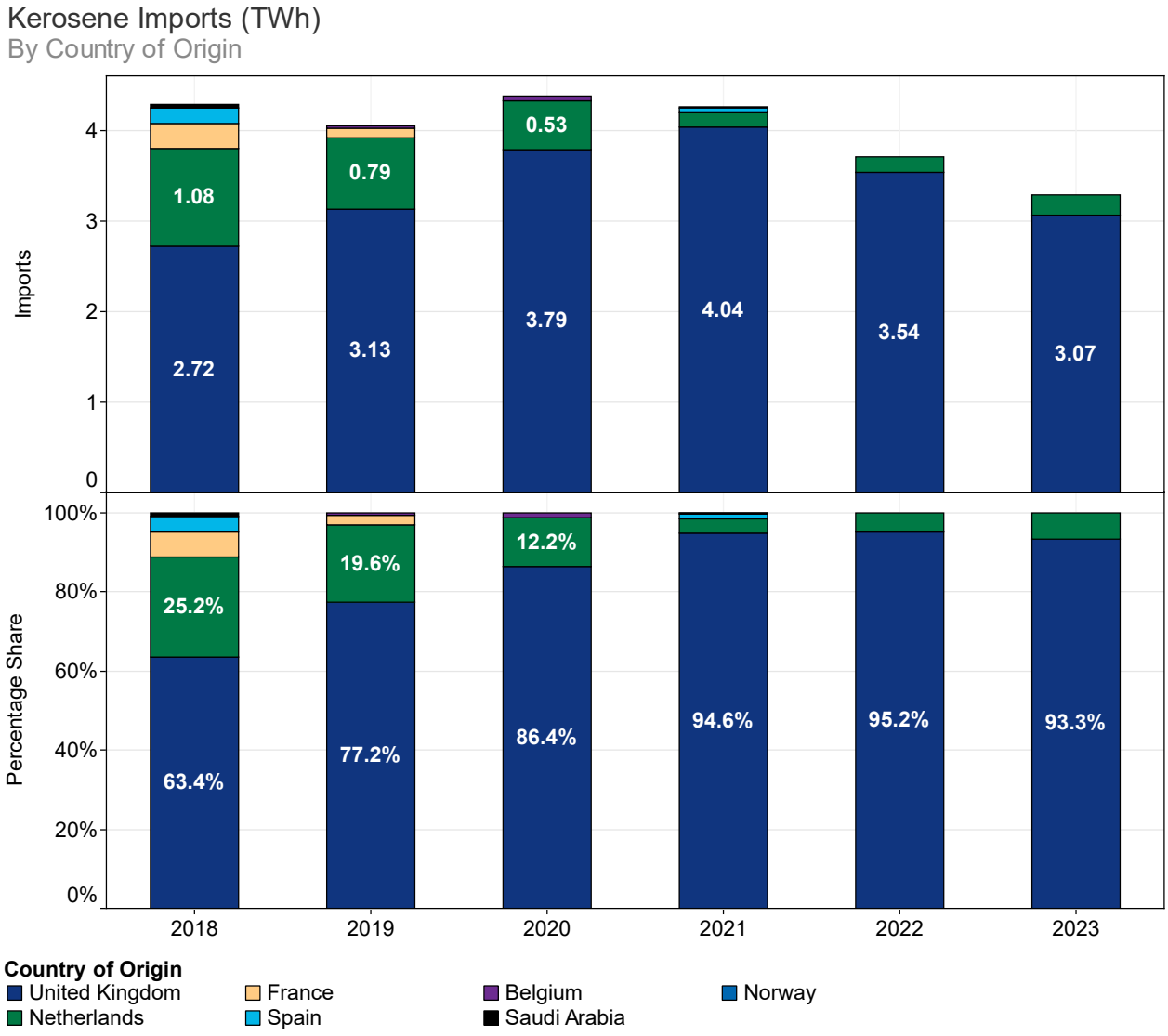


Source: The data in the figure above is a combination of provisional monthly survey returns (latest year) and annual data (preceding years), and is available from the Eurostat website:
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oilm__custom (monthly data)
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oil__custom (annual data)

7.6.5 Kerosene - imports by country of origin

Figure 7.6.5 (top) shows the annual kerosene imports into Ireland and the country of origin breakdown. Figure 7.6.5 (bottom) shows the country of origin breakdown displayed as a percentage of the total kerosene imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

Kerosene imports are reported to Eurostat by SEAI as absolute quantity imported in Eurostat's monthly and annual questionnaires.

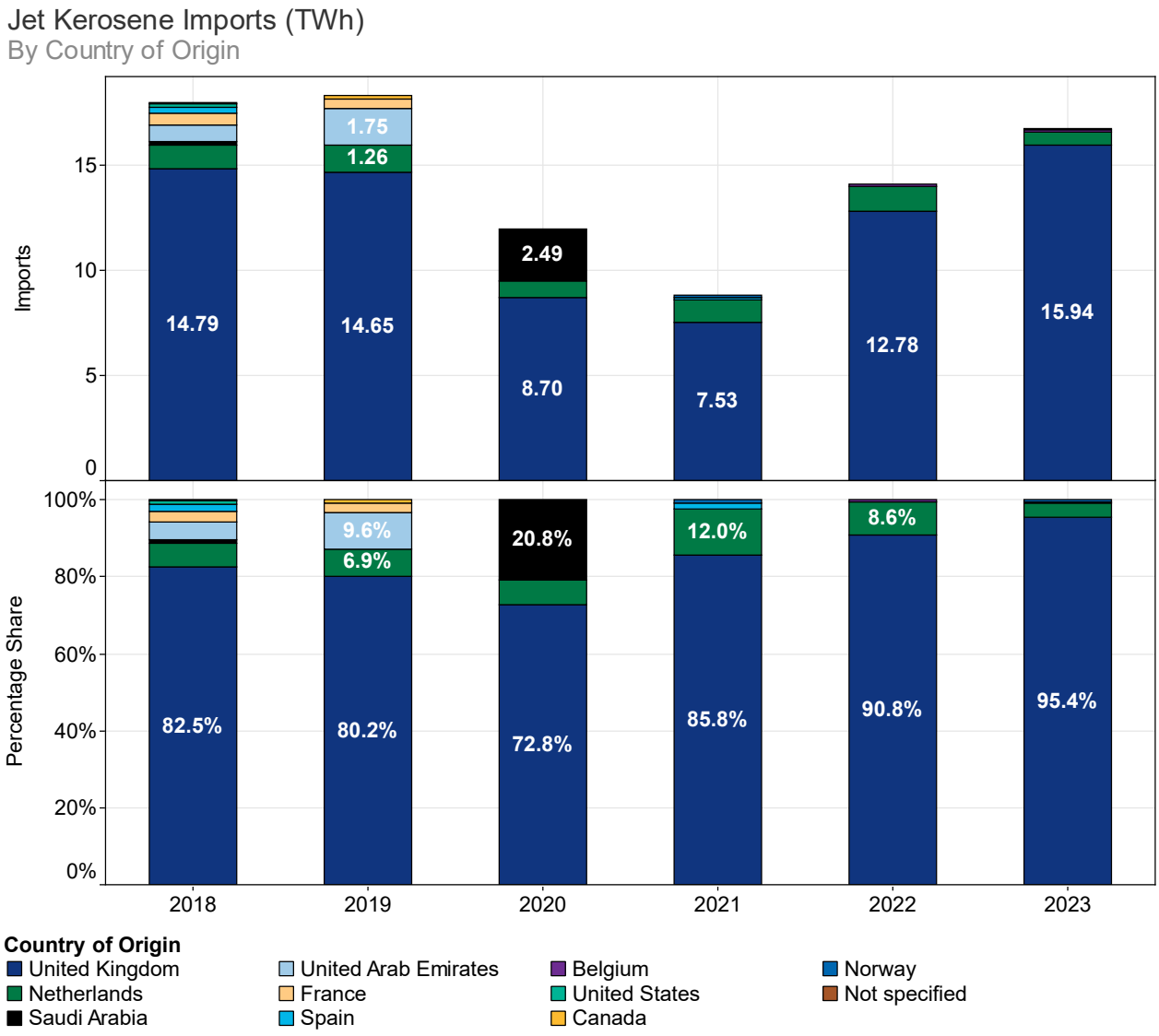


Source: The data in the figure above is a combination of provisional monthly survey returns (latest year) and annual data (preceding years), and is available from the Eurostat website:
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oilm__custom (monthly data)
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oil__custom (annual data)

7.6.6 Jet kerosene - imports by country of origin

Figure 7.6.6 (top) shows the annual jet kerosene imports into Ireland and the country of origin breakdown. Figure 7.6.6 (bottom) shows the country of origin breakdown displayed as a percentage of the total jet kerosene imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

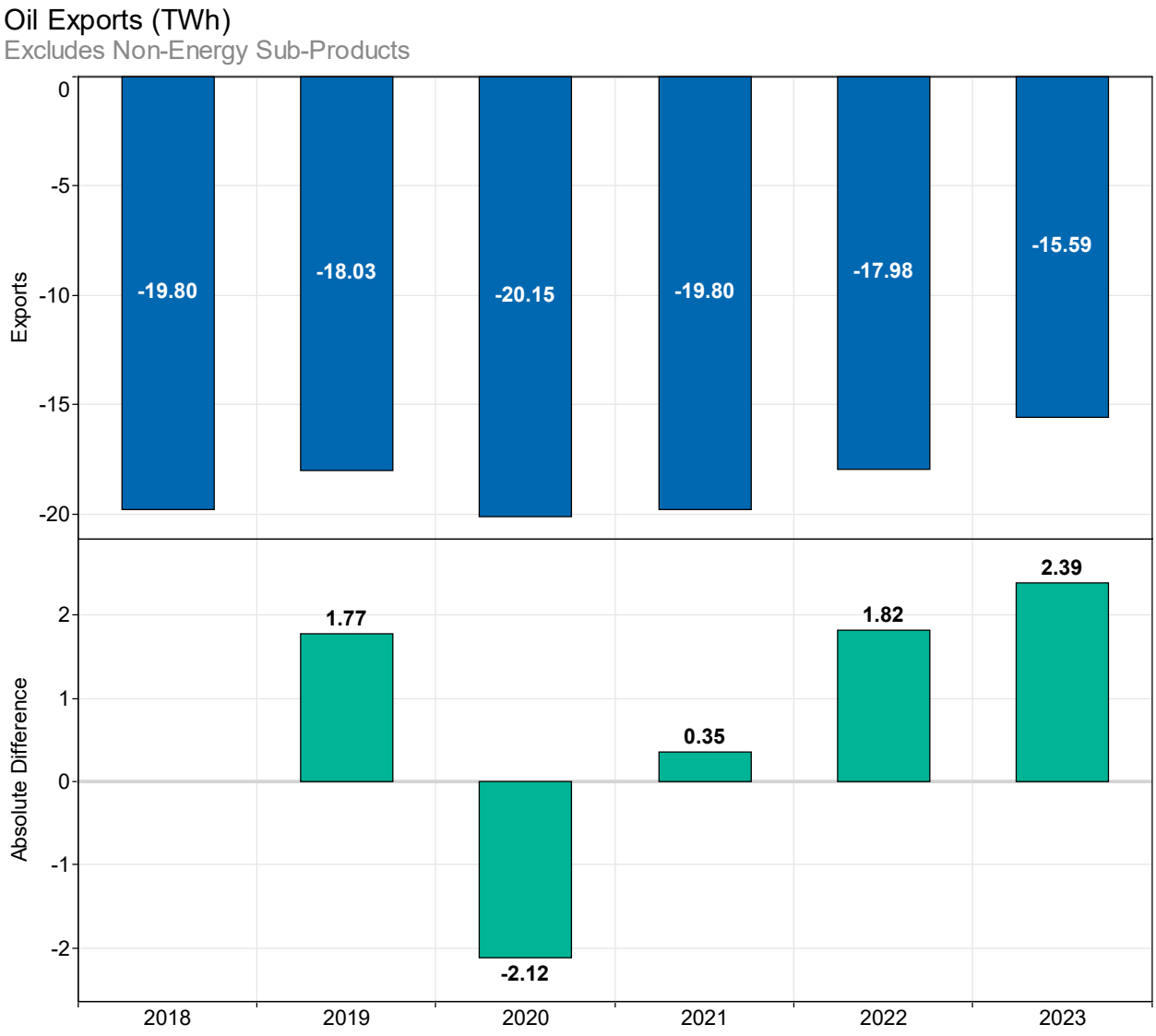
Jet kerosene imports are reported to Eurostat by SEAI as absolute quantity imported in Eurostat's monthly and annual questionnaires.



Source: The data in the figure above is a combination of provisional monthly survey returns (latest year) and annual data (preceding years), and is available from the Eurostat website:
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oilm__custom (monthly data)
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oil__custom (annual data)

7.7 Oil - exports and annual change

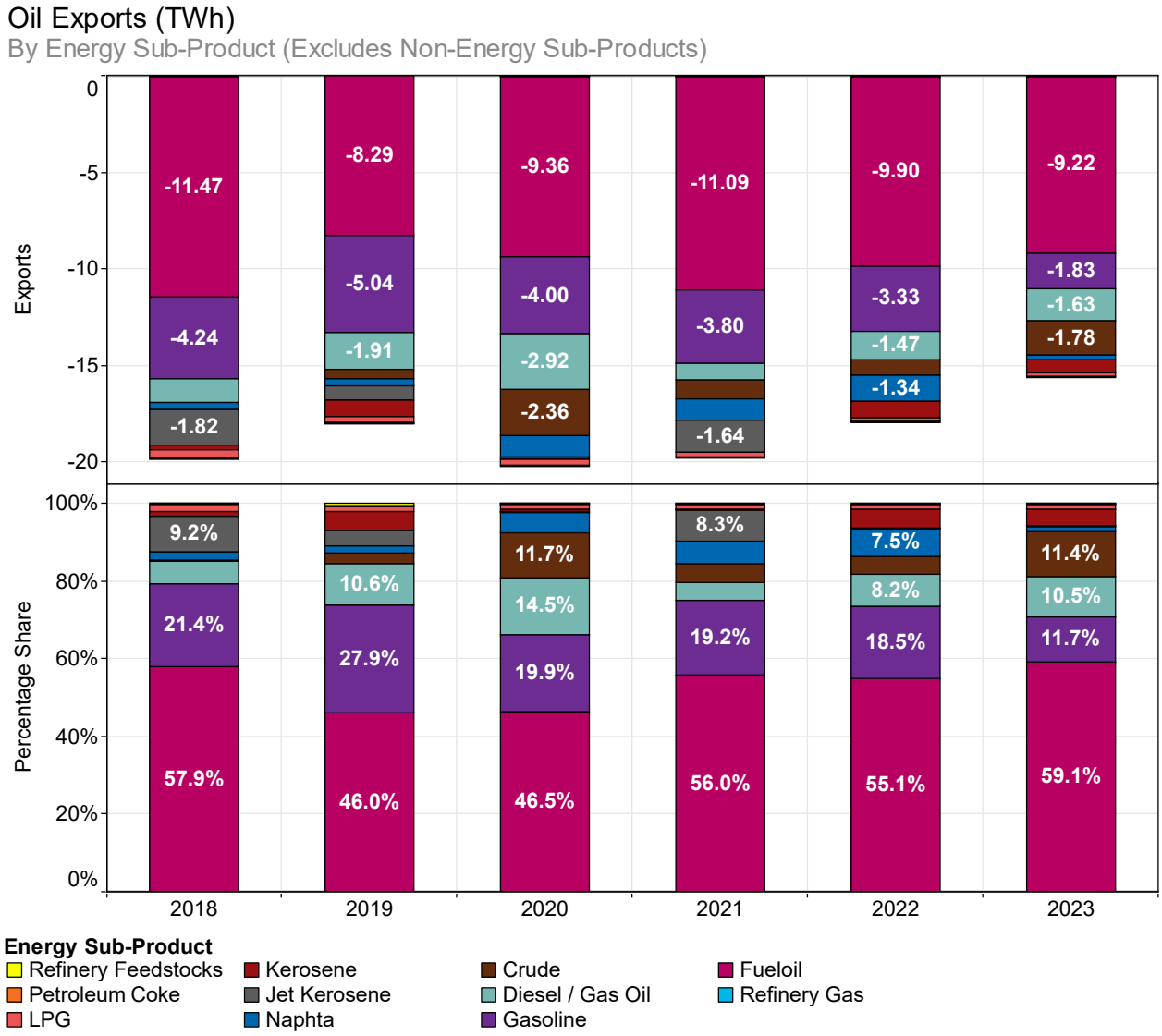
Figure 7.7 (top) shows Ireland's annual oil energy exports for the last 6-years summed across all oil energy sub-product types (excludes bitumen, lubricants and white spirits). Figure 7.7 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual oil energy exports for the last 6-years, *i.e.* the value in 2023 is the difference between the oil energy exports in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.8 Oil - exports by energy sub-product

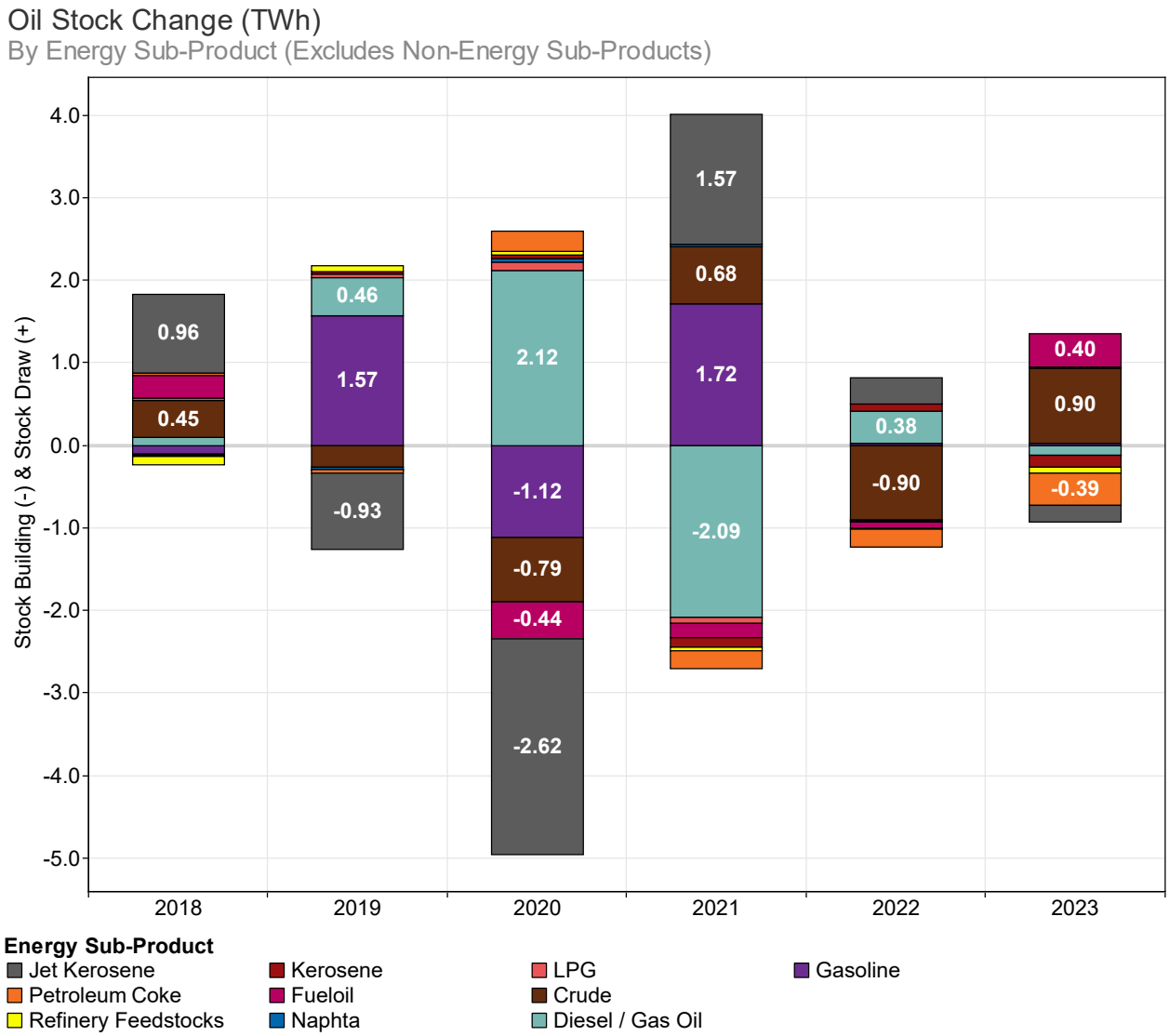
Figure 7.8 (top) shows the total oil energy exports with its energy product breakdown. Figure 7.8 (bottom) shows the energy sub-product breakdown displayed as a percentage of the total oil energy exports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.9 Oil - stock change

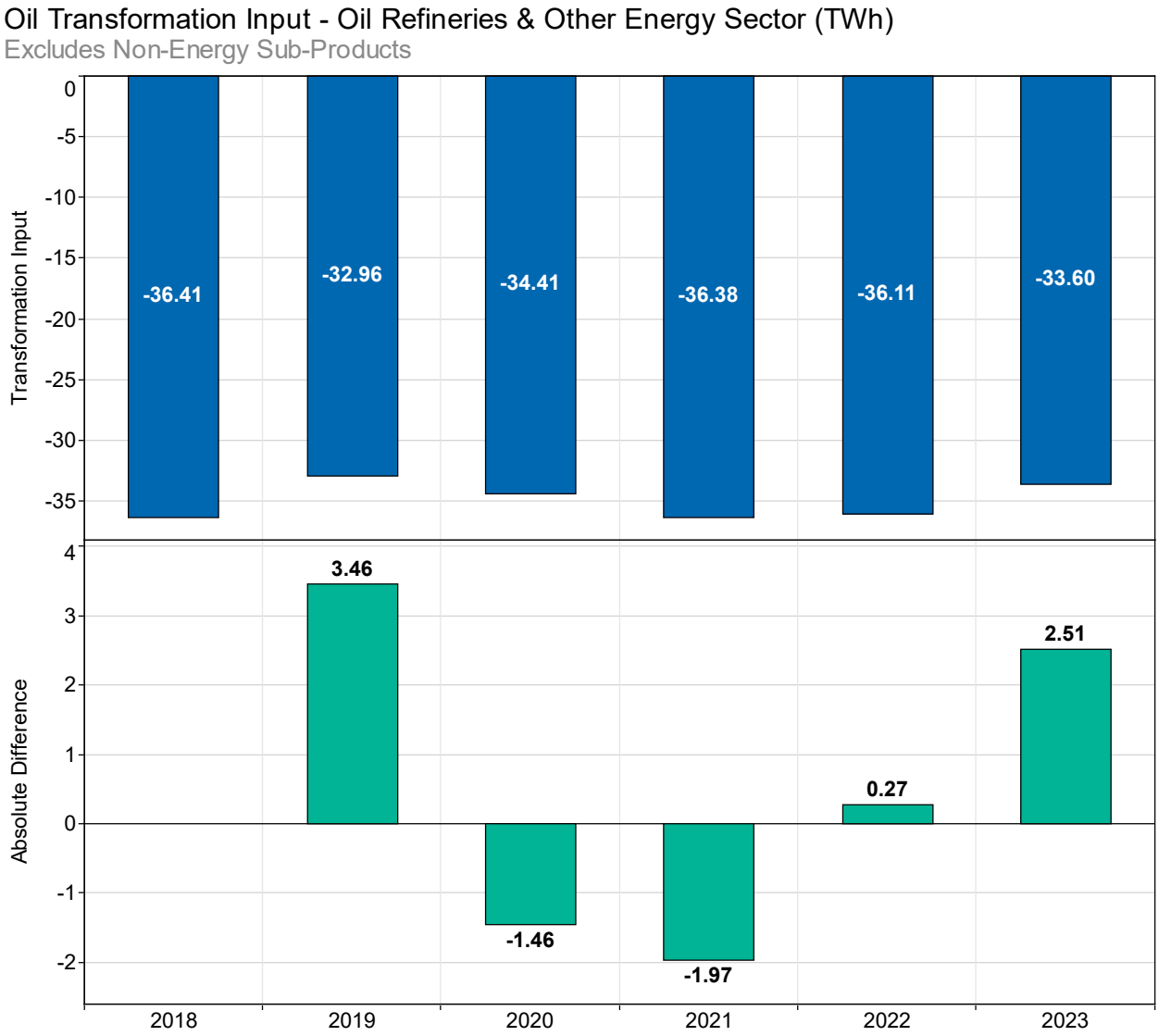
Figure 7.9 shows the annual net stock change of oil energy sub-products. Stock building removes an energy sub-product from the primary energy supply and so is negative. In contrast, stock draw increases the amount of an energy sub-product in the primary energy supply and so is positive. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.10 Oil - transformation input and annual change

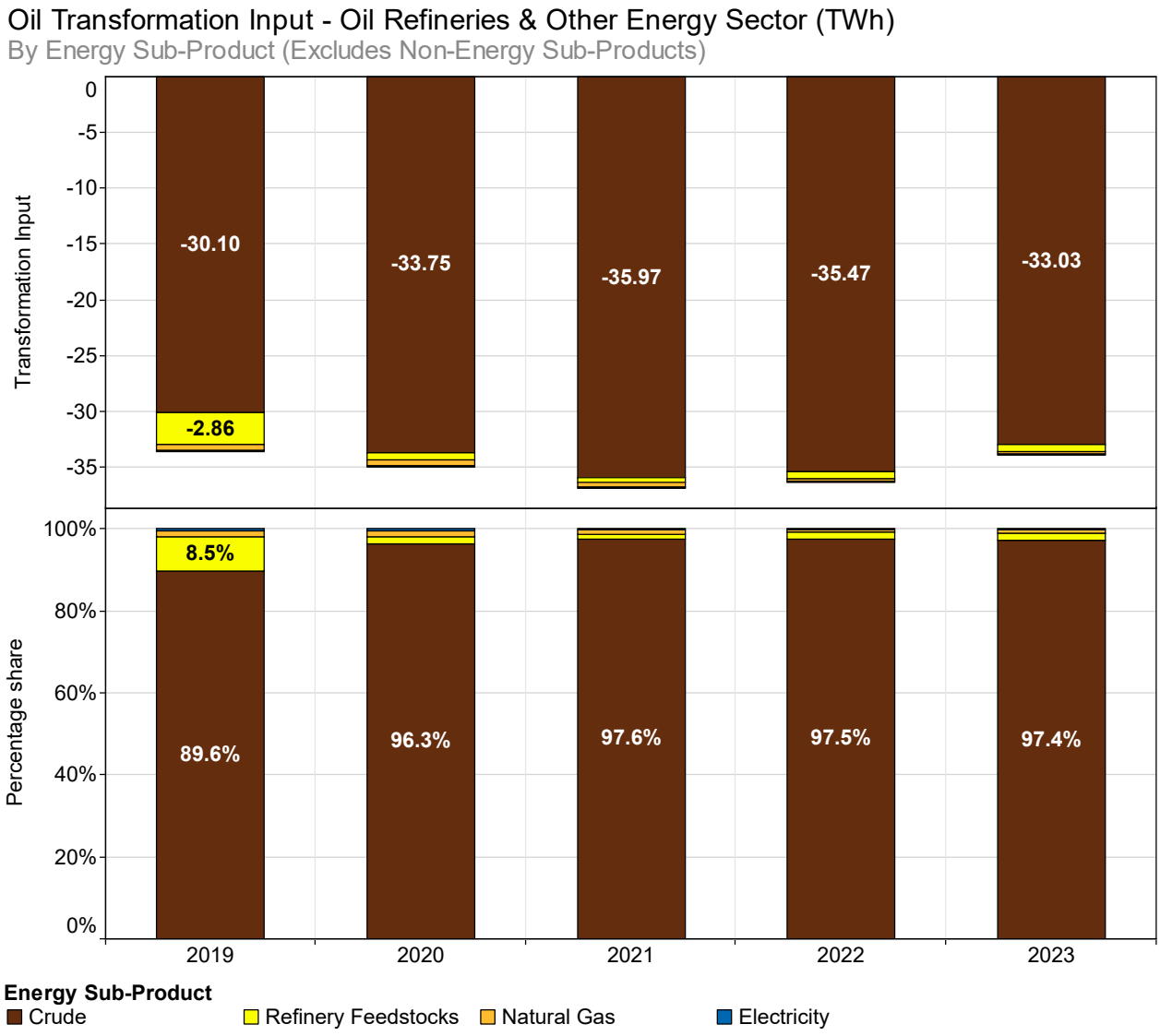
Figure 7.10 (top) shows the annual transformation input of oil into the oil refineries and other energy sector stream, summed across all oil energy sub-product types (excludes bitumen, lubricants and white spirits). Figure 7.10 (bottom) is a swing plot that shows the year-to-year changes in the annual oil energy inputs to transformation in the oil refineries and other energy sector for the last 6-years, *i.e.* the value in 2023 is the difference between the annual oil energy inputs to transformation in the oil refineries and other energy sector stream in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.11 Oil - transformation input by energy sub-product

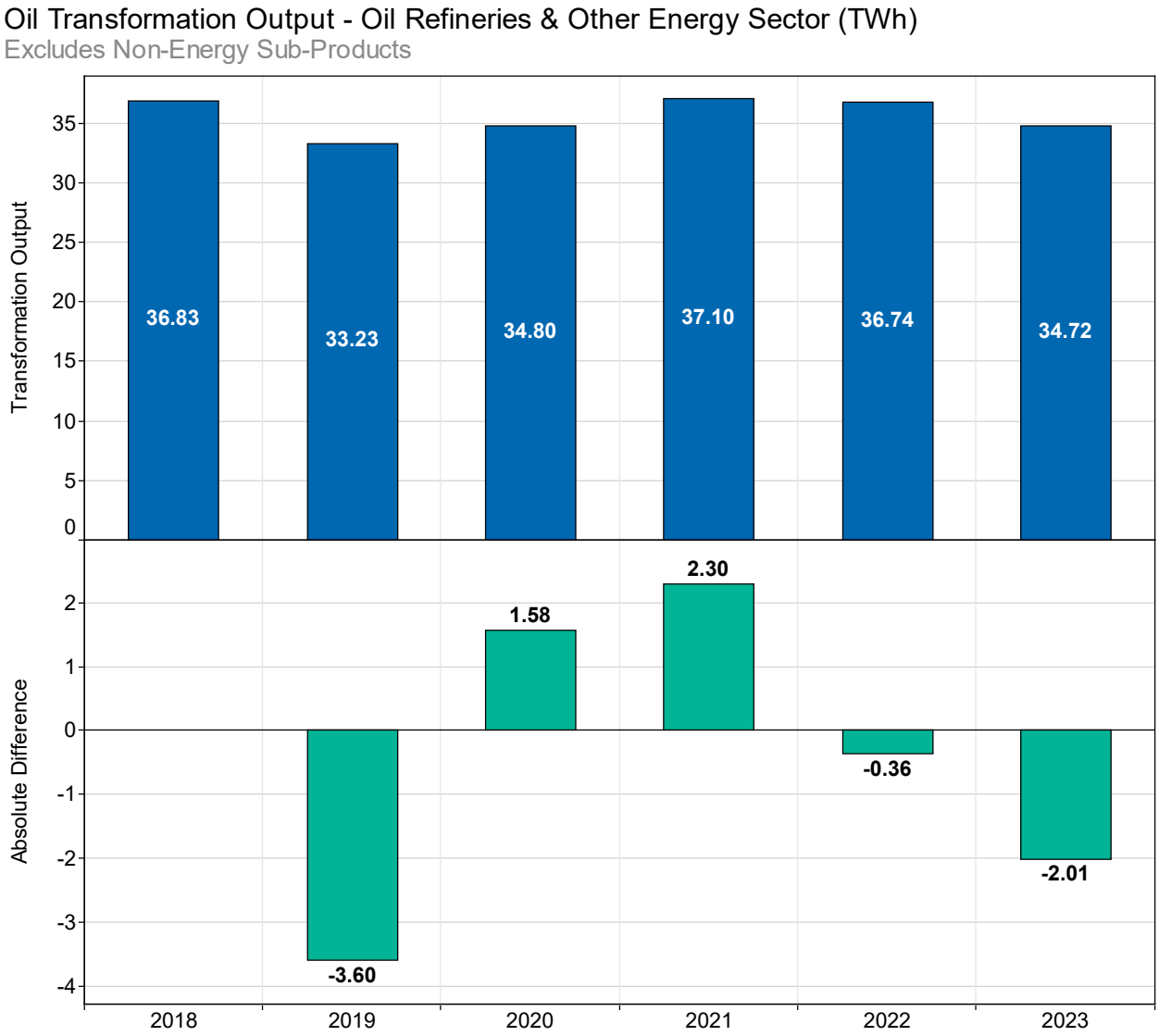
Figure 7.11 (top) shows the annual transformation input of oil into the oil refineries and other energy sector stream, broken out by oil energy sub-product types. Figure 7.11 (bottom) shows the energy sub-product breakdown displayed as a percentage of the total oil input to the oil refineries and other energy sector stream. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.12 Oil - transformation output and annual change

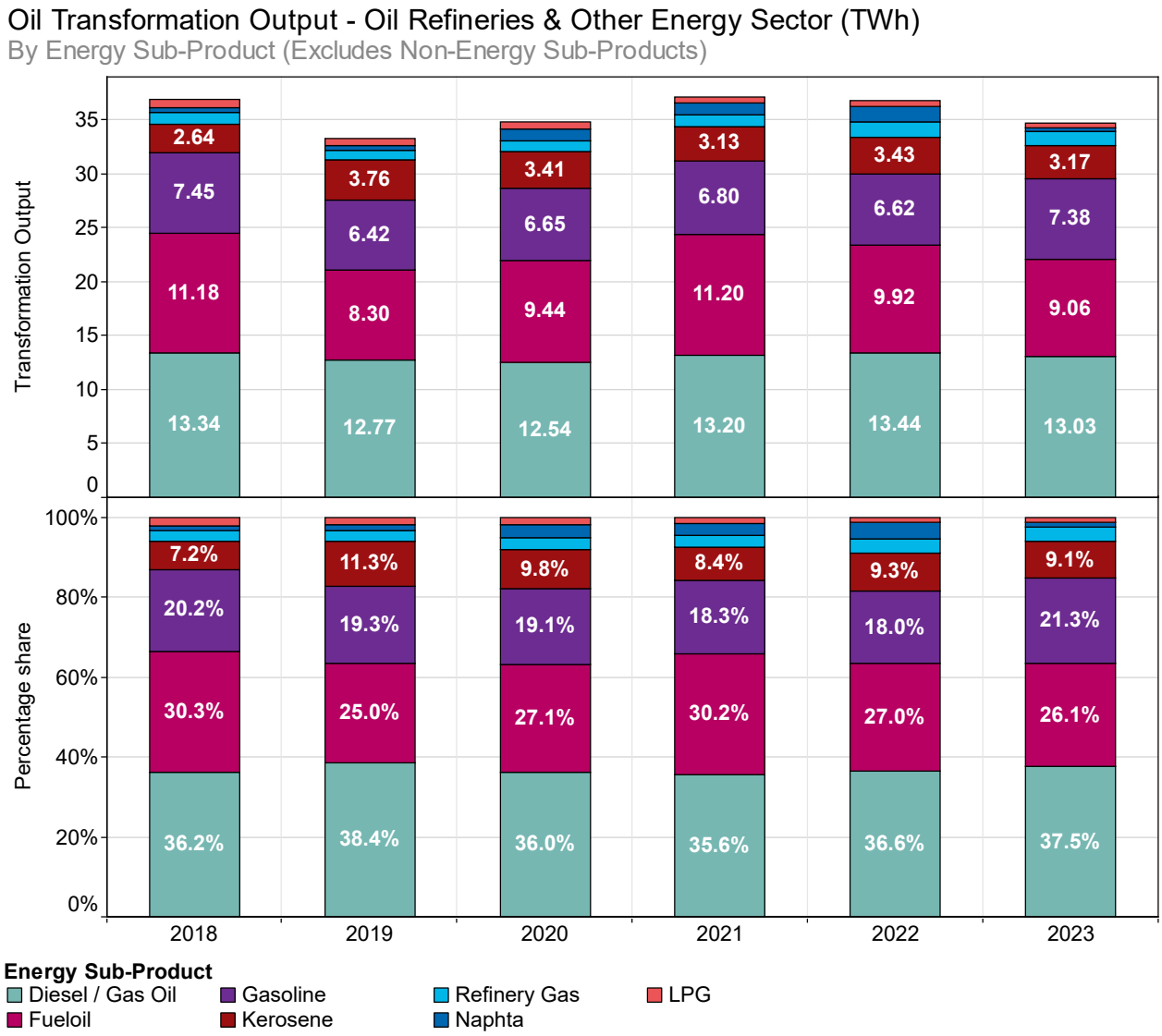
Figure 7.12 (top) shows the annual transformation output of oil sub-products from the oil refineries and other energy sector stream, summed across all oil energy sub-product types (excludes bitumen, lubricants and white spirits). Figure 7.12 (bottom) is a swing plot that shows the year-to-year changes in the annual oil energy outputs from transformation in the oil refineries and other energy sector for the last 6-years, *i.e.* the value in 2023 is the difference between the annual oil energy outputs from transformation in the oil refineries and other energy sector stream in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.13 Oil - transformation output by energy sub-product

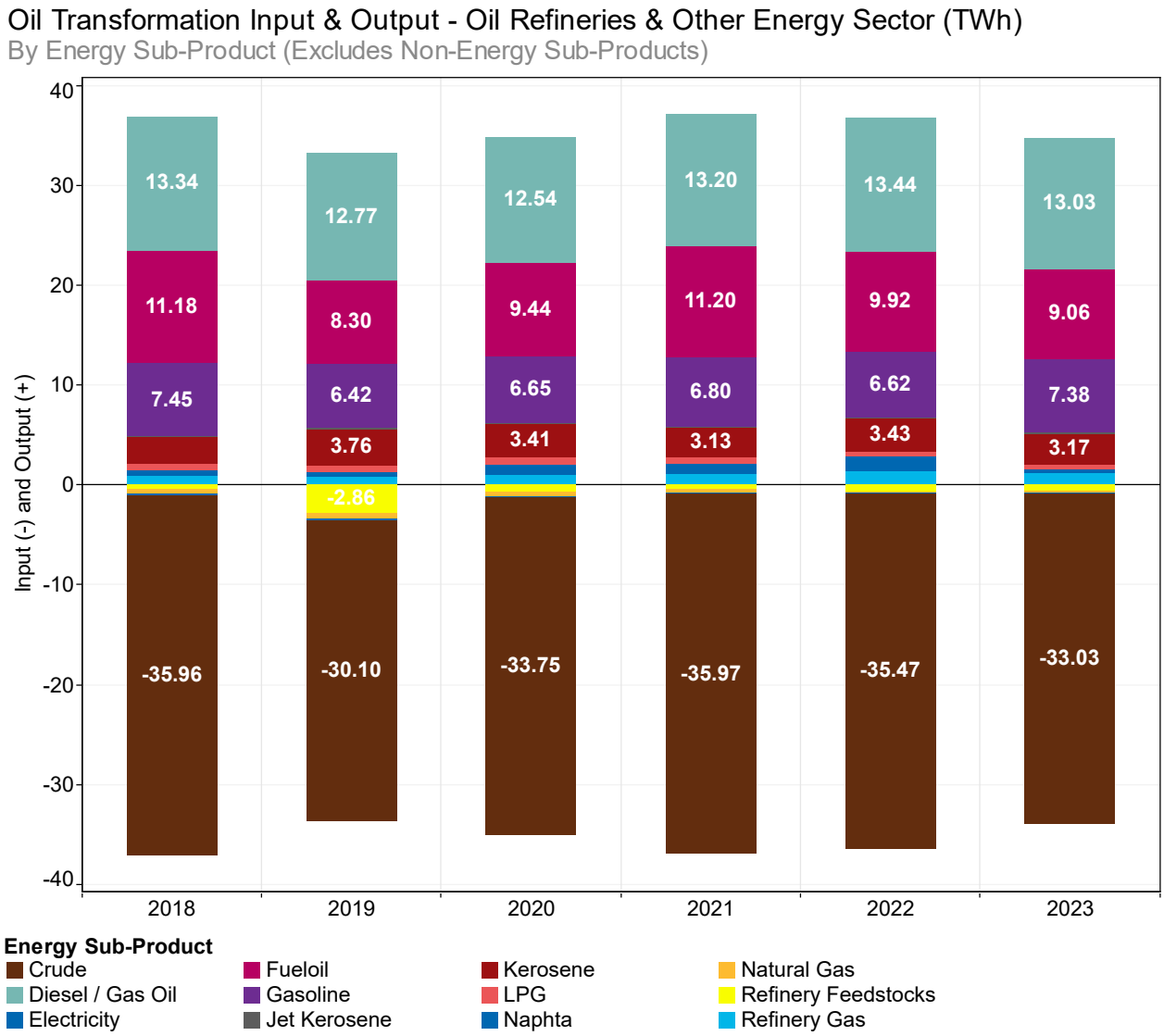
Figure 7.13 (top) shows the annual oil transformation output from the oil refineries and other energy sector stream, broken out by oil energy sub-product types. Figure 7.13 (bottom) shows the energy sub-product breakdown displayed as a percentage of the total oil output from the oil refineries and other energy sector stream. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.14 Oil - transformation input and output by energy sub-product

Figure 7.14 shows the annual oil transformation input and output from the oil refineries and other energy sector stream, broken out by oil energy sub-product types. Input values are negative and output values are positive. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.15 Oil - available final energy consumption of sub-products

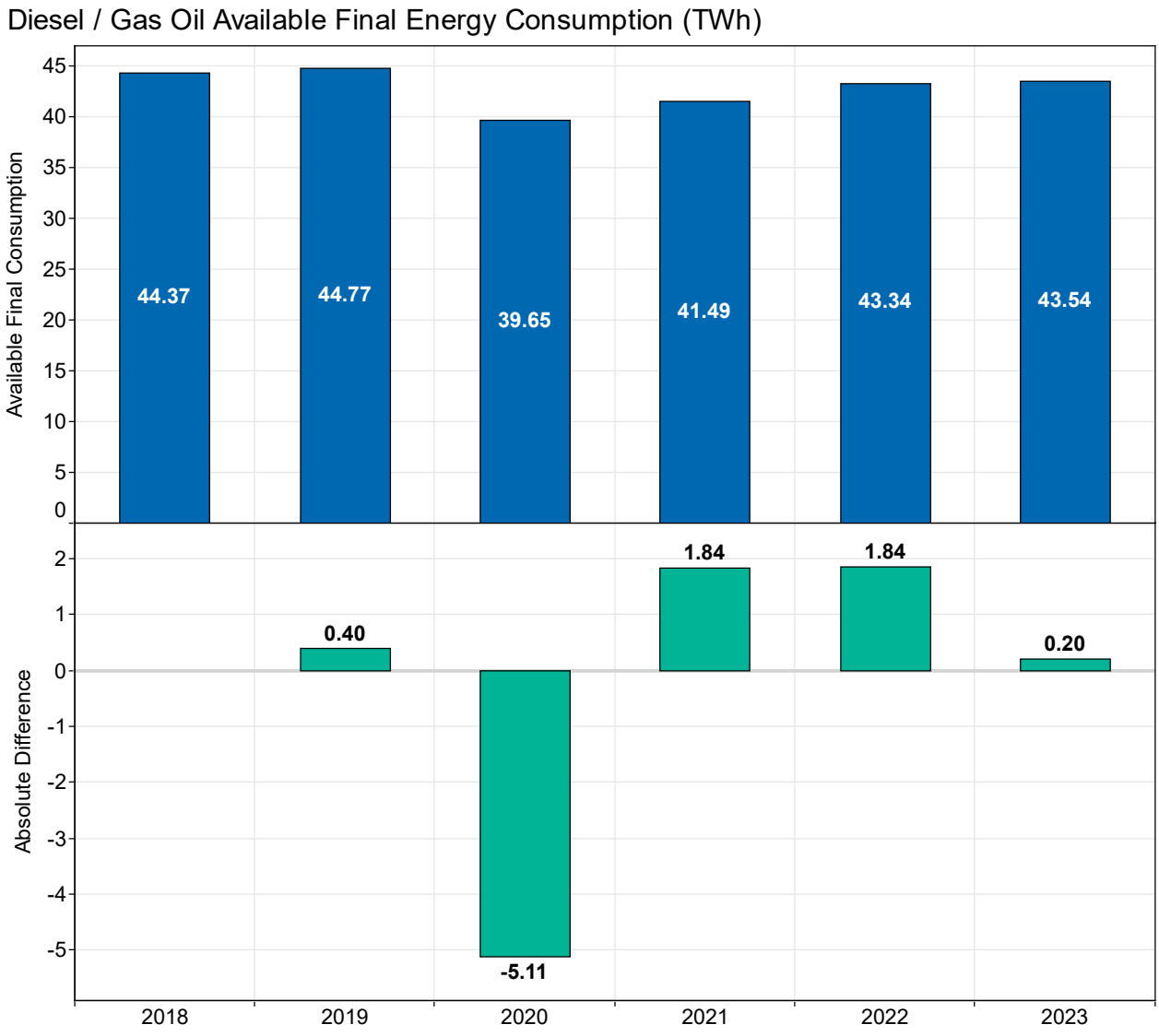
Available final energy consumption is calculated as the sum of nineteen streams from the supply and transformation blocks in Ireland's National Energy Balance:

- National production (+)
- Imports (+)
- Exports (-)
- Marine bunkers (-)
- Stock change (+ or -)
- Public thermal power plants transformation input (-) and output (+)
- Combined heat and power plants transformation input (-) and output (+)
- Pumped storage transformation input (-) and output (+)
- Oil refineries and other energy sector transformation input (-) and output (+)
- Electricity exchange and transfers (+ or –)
- Heat exchange and transfers (+ or –)
- Other exchange and transfers (+ or –)
- Own use and distribution losses

Available final energy consumption differs from total final energy consumption. Unlike total final energy consumption, unless otherwise specified, available final energy consumption includes energy products which have non-energy final uses (*e.g.* bitumen, white spirts and lubricants). There may also be statistical differences between available final energy consumption and total final energy consumption.

7.15.1 Diesel / gas oil - available final energy consumption and annual change

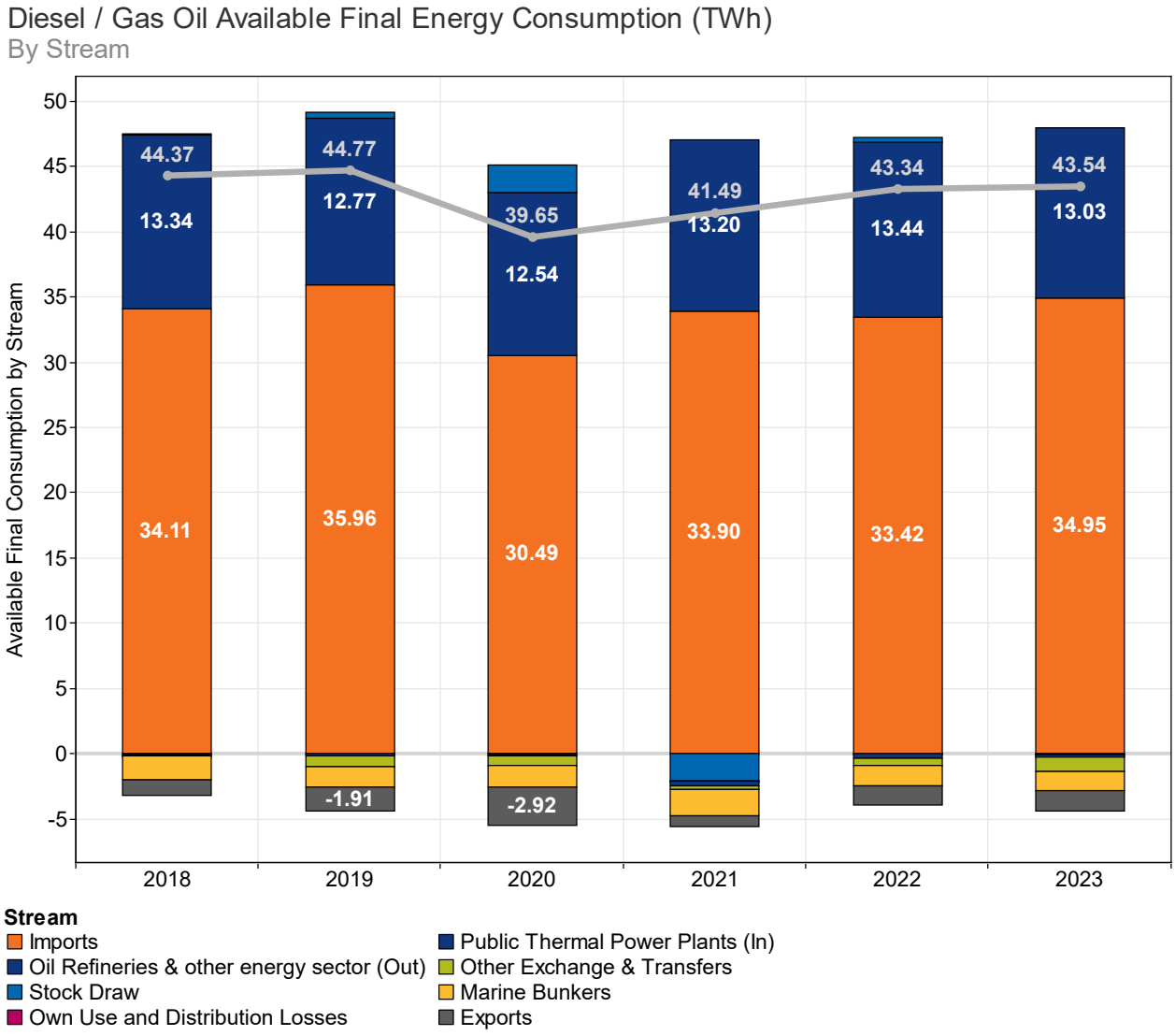
Figure 7.15.1 (top) shows Ireland's annual diesel / gas oil available final consumption for the last 6-years, summed across all relevant streams: exports, imports, marine bunkers, stock change, combined heat and power plants (input), oil refineries and other energy sector (input and output), public thermal power plants (input), other exchange and transfers and own use and distribution losses. Figure 7.15.1 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual diesel / gas oil available final consumption for the last 6-years, *i.e.* the value in 2023 is the difference between the diesel / gas oil available final consumption in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.15.2 Diesel / gas oil - available final energy consumption by stream

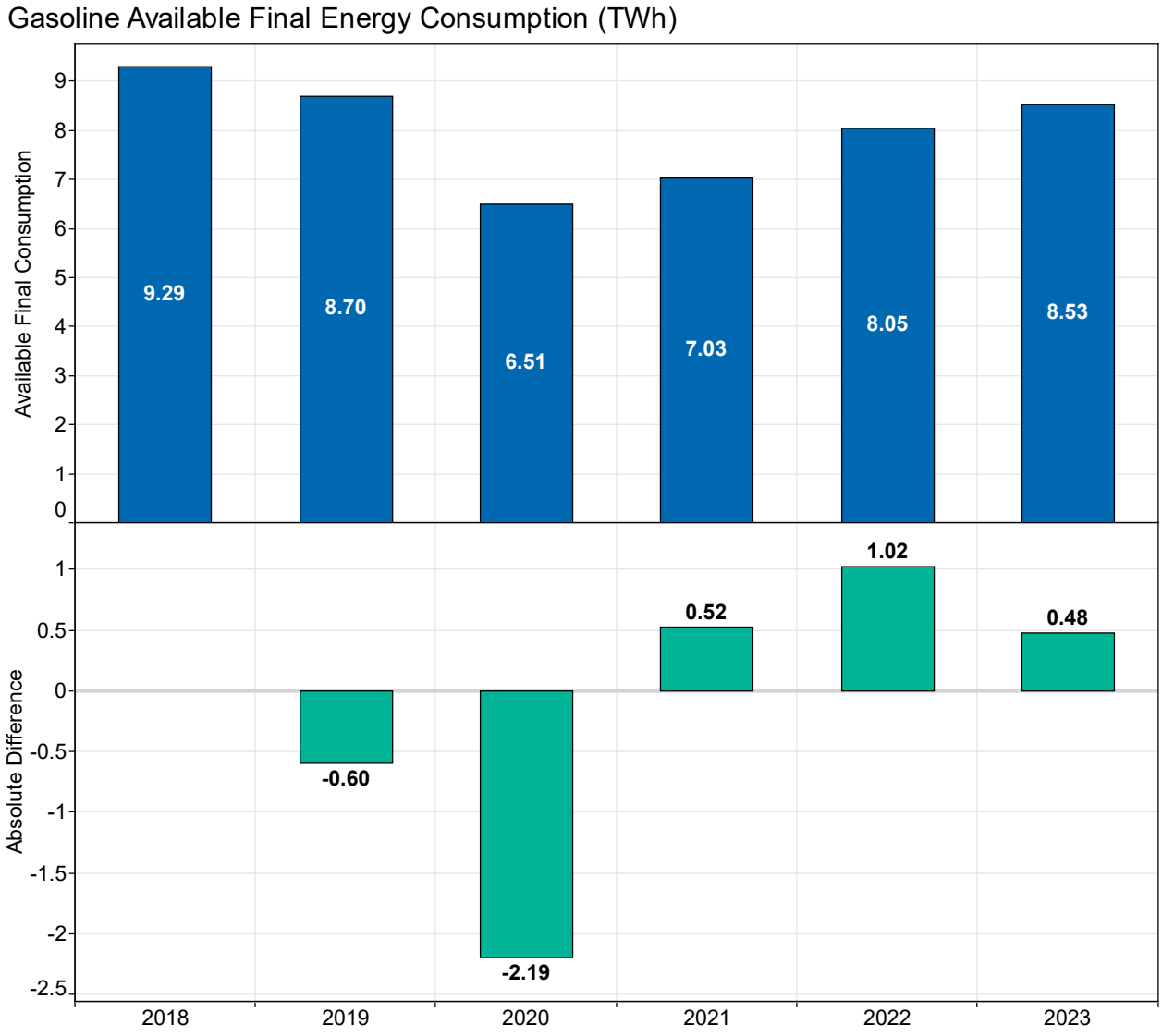
Figure 7.15.2 shows the annual net total available final consumption of diesel / gas oil (line), summed across all relevant streams (bars): exports, imports, marine bunkers, stock change, oil refineries and other energy sector (output), public thermal power plants (input), other exchange and transfers and own use and distribution losses. Streams that are not shown do not haven't contributed to diesel / gas oil available final consumption in the past 6 years. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.15.3 Gasoline - available final energy consumption and annual change

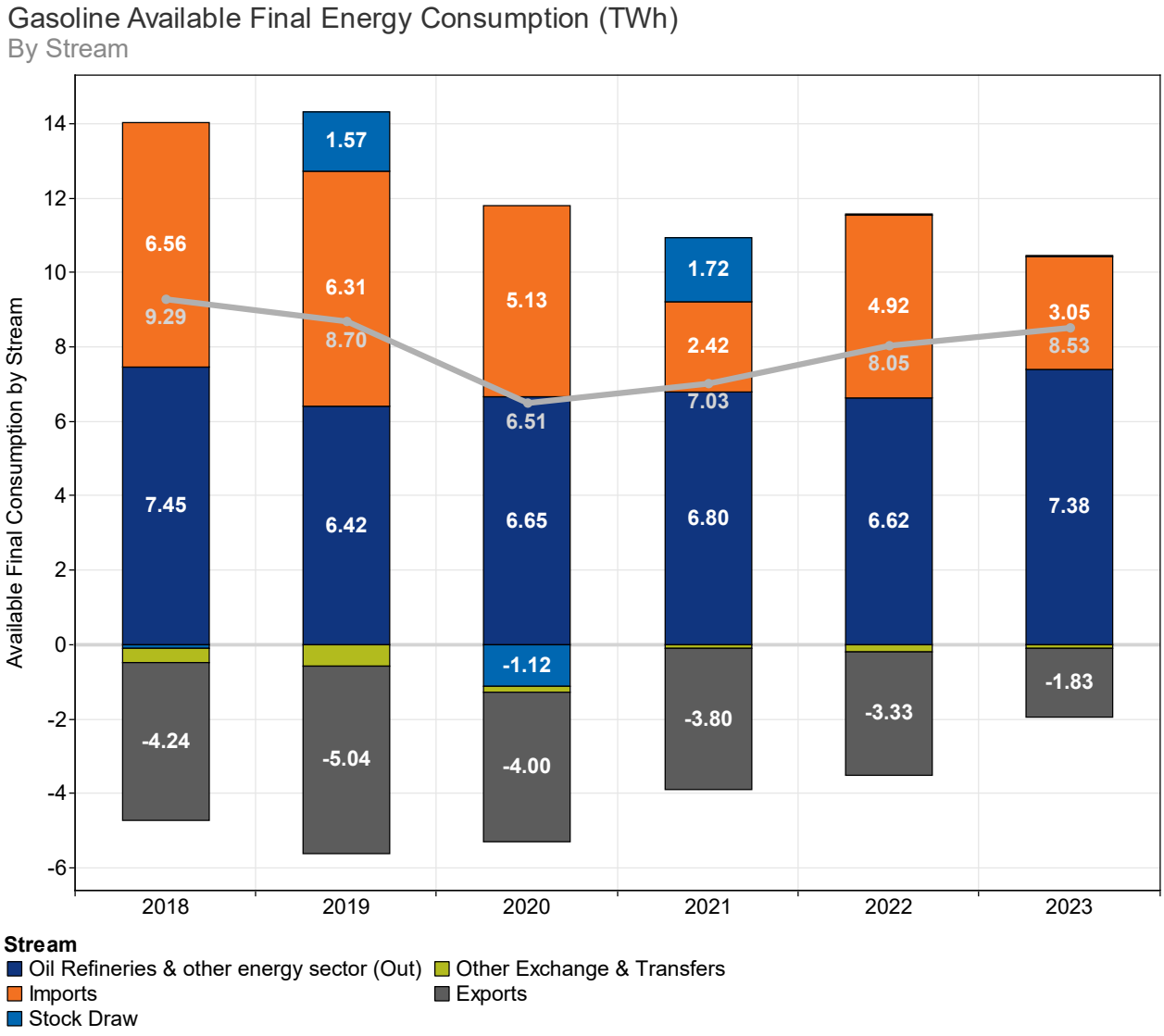
Figure 7.15.3 (top) shows Ireland's annual gasoline available final consumption for the last 6-years, summed across all relevant streams: exports, imports, stock change, oil refineries and other energy sector (output) and other exchange and transfers. Figure 7.15.3 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual gasoline available final consumption for the last 6-years, *i.e.* the value in 2023 is the difference between the gasoline available final consumption in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.15.4 Gasoline - available final energy consumption by stream

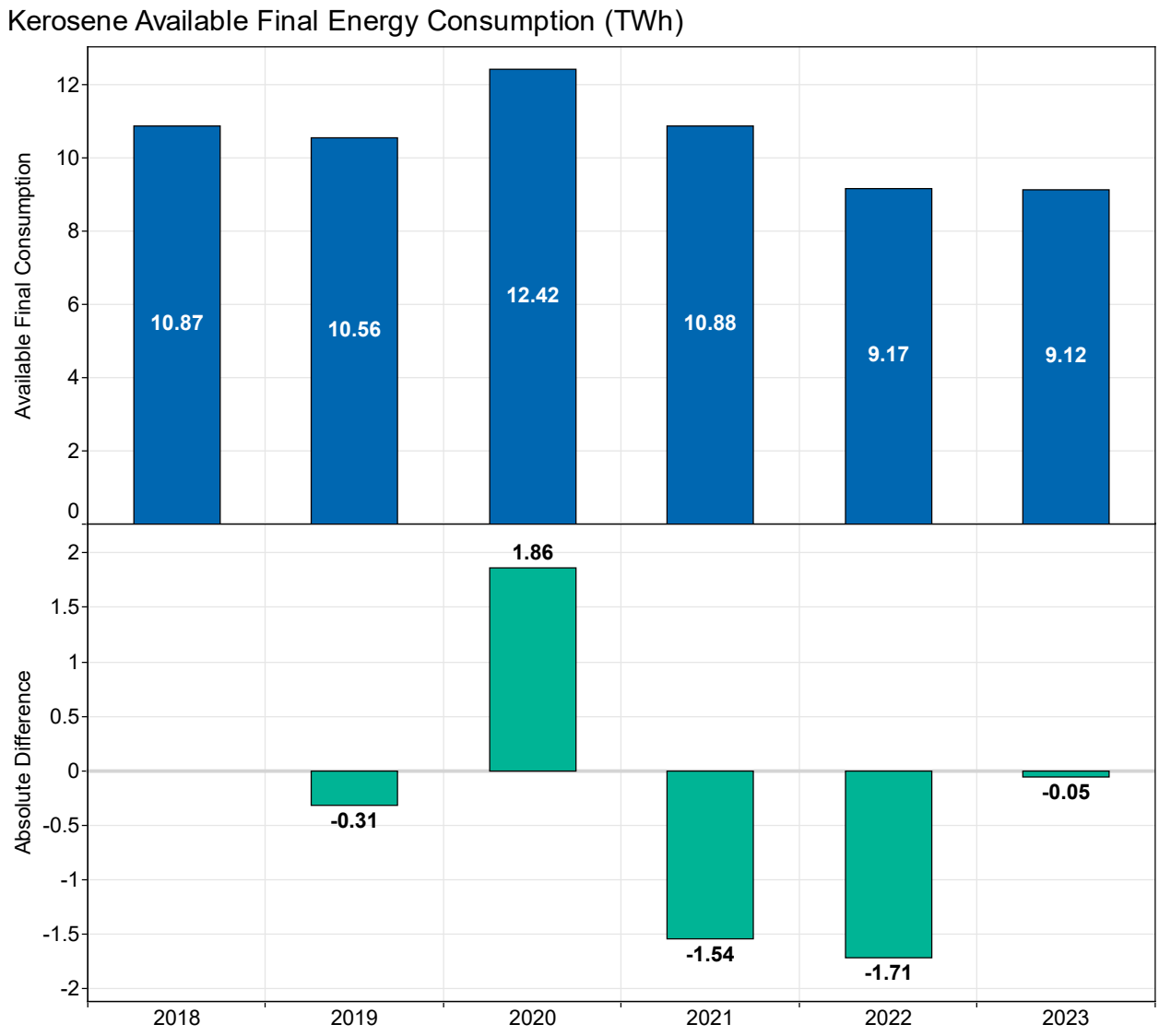
Figure 7.15.4 shows the annual net total available final consumption of gasoline (line), summed across all relevant streams (bars): exports, imports, stock change, oil refineries and other energy sector (output) and other exchange and transfers. Streams that are not shown do not haven't contributed to gasoline available final consumption in the past 6 years. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.15.5 Kerosene - available final energy consumption and annual change

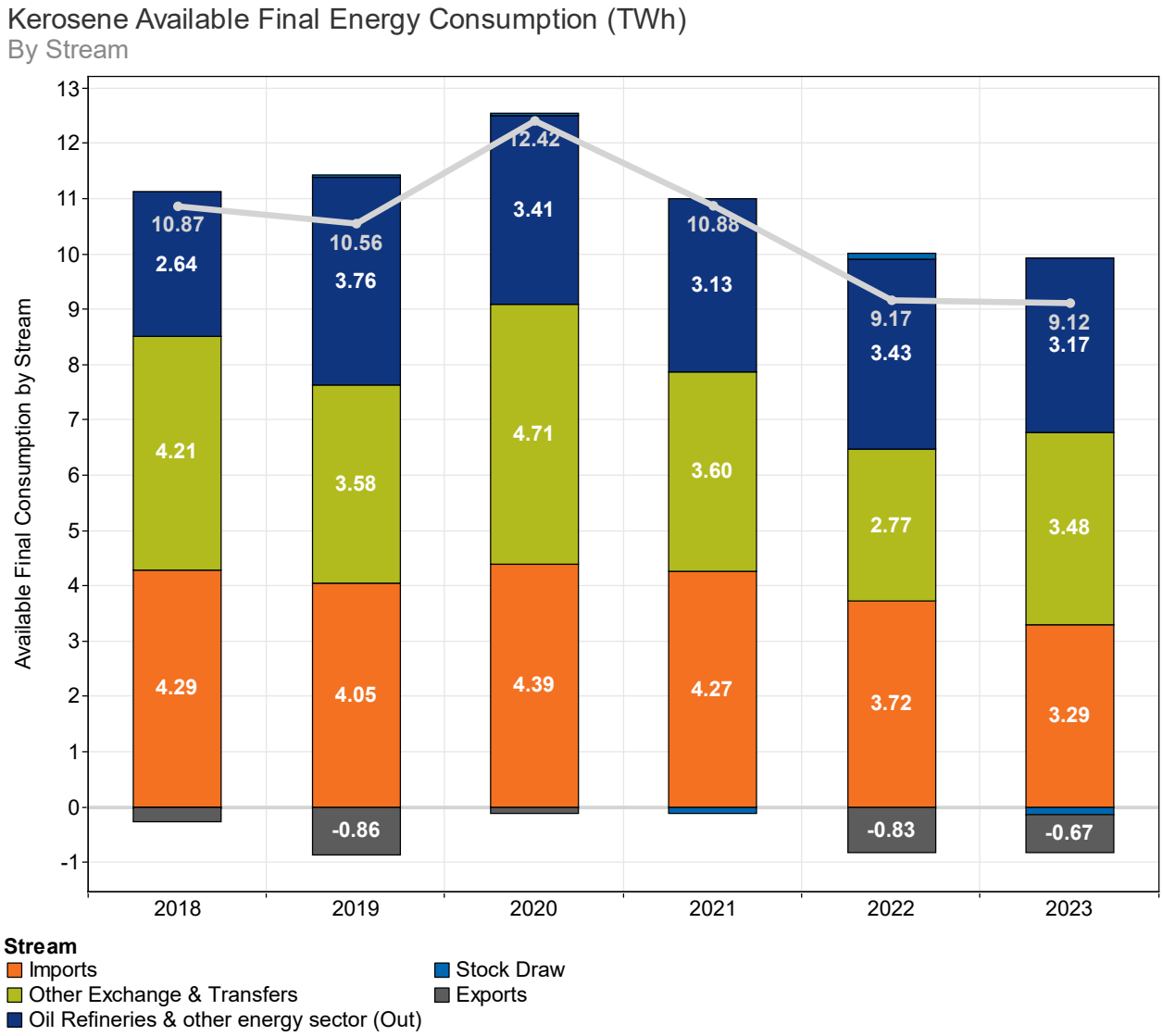
Figure 7.15.5 (top) shows Ireland's annual kerosene available final consumption for the last 6-years, summed across all relevant streams: exports, imports, stock change, oil refineries and other energy sector (output), and other exchange and transfers. Figure 7.15.5 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual kerosene available final consumption for the last 6-years, *i.e.* the value in 2023 is the difference between the kerosene available final consumption in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

7.15.6 Kerosene - available final energy consumption by stream

Figure 7.15.6 shows the annual net total available final consumption of kerosene (line), summed across all relevant streams (bars): exports, imports, stock change, oil refineries and other energy sector (output) and other exchange and transfers. As some of the kerosene used in Ireland is 'dual-purpose kerosene', which can be used as either aviation fuel or heating fuel. Consequently, there are significant quantities of 'exchanges and transfers' between kerosene and jet kerosene products, as suppliers change the product classification of dual-purpose kerosene before its sale for final consumption in either aviation or heating. Streams that are not shown do not haven't contributed to kerosene available final consumption in the past 6 years. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

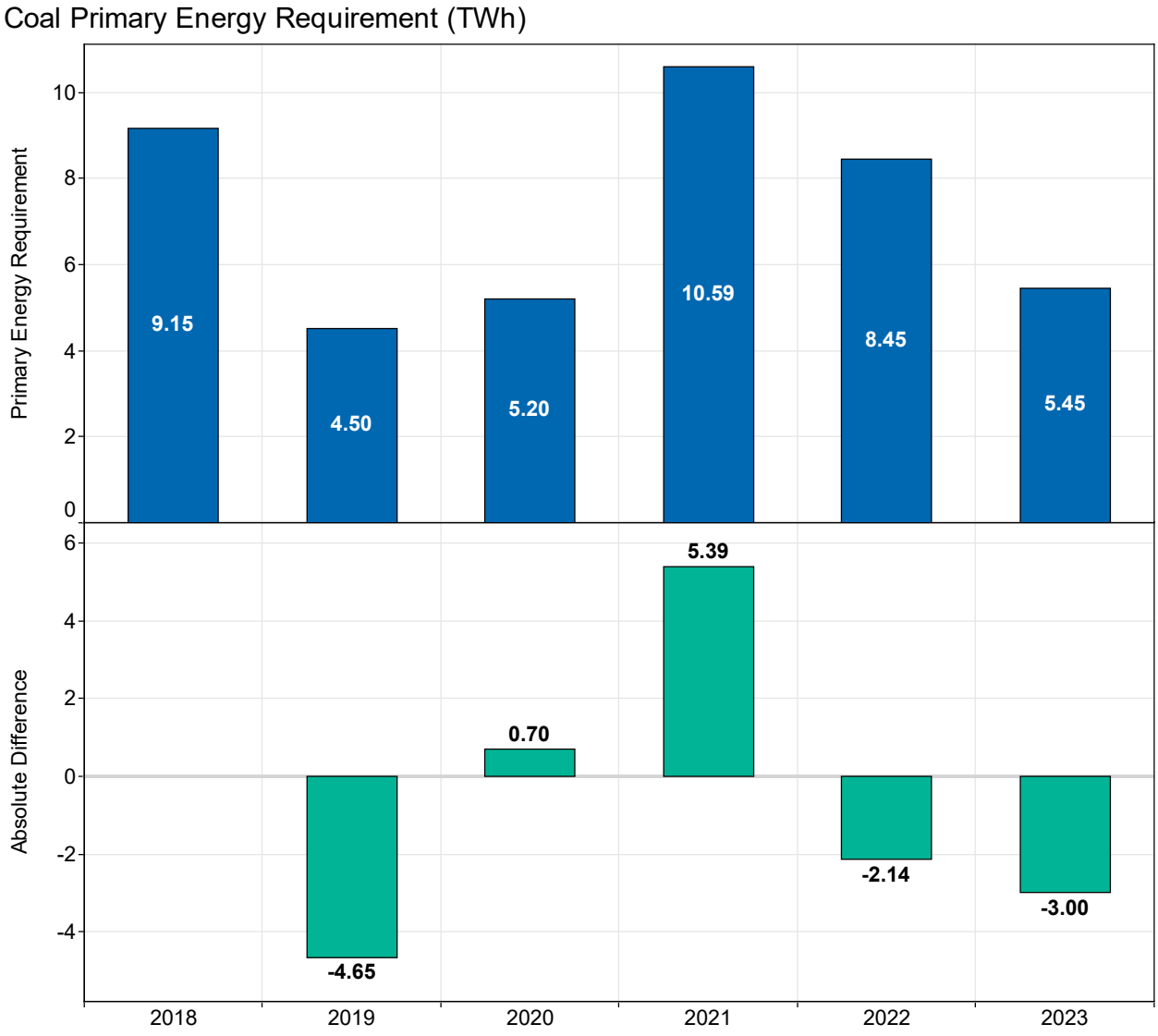
8 Trends in coal supply

Coal supply and transformation data has been informed by survey responses received from import/export companies and energy supply companies. It also includes data from multiple public administration datasets including EU-ETS provided by the EPA to SEAI and aggegated excise data from the Revenue Commissioners.

Data is collected in physical units (*i.e.* kilotonnes) and converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) energy units by SEAI using conversion factors and densities on a net calorific value basis.

8.1 Coal - primary energy requirement and annual change

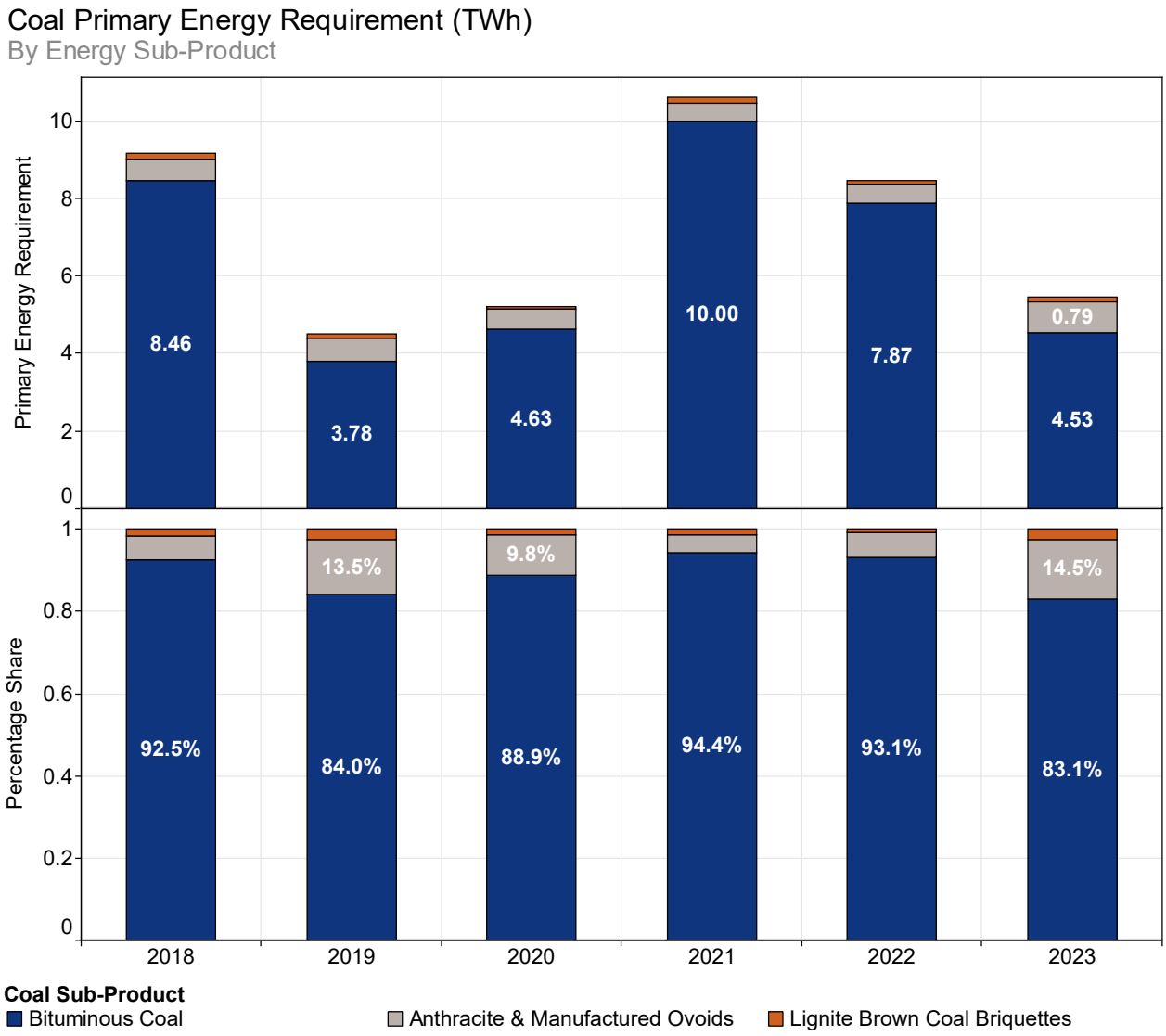
Figure 8.1 (top) shows Ireland's annual coal primary energy requirement for the last 6-years. Figure 8.1 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual coal primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the coal primary energy requirement in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

8.2 Coal - primary energy requirement by energy sub-product

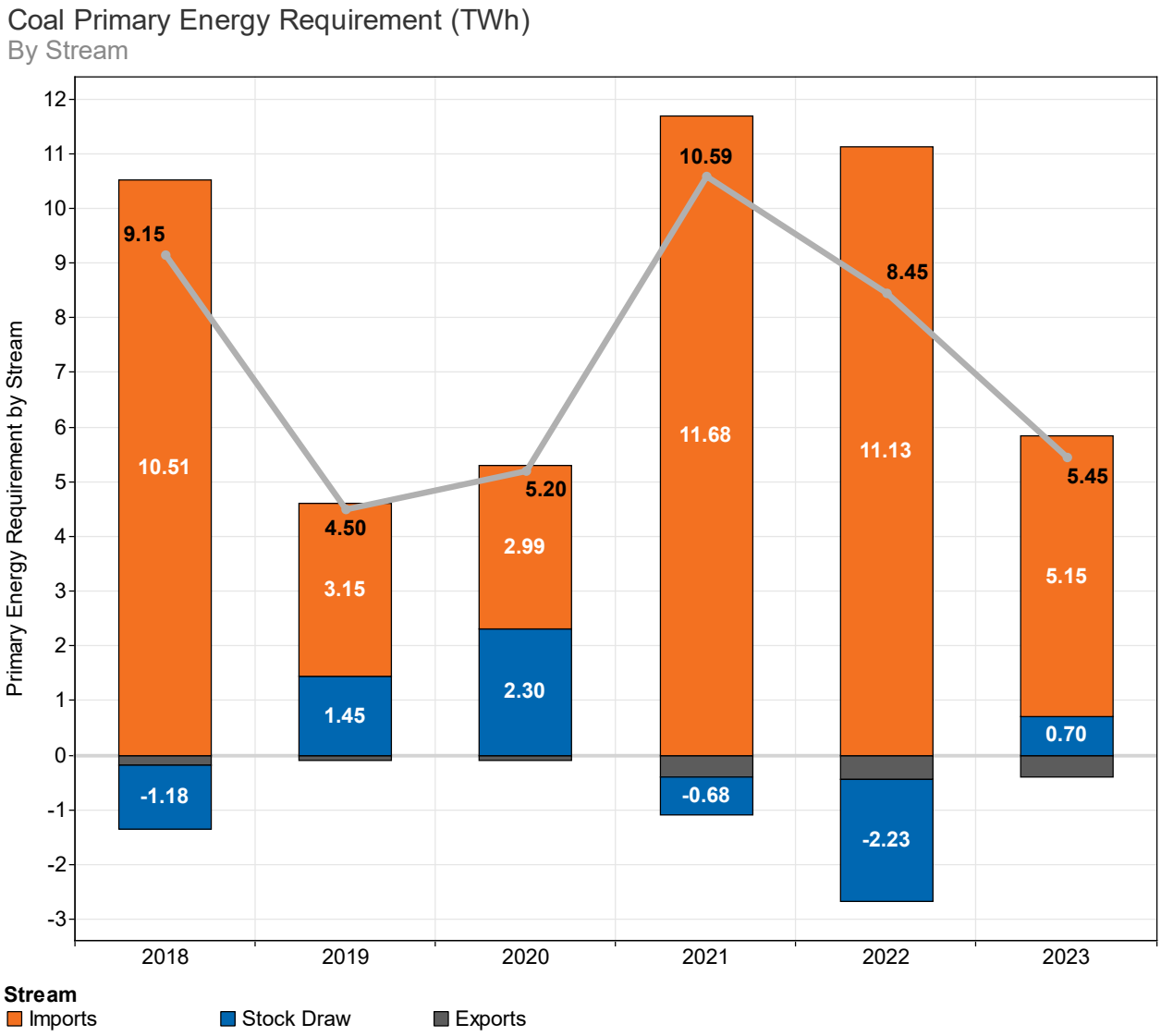
Figure 8.2 (top) shows the annual coal primary energy requirement with its energy sub-product breakdown. Figure 8.2 (bottom) shows the energy sub-product breakdown displayed as a percentage of the total coal primary energy requirement. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

8.3 Coal - primary energy requirement by stream

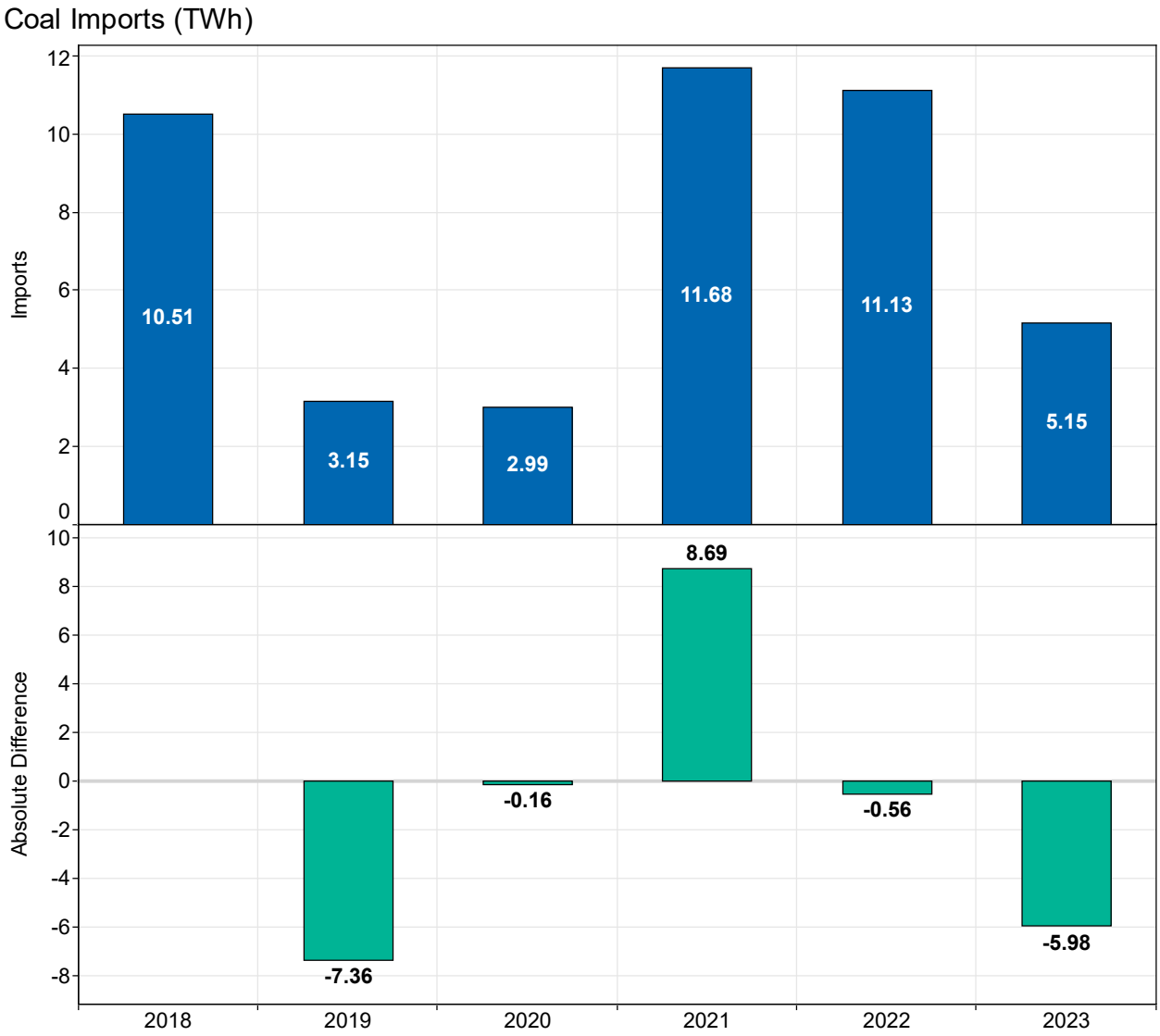
Figure 8.3 shows the annual coal primary energy requirement broken out by stream. The bars show the absolute energy quantity delivered or removed from coal primary energy requirement by each stream and the line shows the net coal primary energy requirement, calculated as a sum of the individual streams (top). Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

8.4 Coal - imports and annual change

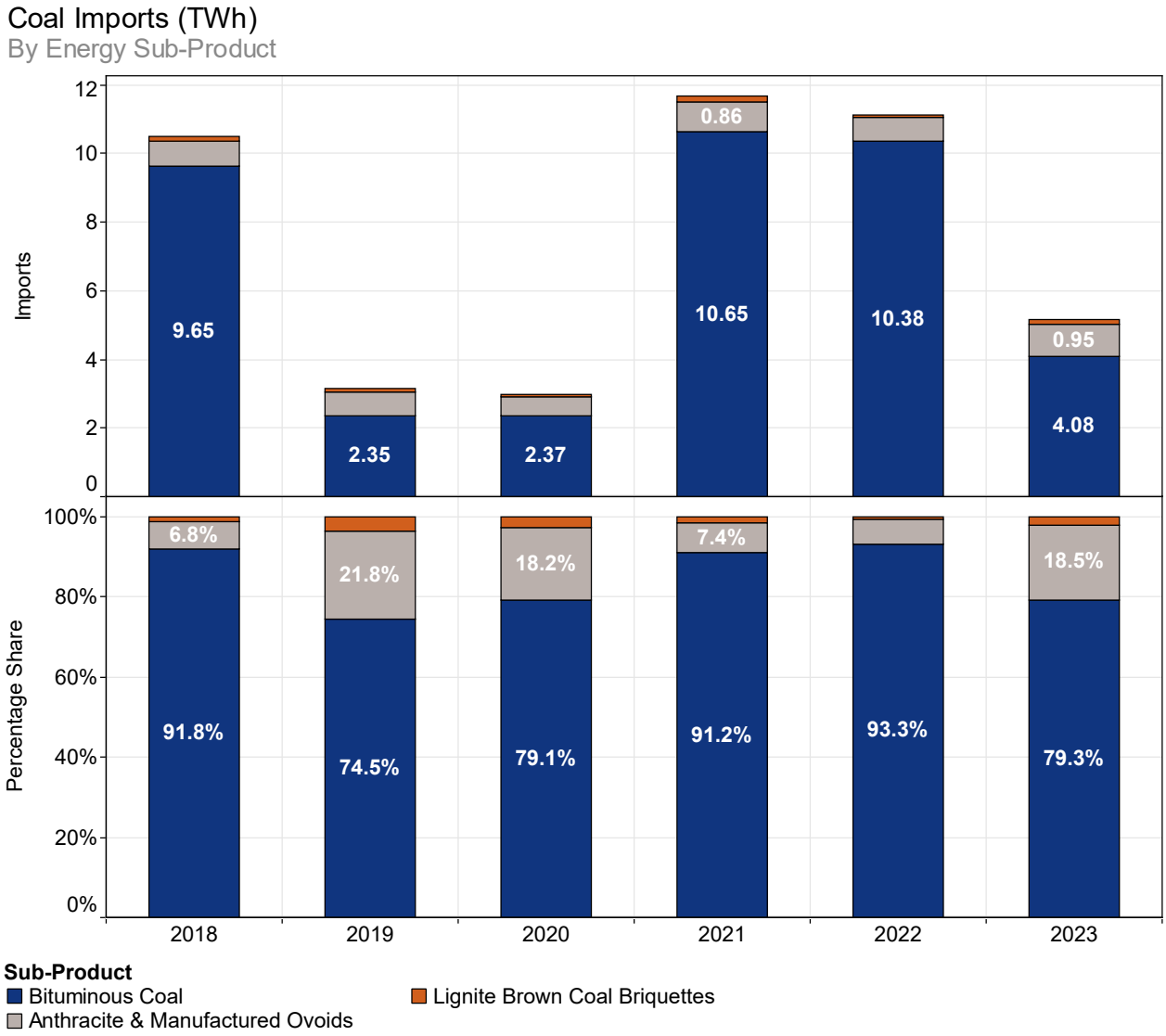
Figure 8.4 (top) shows Ireland's annual coal energy imports for the last 6-years. Figure 8.4 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual coal energy imports for the last 6-years, *i.e.* the value in 2023 is the difference between the coal energy imports in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

8.5 Coal - imports by sub-product

Figure 8.5 (top) shows the total coal imports with its sub-product breakdown. Figure 8.5 (bottom) shows the sub-product breakdown displayed as a percentage of the total coal imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

8.6 Coal - imports by country of origin

Details on an energy products country of origin can give additional information on the security of supply of that energy product. The energy statistics regulation (ESR)[7] mandates that coal imports are reported as the country of ultimate origin *i.e.,* where the coal produced.

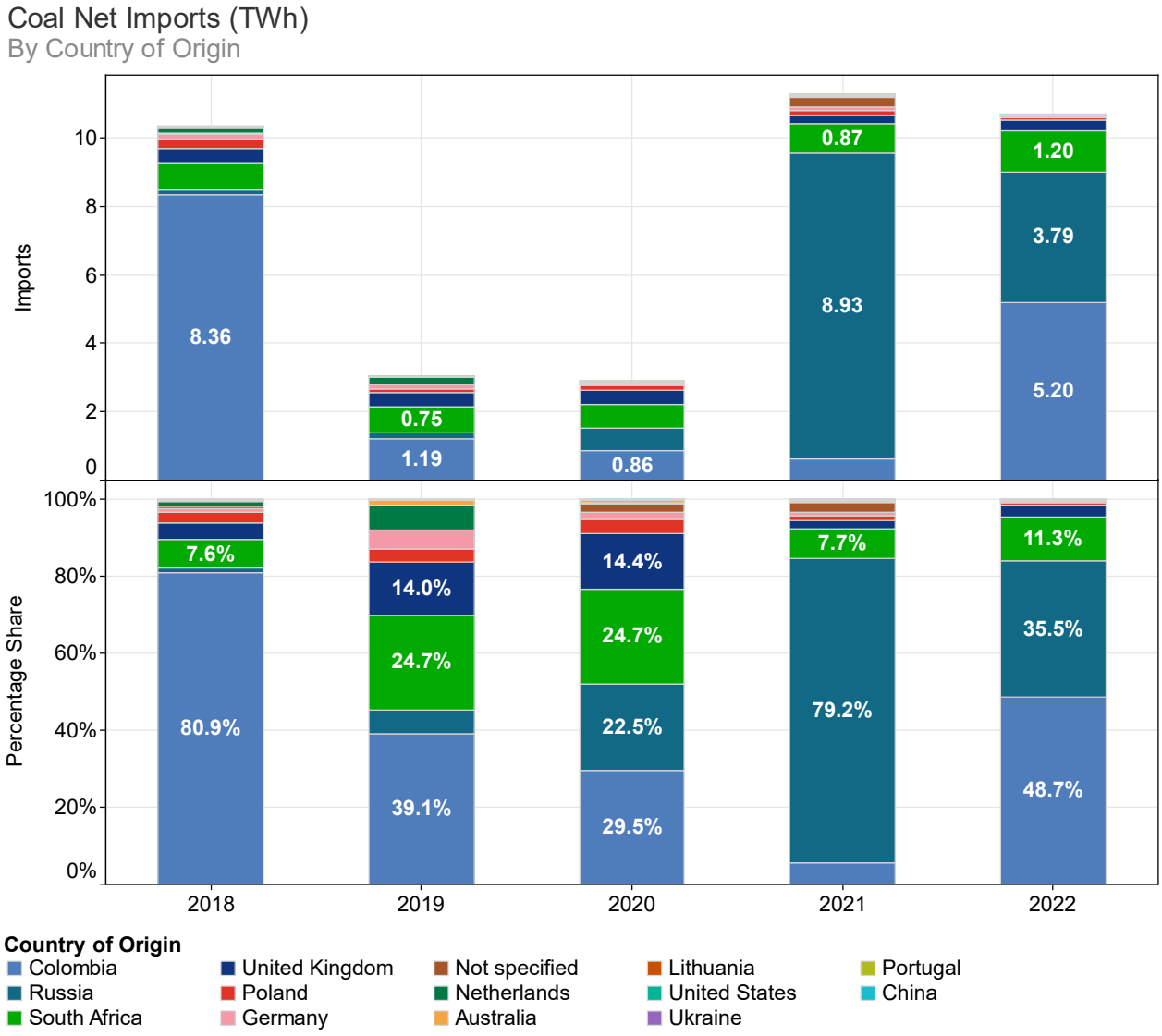
The data is based on that collected from SEAI's solid fuel survey, EU-ETS data on the quantity of coal sub-types used in EU-ETS installations, CSO data on imports of solid fuels and carbon tax receipts from The Revenue Commissioners. This data is then reported to Eurostat in their monthly and annual questionnaires.

Data is collected and submitted to Eurostat in kilotonnes (kt) and subsequently converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) by SEAI using conversion factors and densities on a net calorific value basis. As Ireland is not a primary producer of coal products, these are is reported to Eurostat on a net imports basis.

[7] European Union, "Regulation (EC) No 1099/2008 of the European Parliament and of the Council on energy statistics," 2008. [Online]. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008R1099-20240207.

Figure 8.6 (top) shows the annual total coal net imports into Ireland and the country of origin breakdown. Figure 8.6 (bottom) shows the country of origin breakdown displayed as a percentage of the total coal net imports. Due to space constraints in the figure, some values with smaller contributions cannot be shown.

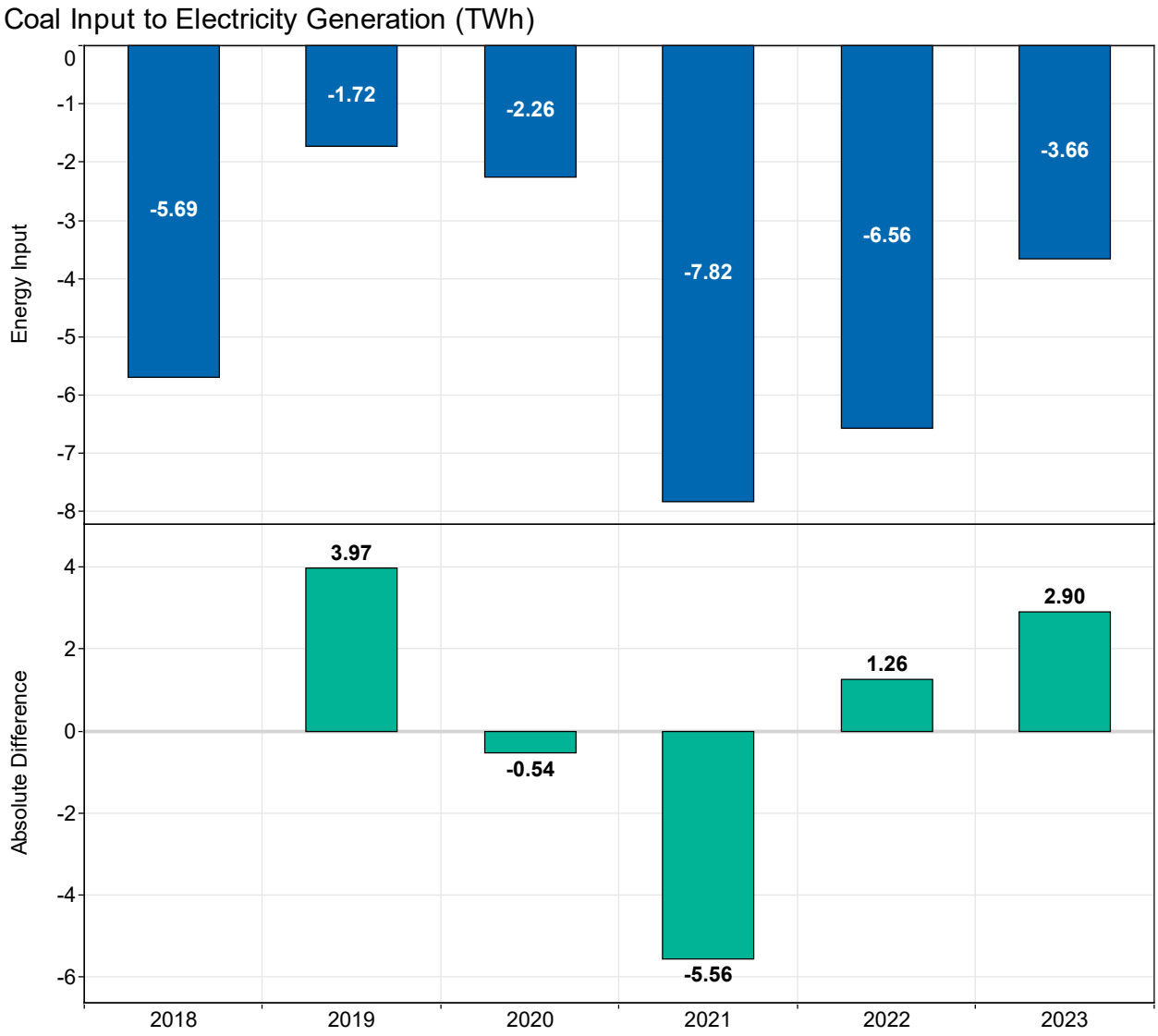
Patent fuels/manufactured ovoids are included, along with anthracite, under the 'anthracite' sub-type to conserve confidentiality.



Source: The data in the figure above is a combination of provisional monthly survey returns (latest year) and annual data (preceding years), and is available from the Eurostat website:
https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_sff__custom

8.7 Coal - input to electricity generation and annual change

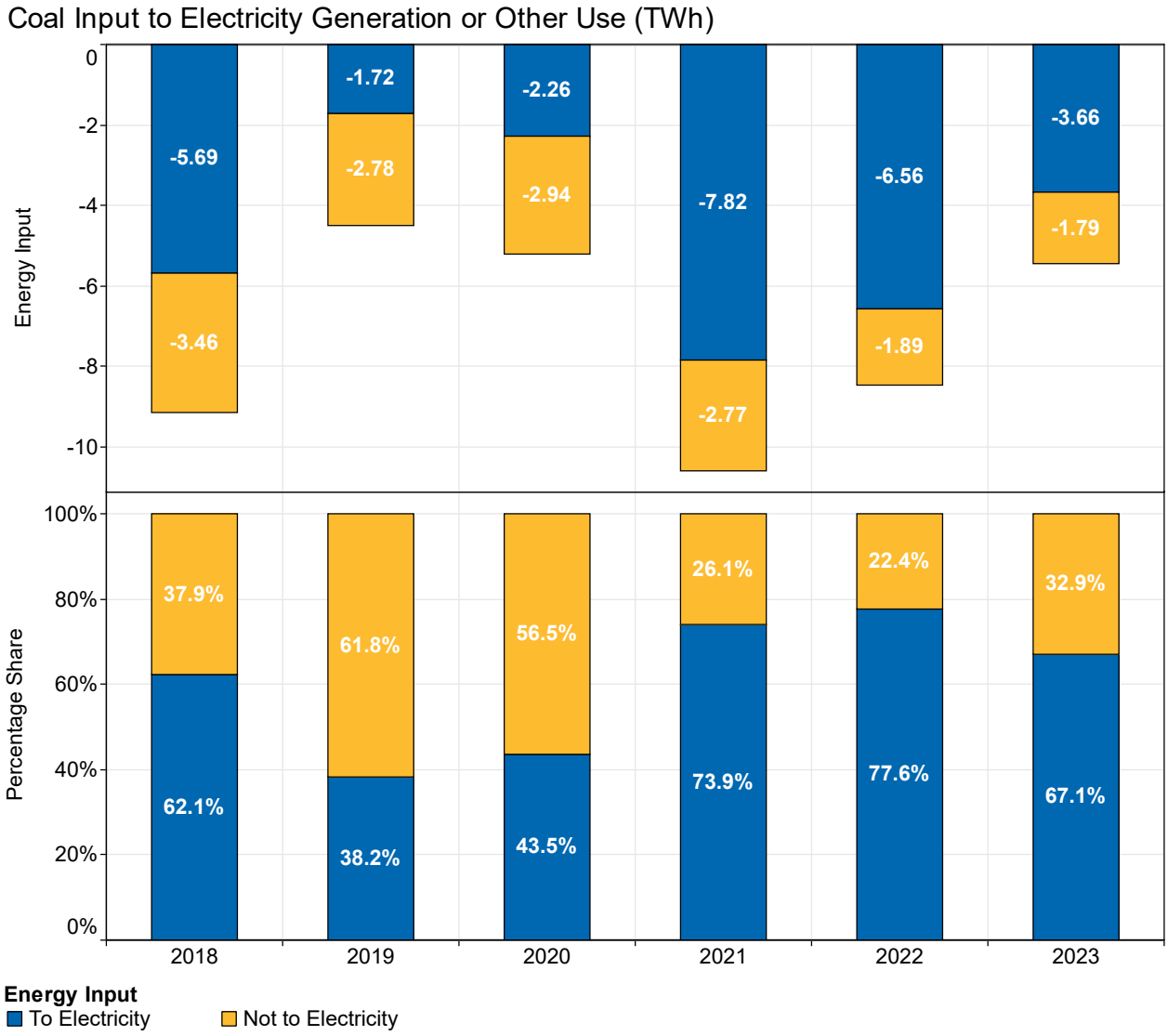
Figure 8.7 (top) shows the annual coal energy input to electricity generation, summed across public thermal power plants (PTPP) input and combined heat and power plants (CHP) input. Figure 8.7 (bottom) is a swing plot that shows the year-to-year changes in the annual coal energy input to electricity generation for the last 6-years, *i.e.* the value in 2023 is the difference between the annual coal energy inputs to electricity generation in 2023 *vs.* 2022.



The numerical data for this plot is from the interim energy balance and can be downloaded from the SEAI website. Available from:
https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

8.8 Coal - input to electricity generation or other uses

Figure 8.8 (top) shows the annual net primary energy requirement of coal, summed across all relevant streams: exports, imports and stock change. Figure 8.8 (bottom) shows the breakdown between coal energy input to electricity generation or other uses. This is displayed as a percentage of coal primary energy requirement in a given year.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

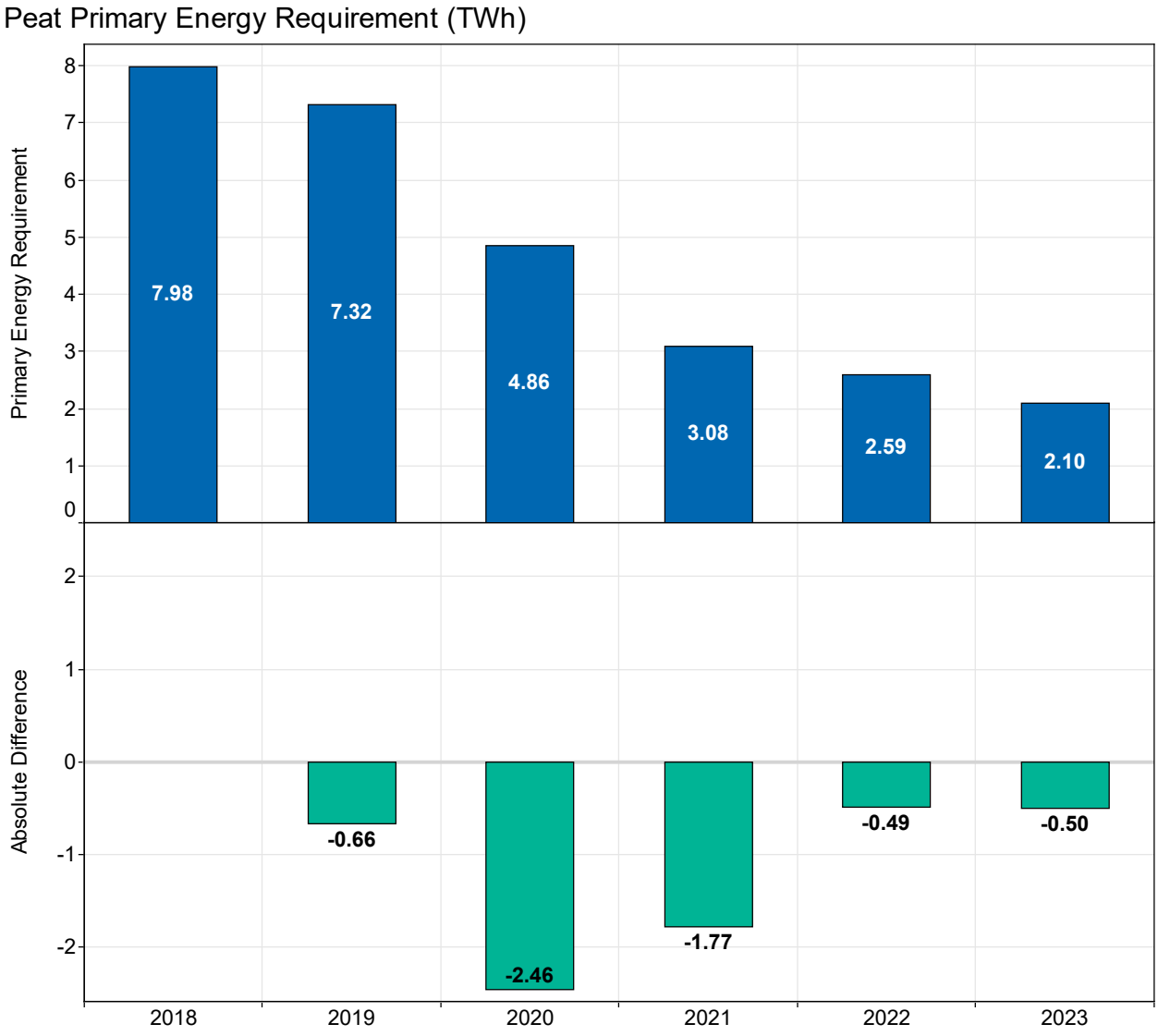
9 Trends in peat supply

Peat supply and transformation data has been informed by data provided to SEAI in survey responses received from solid fuel suppliers. It is also includes data from public administration datasets including EU-ETS provided by the EPA to SEAI.

Data is collected in physical units (*i.e.* kilotonnes) and converted to kilotonnes of oil equivalent (ktoe) and terawatt hours (TWh) energy units by SEAI using conversion factors and densities on a net calorific value basis.

9.1 Peat - primary energy requirement and annual change

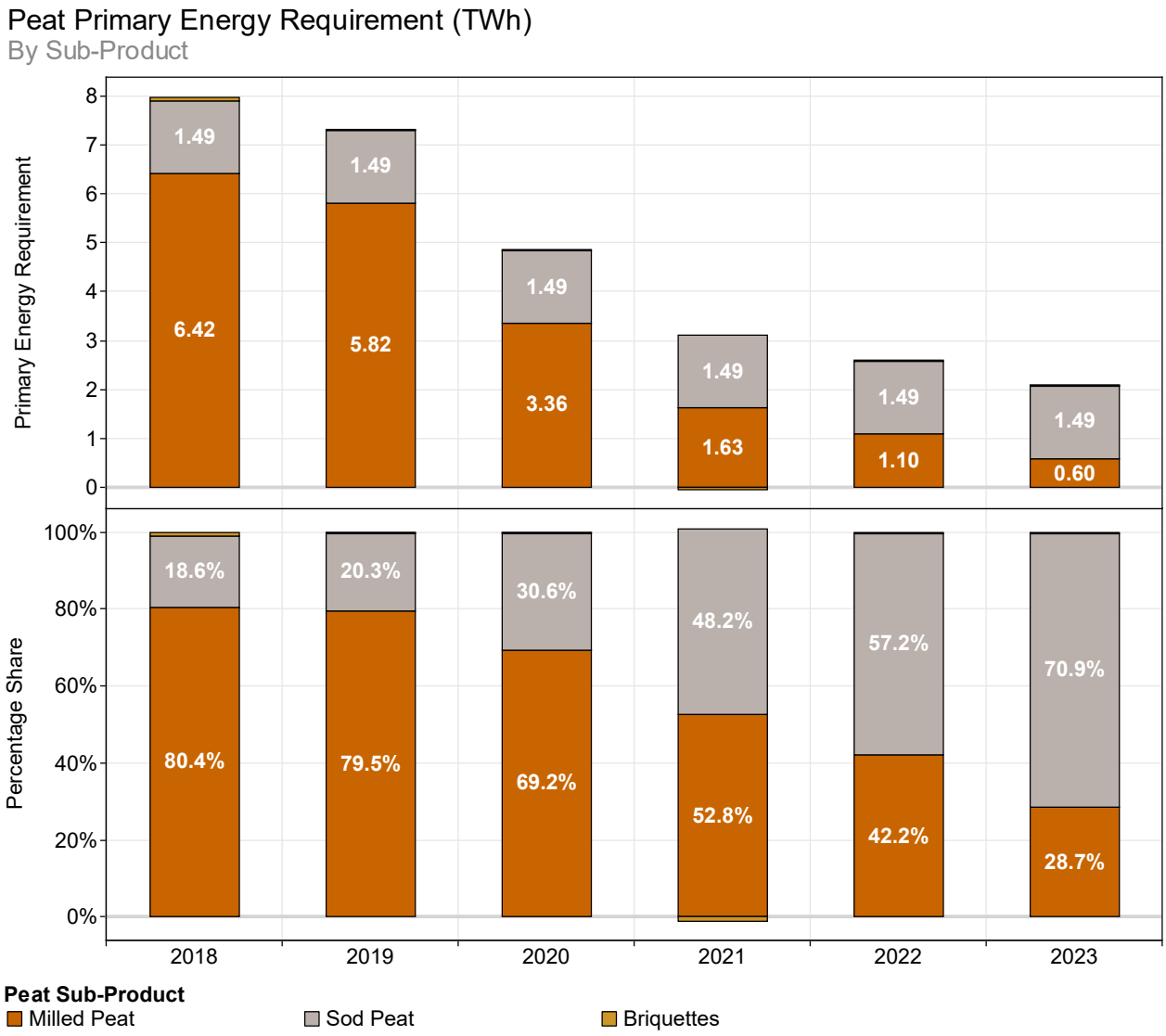
Figure 9.1 (top) shows Ireland's annual peat primary energy requirement for the last 6-years. Figure 9.1 (bottom) is a swing plot that shows the year-to-year changes in Ireland's annual peat primary energy requirement for the last 6-years, *i.e.* the value in 2023 is the difference between the peat primary energy requirement in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

9.2 Peat - primary energy requirement by sub-product

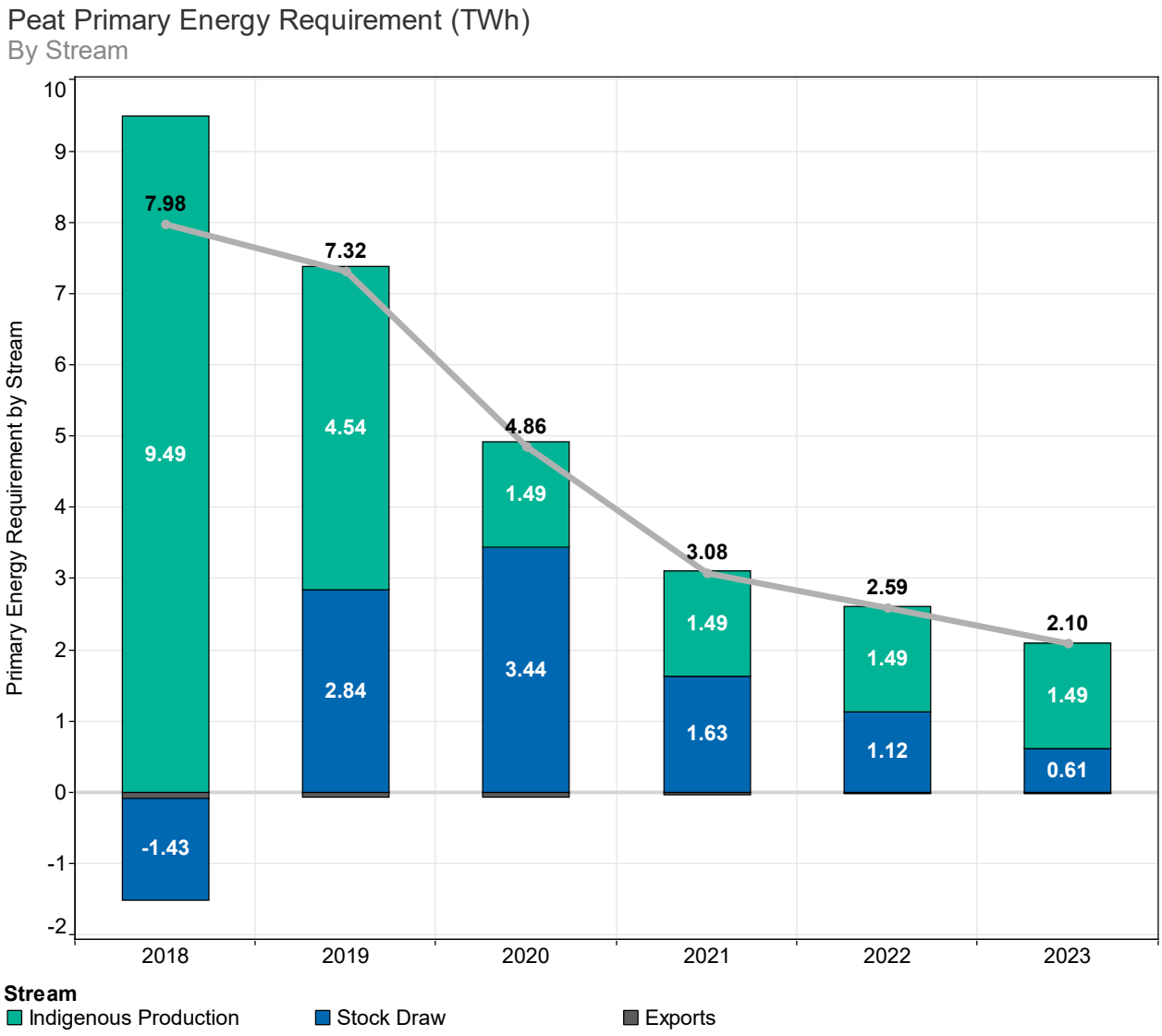
Figure 9.2 (top) shows the annual peat primary energy requirement with its energy sub-product breakdown. Figure 9.2 (bottom) shows the energy sub-product breakdown displayed as a percentage of the total peat primary energy requirement. Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

9.3 Peat - primary energy requirement by stream

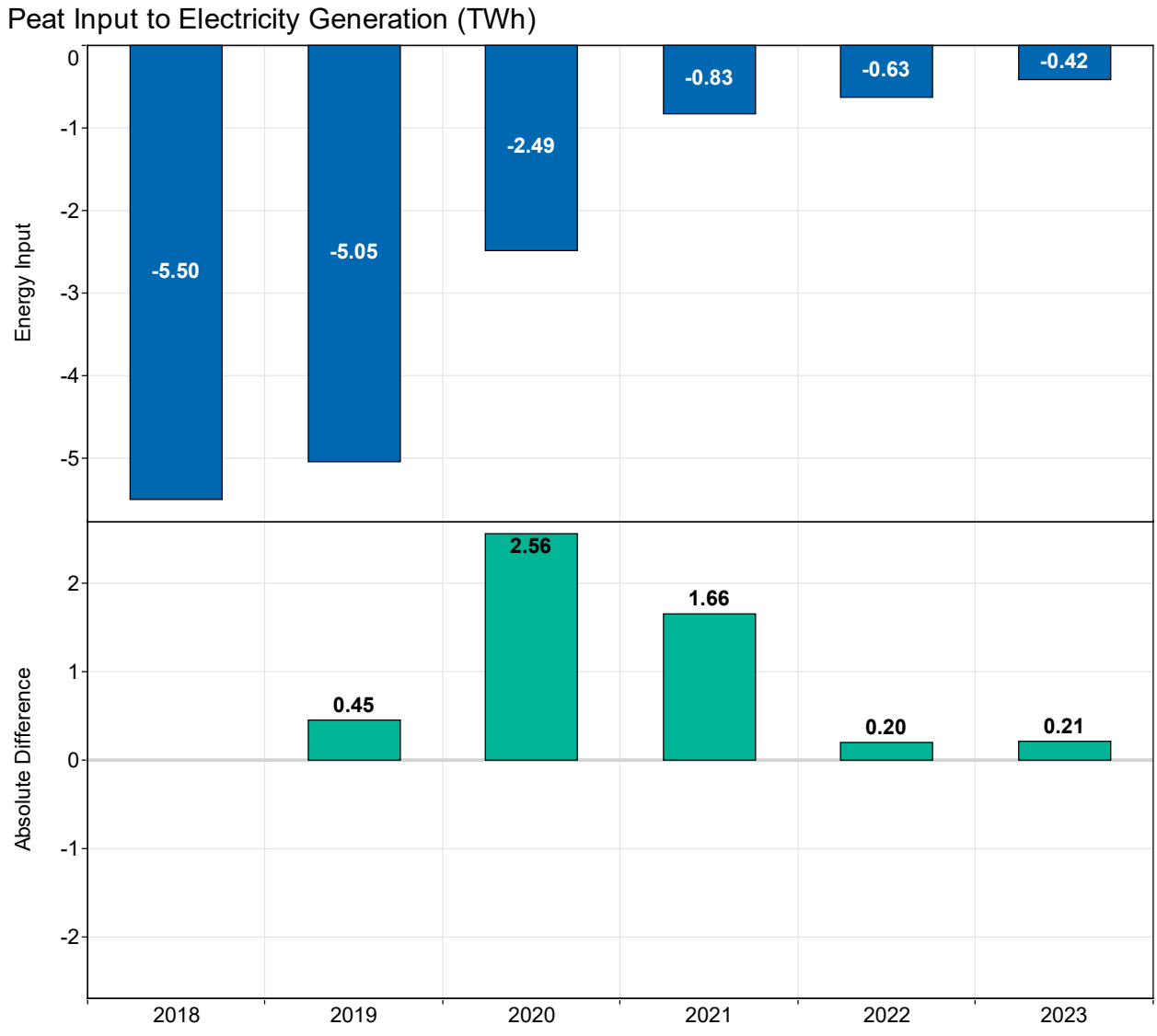
Figure 9.3 shows the annual peat primary energy requirement broken out by stream. The bars show the absolute energy quantity delivered or removed from peat primary energy requirement by each stream and the line shows the net peat primary energy requirement, calculated as a sum of the individual streams (top). Due to space constraints in the figure, some values with smaller contributions cannot be shown.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

9.4 Peat - input to electricity generation and annual change

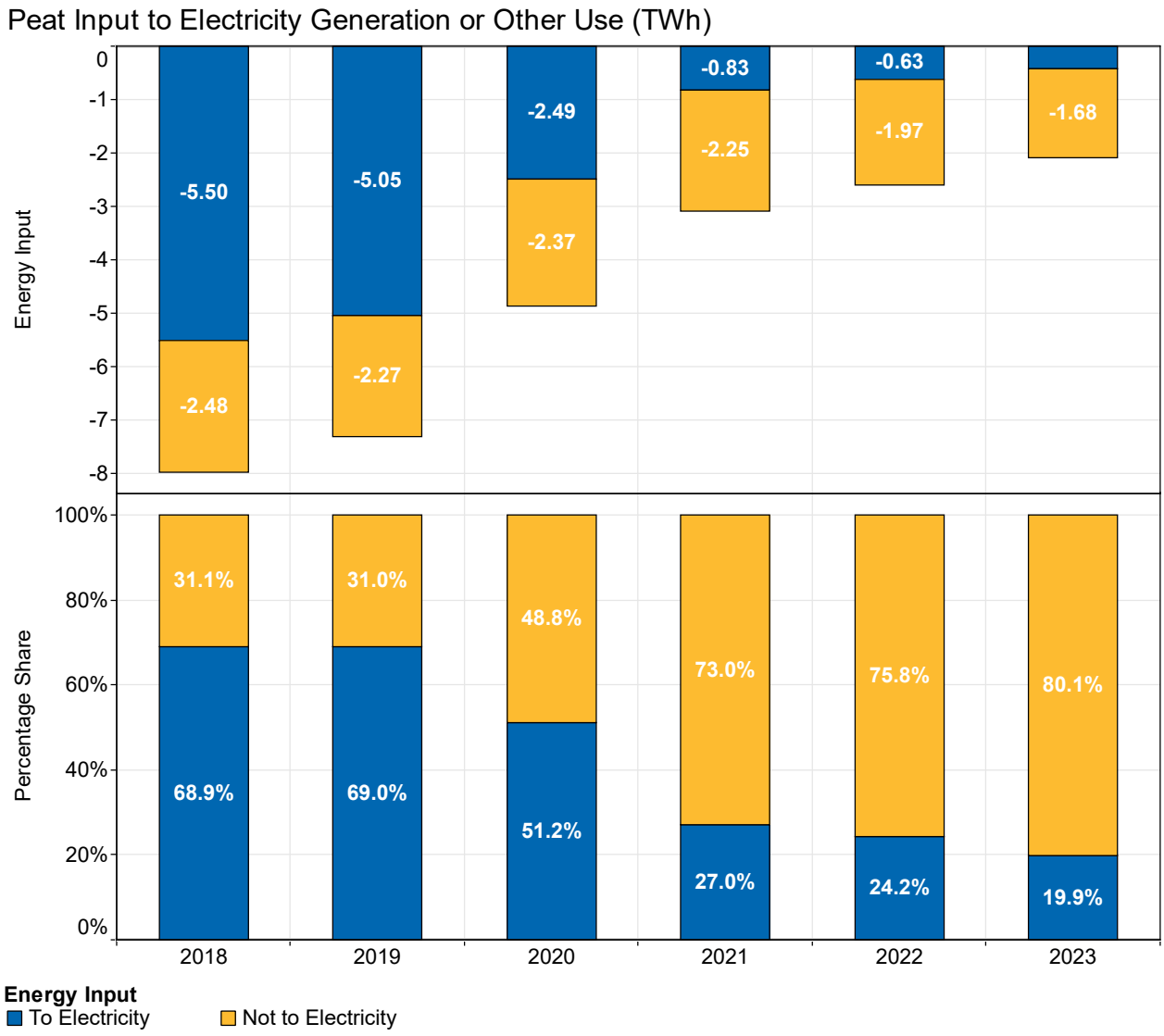
Figure 9.4 (top) shows the annual peat energy input to electricity generation, summed across public thermal power plants (PTPP) input and combined heat and power plants (CHP) input. Figure 9.4 (bottom) is a swing plot that shows the year-to-year changes in the annual peat energy input to electricity generation for the last 6-years, *i.e.* the value in 2023 is the difference between the annual peat energy inputs to electricity generation in 2023 *vs.* 2022.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

9.5 Peat - input to electricity generation or other uses

Figure 9.5 (top) shows the annual net primary energy requirement of peat, summed across all relevant streams: exports, national production and stock change. Figure 9.5 (bottom) shows the breakdown between peat energy input to electricity generation or other uses. This is displayed as a percentage of peat primary energy requirement in a given year.



Source: This figure above is based on the National Energy Balance time-series, which spans 1990 to 2023, and is available from the SEAI website: https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/

10 Appendix

10.1 Ireland's overall energy imports dependency

Year	Net imports / TWh	Gross available energy / TWh	Energy imports dependency / %
2018	118.31	176.02	67.2
2019	120.93	174.39	69.3
2020	115.24	159.91	72.1
2021	129.56	167.04	77.6
2022	136.38	171.15	79.7
2023	131.96	168.12	78.5

10.2 Wind - installed capacity at year end

Year	Installed capacity / MW
2018	3,674
2019	4,126
2020	4,307
2021	4,339
2022	4,536
2023	4,739

10.3 Solar PV - annual electricity generated by sub-type

Year	Electricity generated / TWh		Percentage share / %	
	Solar farms	Rooftop	Solar farms	Rooftop
2018	0.00	0.02	0.0	100.0
2019	0.00	0.03	0.0	100.0
2020	0.00	0.06	0.0	100.0
2021	0.00	0.08	0.0	100.0
2022	0.02	0.14	10.2	89.8
2023	0.41	0.23	63.8	36.2

10.4 Solar PV - installed capacity at year end

Year	Installed capacity (MEC) / MW	
	Solar farms	Rooftop
2018	0	21
2019	0	39
2020	0	64
2021	0	99
2022	52	149
2023	445	271

10.5 Electricity generation - renewable/non-renewable split of total energy input

Year	Percentage share / %							
	Non-renewable	(Renewable)						
		Wind	Renewable waste	Biomass	Hydro	Landfill gas	Solar PV	biogas
2018	77.7	(22.3)						
		16.3	2.2	1.7	1.3	0.7	0.0	0.2
2019	74.2	(25.8)						
		19.2	2.2	1.7	1.7	0.7	0.1	0.2
2020	70.7	(29.3)						
		22.1	2.3	2.2	1.8	0.7	0.1	0.2
2021	76.1	(23.9)						
		17.4	2.0	2.1	1.3	0.6	0.1	0.2
2022	73.7	(26.3)						
		19.8	2.2	2.2	1.2	0.5	0.3	0.2
2023	70.3	(29.7)						
		22.0	2.2	1.8	1.8	0.5	1.2	0.2

10.6 Interconnected electricity - annual imports and exports by stream

Year	Imports / TWh		Exports / TWh		Net imports / TWh
	NS	EW	NS	EW	
2018	0.85	0.77	-0.38	-1.27	-0.03
2019	1.13	1.05	-0.30	-1.23	0.64
2020	1.07	0.69	-0.32	-1.59	-0.15
2021	1.42	1.03	-0.33	-0.54	1.59
2022	1.20	0.38	-0.34	-0.99	0.25
2023	1.81	1.91	-0.20	-0.24	3.27

10.7 Interconnected electricity - monthly imports and exports by stream

Year	Imports / TWh		Exports / TWh		Net imports / TWh
	NS	EW	NS	EW	
Jan 18	0.06	0.07	-0.02	-0.15	-0.03
Feb 18	0.07	0.09	-0.02	-0.12	0.02
Mar 18	0.08	0.01	-0.03	-0.01	0.05
Apr 18	0.04	0.07	-0.02	-0.10	-0.01
May 18	0.07	0.02	-0.04	-0.10	-0.05
Jun 18	0.06	0.05	-0.05	-0.17	-0.11
Jul 18	0.04	0.05	-0.05	-0.14	-0.10
Aug 18	0.06	0.05	-0.03	-0.13	-0.04
Sep 18	0.09	0.09	-0.02	-0.09	0.06
Oct 18	0.09	0.10	-0.03	-0.08	0.09
Nov 18	0.08	0.04	-0.03	-0.12	-0.02
Dec 18	0.10	0.12	-0.03	-0.07	0.11
Jan 19	0.12	0.15	-0.02	-0.07	0.18
Feb 19	0.08	0.06	-0.03	-0.12	-0.01
Mar 19	0.12	0.08	-0.02	-0.13	0.05
Apr 19	0.11	0.07	-0.02	-0.11	0.05
May 19	0.08	0.05	-0.04	-0.07	0.02
Jun 19	0.05	0.05	-0.04	-0.13	-0.06

Year	Imports / TWh		Exports / TWh		Net imports / TWh
	NS	EW	NS	EW	
Jul 19	0.11	0.12	-0.02	-0.06	0.16
Aug 19	0.10	0.11	-0.03	-0.07	0.12
Sep 19	0.10	0.10	-0.02	-0.09	0.09
Oct 19	0.09	0.08	-0.02	-0.14	0.01
Nov 19	0.07	0.09	-0.04	-0.12	0.00
Dec 19	0.11	0.09	-0.02	-0.15	0.03
Jan 20	0.11	0.10	-0.02	-0.11	0.08
Feb 20	0.09	0.04	-0.02	-0.20	-0.10
Mar 20	0.12	0.06	-0.02	-0.12	0.05
Apr 20	0.11	0.11	-0.01	-0.06	0.14
May 20	0.08	0.03	-0.04	-0.13	-0.06
Jun 20	0.08	0.03	-0.02	-0.15	-0.07
Jul 20	0.08	0.03	-0.03	-0.14	-0.06
Aug 20	0.06	0.03	-0.04	-0.10	-0.05
Sep 20	0.09	0.05	-0.02	-0.16	-0.04
Oct 20	0.09	0.09	-0.03	-0.14	0.01
Nov 20	0.08	0.06	-0.03	-0.14	-0.03
Dec 20	0.08	0.06	-0.04	-0.14	-0.04
Jan 21	0.07	0.04	-0.04	-0.06	0.02
Feb 21	0.08	0.05	-0.02	-0.11	0.00
Mar 21	0.12	0.11	-0.02	-0.07	0.15
Apr 21	0.14	0.09	-0.02	-0.01	0.20
May 21	0.18	0.17	-0.01	-0.04	0.30
Jun 21	0.14	0.07	-0.01	-0.01	0.18
Jul 21	0.18	0.24	0.00	0.00	0.41
Aug 21	0.14	0.07	-0.02	-0.02	0.16
Sep 21	0.15	0.05	-0.02	-0.02	0.16
Oct 21	0.10	0.08	-0.04	-0.04	0.09
Nov 21	0.08	0.05	-0.04	-0.06	0.03
Dec 21	0.06	0.01	-0.07	-0.11	-0.11
Jan 22	0.08	0.02	-0.04	-0.10	-0.04

Year	Imports / TWh		Exports / TWh		Net imports / TWh
	NS	EW	NS	EW	
Feb 22	0.08	0.03	-0.03	-0.13	-0.06
Mar 22	0.15	0.02	-0.02	-0.03	0.11
Apr 22	0.14	0.00	-0.02	0.00	0.12
May 22	0.11	0.02	-0.02	-0.05	0.06
Jun 22	0.10	0.05	-0.02	-0.09	0.05
Jul 22	0.10	0.07	-0.01	-0.12	0.03
Aug 22	0.08	0.04	-0.03	-0.11	-0.02
Sep 22	0.09	0.02	-0.03	-0.07	0.01
Oct 22	0.10	0.04	-0.04	-0.11	0.00
Nov 22	0.07	0.03	-0.05	-0.11	-0.06
Dec 22	0.10	0.05	-0.04	-0.07	0.04
Jan 23	0.13	0.10	-0.02	-0.03	0.17
Feb 23	0.11	0.08	-0.03	-0.04	0.12
Mar 23	0.13	0.12	-0.03	-0.03	0.20
Apr 23	0.16	0.10	-0.02	-0.02	0.22
May 23	0.14	0.21	-0.02	-0.01	0.32
Jun 23	0.14	0.19	-0.01	0.00	0.31
Jul 23	0.15	0.18	-0.02	-0.01	0.29
Aug 23	0.15	0.18	-0.02	-0.02	0.29
Sep 23	0.17	0.19	-0.01	-0.01	0.34
Oct 23	0.21	0.27	0.00	0.00	0.47
Nov 23	0.15	0.18	-0.02	-0.01	0.30
Dec 23	0.16	0.12	-0.01	-0.04	0.24

10.8 Natural gas - import dependency

Year	Net imports / TWh	Gross available energy / TWh	Energy imports dependency / %
2018	20.10	52.11	38.6
2019	28.20	53.16	53.0
2020	33.84	53.08	63.8
2021	36.35	50.98	71.3
2022	38.46	52.00	74.0
2023	37.36	48.23	77.5

10.9 Version Control

Version	Date	Note
0.4	05-JUL-2024	Pre-publication circulation
1.0	12-JUL-2024	Copy for public release 15-JUL-2024

11 Data availability

The primary data source for the plots and insights in this report is the 2023 *interim* national energy balance, published by SEAI in May 2024, with supplementary data taken from SEAI's monthly updates on electricity, gas, and oil supply, and data publicly available from the Eurostat database. Data in the 2023 *interim* national energy balance will be superseded by the publication of the 2023 *full* national energy balance in September 2024. Similarly, data from SEAI's monthly updates on electricity, gas, and oil supply may be revised at any time, if energy suppliers revise or correct their data submissions to SEAI.

The aim of *First Look* publications is the rapid disseminate of key energy insights based on data currently at hand – they are fast provisional updates to inform evidence-led energy policy and determine the pace of progress against binding energy and climate targets. The data released through *First Look* publications is best regarded as a *supplement* to SEAI's definitive reporting, rather than as a *substitute* for that definitive reporting.

SEAI's definitive energy statistics reporting is largely made through the *full* national energy balance published in September 2024, and the Energy in Ireland report published in December. The data from these definitive outputs are used to determine Ireland's official progress against Renewable Energy Share (RES) and Energy Efficiency Directive (EED) targets.

Unless otherwise specified, the information in this note is largely based on data from the most recently published *interim* national energy balance. The interim national energy balance[8], related figures[9] and conversion factors[10] are available for download on the SEAI website. Downloadable sources of other figures or data sources in this note include the SEAI enhanced monthly electricity energy data[11] and the Eurostat data browser[12, 13, 14]. In the absence of data available online, data can be found in the appendix.

[8] SEAI, "National energy balance," [Online]. https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/.

[9] SEAI, "Annual energy data", [Online]. https://www.seai.ie/data-and-insights/seai-statistics/annual-energy-data/

[10] SEAI, "Conversion factors," [Online]. https://www.seai.ie/data-and-insights/seai-statistics/conversion-factors/.

[11] SEAI, "Enhanced monthly electricity energy data," [Online]. https://www.seai.ie/data-and-insights/seai-statistics/monthly-energy-data/electricity-monthly/.

[12] Eurostat, "Imports of oil and petroleum products by partner country - monthly data," [Online]. https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oilm__custom.

[13] Eurostat, "Imports of oil and petroleum products by partner country," [Online]. https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_oil__custom

[14] Eurostat, "Imports of solid fossil fuels by partner country," [Online]. https://ec.europa.eu/eurostat/databrowser/view/nrg_ti_sff__custom

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Sustainable Energy Authority of Ireland
Three Park Place Hatch Street Upper Dublin 2
Ireland
D02 FX65

w: www.seai.ie
e: info@seai.ie
t: 01 8082100