

# CURRENT DATA ON THE TOURISM INDUSTRY – SHORT VERSION

# Economic meaning and sustainability

wissen.nutzen.

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# List of Abbreviations

| CEPA 2000        | Classification of Environmental Protection Activities and Expenditures     |
|------------------|--|
| $CH_4$           | Methane  |
| CO               | Carbon monoxide  |
| CO <sub>2</sub>  | Carbon dioxide   |
| Destatis         | Federal Statistical Office   |
| DIWEcon          | The Consulting Company of the German Institute of Economic Research Berlin |
| GVA              | Gross value added  |
| gws              | Institute of Economic Structures Research                                  |
| HFC              | Partially halogenated hydrocarbons   |
| Mill.            | million  |
| N <sub>2</sub> O | Nitrous oxide  |
| $NF_3$           | Nitrous trifluoride  |
| NH <sub>3</sub>  | Ammonia  |
| NMVOC            | Non-methane volatile organic compounds                                     |
| NO <sub>x</sub>  | Nitrogen oxides  |
| PFC              | Perfluorinated hydrocarbons  |
| PM 10 µm         | Particulate matter with a maximum diameter<br>of 10 micrometer (μm)        |
| PM 2,5 μm        | Particulate matter with a maximum diameter<br>of 2,5 micrometer (μm)       |
| RMI              | Raw Material Input   |
| $SF_6$           | Sulfur hexafluoride  |
| t                | Tonnes   |
| TJ               | Terajoule  |
| TSA              | Tourism Satellite Accounts   |
| UGR              | Environmental-Economic Accounts  |

# 1 Introduction and important results

# **1.1 Introduction**

Due to the important role tourism plays for the economy and the environment in Germany, the interest in precise data is correspondingly great. The Federal Statistical Office of Germany (Destatis), on behalf of the Federal Ministry for Economic Affairs and Energy, compiled the Tourism Satellite System (TSA) in order to show the most important economic and environmental issues related to tourism. The reporting period extends from 2015-2019 and thus expands previous studies from the German Institute for Economic Research (DIW) and the Institute of Economic Structures Research (gws).

When calculating the TSA tables, it is important to make tourism more "visible" in the overall system of national accounts and environmental-economic accounts (UGR) and thus to facilitate its economic and ecological interpretation. The system of supply, use and input-output tables of the input-output calculation is helpful here, as it not only provides a sector-related representation, but also provides data for goods related to tourism. The TSA tables 1-7 are arranged according to product categories, which include goods and services that are particularly relevant to tourism. Under I) are the product groups defined internationally as "tourist" and under II) the categories that have been added specifically for Germany and have a particular relevance to tourism. Under III), all remaining tourism expenses are shown that were not made in product groups defined for tourism. In order to be considered a tourism product, either a significant proportion of the product must be sold to tourists, or a significant proportion of the tourism demand must fall on the product.

The calculation of the tourism-related environmental effects is mostly based on data sources from the Federal Statistical Office. These include, on the one hand, the TSA-tables created by the national accounts within the scope of the present project and, on the other hand, the established UGR data from the overall calculation systems for the use of energy and raw materials, as well as air emissions. The reporting horizon for the calculation of the tourism-related environmental effects covers the reporting years 2015 to 2019, although no results for the reporting year 2019 could yet be calculated for the modules raw material use and expenditure on environmental protection services.

This report is the short version of the more extensive background report and contains the most important results on the effects of tourism on the economy and sustainability. For this reason, a detailed description of the TSA methodology is forgone this version. Chapter 2 summarizes the results of the TSA tables with economic relevance. Chapter 3 describes the tourism-related environmental effects. Further results, methodological explanations and information on the project can be found in the long version of the report.

# **1.2 Important results**

#### Tourist expenses of foreigners in Germany

In 2019, foreign tourists spent EUR 46.9 billion on private and domestic business trips. Of this, 56% or EUR 26.1 billion were accounted for by private travel and 44% or EUR 20.7 billion by business travel. The majority was spent in the areas of accommodation (EUR 13.6 billion) and food and beverage serving services (EUR 10.8 billion), followed by air passenger transport services (EUR 7.9 billion). Between 2015 and 2019 tourist expenses of foreigners in Germany increased by 18%.

#### Tourist expenses of residents in Germany

In 2019 a total of around EUR 247.0 billion was spent on tourism by residents in Germany. At over EUR 197.6 billion, the volume of private travel is significantly larger than the EUR 31.3 billion that was spent on business travel. Furthermore, "remaining goods" represented the largest expenditure item for residents at EUR 46.6 billion. Overall, total spending by domestic tourists rose steadily from EUR 231.4 billion in 2015 to EUR 247.0 billion in 2019 - by 6.7 %. (See chapter 2.2)

#### Tourist expenses of residents abroad

In 2019 tourism spending by residents abroad amounted to EUR 125.4 billion. Of this, 85% or EUR 106.0 billion were accounted for by private travelers and 15% or EUR 19.4 billion by business travelers. For private as well as business overnight guests, the expenditure for accommodation services are the largest expenditure position. For private day trippers it was the remaining goods. (See chapter 2.3)

#### Domestic tourist consumption

Overall, accommodation (EUR 54.4 billion) and food and beverage serving services (EUR 57.3 billion), followed by sport, recreational and cultural services (EUR 29.7 billion), were particularly important for the German tourism industry. The product category "remaining goods" was the largest item with slightly more than 21% of total domestic consumption. Over time, tourism expenditure in Germany rose from EUR 302.3 billion in 2015 to EUR 329.6 billion in 2019, thereby increased by EUR 27.2 billion or around 9%. (See chapter 2.4)

#### Output and production values of tourism and other sectors of the economy

For the reporting year 2019, the economic output was around EUR 6,304.8 billion, of which EUR 279.5 billion of production were destined for tourism. A further EUR 43.6 billion in imports were added to the tourism output. Tourism-relevant industries produced EUR 199.3 billion of the output intended for tourism, other industries EUR 80.2 billion. Most dependent on tourism were the accommodation industry with 95% and the food and beverage service industry with 74% of production. In the time series from 2015 to 2019, the total output in basic prices increased by 14%, the tourism-related output by only 12%. As a result, the tourism share has fallen from 4.3% to 4.2%. (See chapter 2.5)

#### Tourism use table and gross value added

The total use of tourist goods and services in purchaser's prices in 2019 was estimated at EUR 356.7 billion. At EUR 233.5 billion, private consumption expenditures represent the bulk of the last use of tourist goods and services. The share of tourism-related GVA in total economic GVA was 3.99%. In tourism-based economic sectors, the share of tourism was higher at 12.2%; in other economic sectors it played a subordinate role for the GVA (1.4%). In the time series between 2015 and 2019, the importance of tourism (measured in terms of GVA share) hardly changed. In 2015 the GVA share was 4.06%, from 2016 to 2019 it was just under 4 percent. (See chapter 2.6)

#### Employed persons connected to tourism

Overall, those in employment associated with tourism consumption accounted for 2.8 million in 2019, which corresponds to 6.1% of the total number of persons in employment in Germany. In touristic industries, this share was 27% (2.2 million) and in others it was 1.6% (0.6 million). The results indicate that tourism contributed to the GVA (4%), but that its relevance to the labor market was greater (6%), due to the high number of people employed in the industries of accommodation and food and beverage serving services. The number of people in employment with a tourism-related background rose only slightly between 2015 and 2019, from 2.7 million to 2.8 million. (See chapter 2.7)

#### Gross fixed capital formation related to tourism

In total, tourism investments in 2019 amounted to EUR 17.3 billion, which corresponds to 2.3 % of total German gross fixed capital formation. From 2015 to 2019, tourism-related gross fixed capi-tal formation rose by 9.3 % from EUR 15.8 billion in 2015 to EUR 17.3 billion in 2019, after a high of EUR 17.5 billion in 2018. (See chapter 2.8)

#### Tourism-related tax revenues and government expenditures

According to the calculation, the state receives income with possible tourism relation via current taxes in the amount of EUR 49.5 billion, which corresponds to 3.1% of the total income and 6% of current tax income. In the same year, the state spent EUR 15.9 billion on tourism. In the period from 2015 to 2019, the state's income with a possible tourism connection rose from EUR 48.9 billion to EUR 49.5 billion, which corresponds to an increase of 1.3%. (See chapter 2.9)

#### Indirect effects

Production: The direct production of the tourist products in demand amounting to EUR 279.5 billion in 2019 were linked to EUR 199.9 billion from products indirectly produced domestically. Thus, a total of EUR 479.4 billion of products were related to the tourism industry.

GVA: The economic importance of tourism in 2019, measured directly, was 3.99% of gross value added. This number increases to a total of 6.96% when the domestic intermediate supply is included.

Employment: Viewed directly, 2.8 million people were employed in tourism in 2019. A further 1.3 million people were indirectly employed. This means that more than 4 million people in employment were directly and indirectly dependent on tourism in Germany, which makes up 9.0% of the total number employees. (See chapter 2.10)

#### Tourism-related energy consumption

Following the Energy Accounts provided by the Environmental-Economic Accounts, Germany's final energy consumption in the reporting year 2019 amounted to 8.97 million terajoules (TJ). For the reporting year 2019, that tourism-related goods and services in Germany were produced using 298,824 TJ. In terms of the benchmark figure of the final energy consumption from the Energy Accounts, this means that around 3.3% of Germany's energy consumption was spent on the production of tourism-related products. (See chapter 3.1)

#### Tourism-related air emissions

Germany's greenhouse gas emissions in the reporting year 2019 amounted to around 949 million tons (t), measured in  $CO_2$  equivalents. Overall, the greenhouse gas emissions for the production of tourism-related goods and services fell from 27.3 million tons of  $CO_2$  equivalents in the reporting year 2015, to 24.6 million tons of  $CO_2$  equivalents in 2019. This corresponds to approximately 2.6% of the domestic greenhouse gas emissions.

In the area of air pollutant emissions in tourism, nitrogen oxides  $(NO_{\chi})$  and carbon monoxide (CO) in particular were caused by the manufacture of tourism products. The biggest driver for the emission of air pollutants was the provision of transport services. (See chapter 3.2)

#### Tourism-related raw material input

Germany's total raw material input in the reporting year 2018 amounted to 3,014 million tons in raw material equivalents. In 2018, the demand for tourism-related goods and services in Germany was satisfied by the use of 100 million tons in raw material equivalents. As compared to the economy's total raw material input, this means that approximately 3.3% of Germany's raw material input was related to tourism. (See chapter 3.3)

#### Tourism-related environmental protection expenditure

Corporations in the tourism sector spent roughly EUR 1.9 billion on market-based environmental protection services in the reporting year 2018. Of this amount, EUR 1.4 billion were spent on water protection, or waste water management, and another EUR 535 million on waste management. In addition, the expenses by corporations in the tourism sector on environmental protection services increased by about 20% between 2015 and 2018. (See chapter 3.4)

# 2 Tourism and Economy: Overview of TSA-Tables

The TSA tables aim to show the most important economic and environmental issues associated with tourism. In doing so, emphasis is placed on making them "visible" in the overall system of the national accounts and the environmental economic accounts and thus facilitating their economic classification. The system of supply, use and input-output tables, which, in addition to a branch-related breakdown, also establishes the tourism reference for goods, is helpful in this regard.

TSA table 1 shows the tourism-related expenditures of foreigners in Germany. TSA table 2 contains the tourist expenditure of residents in Germany and TSA table 3 presents the tourist expenditure of residents abroad. This means that all tourism-related expenses by residents and foreigners that are essential for Germany are described in a uniform classification of goods.

The TSA tables 4 represent the complete domestic tourism demand and generate the transition from the system of tourismoriented tables to the system of national accounts. Table 2.4-1 shows domestic tourist consumption, subdivided into foreigners and residents, and contains the "other" tourist consumption. "Other consumption" refers to services that are taken before the actual vacation. This includes sports equipment that was bought for a tourist activity, such as ski boots, tennis rackets, bicycles or even caravans or holiday apartments. The tourist expenditures of residents – according to the definition of national accounts – are shown for private trips and business trips broken down into overnight guests and day trippers. This considers how package tours are to be booked in the national accounts system.

Tables 5-10 refer to the national accounts and show the complex picture of the importance of tourism in economic detail. The non-tourism-related goods and industries are each summarized in one item. Table 2.5-1 shows the supply and output values of tourism and other economic sectors in detail. The uses of tourism products are diverse. In order to be able to represent the most important variables, several TSA tables 6 have been developed which show these facts. Table 2.6-1 shows the use of tourism products in purchaser's prices. Value is placed on the presentation of the categories of last use and total intermediate consumption. Table 2.6-2 summarizes the production values, intermediate consumption and gross value added (GVA) for the tourist industries. Then, Table 2.7-1 contains the persons in employment and Table 2.8-1 the gross fixed capital formation (GCF) of the tourism and other branches of the economy. Table 2.9-1 shows the tax revenues and government expenditures associated with tourism and finally, Table 2.10-1 contains the indirect effects of the tourism industry on the other branches of the economy.

# 2.1 TSA 1 - Tourist Expenses of Foreigners in Germany at Purchaser's Prices

The tourism industry is booming worldwide. In Germany, too, more foreign tourists used to come every year up to the corona pandemic. Table 2.1-1 shows tourism expenditure of foreigners in Germany for the reporting period of 2019. The columns first subdivide the tourist expenditures according to the type of trip, i.e. into private and business trips, in order to then show the expenditures of overnight guests, day trippers and their aggregates. The product categories are goods and services that are particularly relevant to tourism. The products listed under I) are those which were defined internationally, those under II) the categories supplemented especially for Germany and those under III) are any remaining tourist expenses. Together, we get a detailed picture of spending made by foreign and domestic tourists.

In 2019, foreign tourists spent EUR 46.9 billion on private and domestic business trips. Of this, 56% or EUR 26.1 billion were accounted for by private travel and 44% or EUR 20.7 billion by business travel.

For both private and business travelers, the spending of overnight guests was significantly higher than that of day trippers. When comparing expenditure by product group, further differences become apparent. As expected, the majority was spent in the areas of accommodation (EUR 13.6 billion) and food and beverage serving services (EUR 10.8 billion), followed by air passenger transport services (EUR 7.9 billion). "Shopping" also played a major role for the tourism industry, which is included in the "Remaining goods" category of the table and on which a total of EUR 6.1 billion was spent (cf. DIW Econ 2012, p. 34). This includes goods such as tobacco products, clothing, publishing, furniture, jewelry, musical instruments, sports equipment, toys, etc. The smallest items in this table are expenses for rental cars (EUR 242 million) and sports, recreational & cultural services (EUR 157 million). In the case of private travelers with overnight stays, the expenditures for accommodation services constituted the largest expenditure item at 41% or EUR 9.3 billion. In comparison, for private day trippers it was the food and beverage serving services with a share of 44% or EUR 1.5 billion. The largest expenditure item for business travelers with overnight stays was air passenger transport services with 39% or EUR 7.0 billion and for business day trippers it was the expenditure for remaining services with a share of 40% or EUR 1.0 billion.

Table 2.1-2 shows spending by foreign tourists in Germany as a time series for the years 2015 to 2019 by product group. Between 2015 and 2019, tourism spending increased by 17.7%, with spending in 2019 being the highest at EUR 46.9 billion. One can also see that for most product categories, spending increased until 2019, only air passenger transport services and fuel increased until 2018 and then fell slightly again in 2019. All other tourism expenditures, however, continued to rise in 2019. In all years of the time series, it is visible that foreign tourists spent more than half of their tourism expenditures in Germany on accommodation and food and beverage serving services.

# 2.1-1 Tourist expenses of foreigners in Germany by type of trip, 2019

|  | Private Trips | Private Trips       |              |        | Business Trips      |              |                             |  |
|--|---------------|---------------------|--------------|--------|---------------------|--------------|-----------------------------|--|
|  | Total         | of which            |              | Total  | of which            |              | of foreigners<br>in Germany |  |
|  |               | Overnight<br>guests | Day trippers |        | Overnight<br>guests | Day trippers | Total                       |  |
|  | Mill. Euro    |                     |              |        |                     |              |                             |  |
| I) Internationally defined touristic products      | 20 504        | 18 065              | 2 440        | 15 351 | 14 375              | 976          | 35 855                      |  |
| 1 – Accommodation services for visitors            | 9 263         | 9 263               | -            | 4 288  | 4 288               | -            | 13 551                      |  |
| 2 – Food and beverage serving services             | 7 267         | 5 814               | 1 453        | 3 533  | 2 712               | 822          | 10 801                      |  |
| 3 – Railway passenger services                     | 192           | 154                 | 38           | 181    | 145                 | 36           | 373                         |  |
| 4 – Road passenger transport services              | 719           | 490                 | 228          | 95     | 41                  | 54           | 814                         |  |
| 5 – Water passenger transport services             | 1 056         | 410                 | 645          | 134    | 119                 | 15           | 1 1 9 0                     |  |
| 6 – Air passenger transport services               | 842           | 842                 | -            | 7 038  | 7 038               | -            | 7 880                       |  |
| 7 – Transport equipment rental services            | 225           | 212                 | 13           | 17     | 16                  | 1            | 242                         |  |
| 8 – Travel agencies and other reservation services | 848           | 805                 | 42           | -      | -                   | -            | 848                         |  |
| 9 – Sport, recreational and cultural services      | 93            | 74                  | 19           | 64     | 16                  | 48           | 157                         |  |
| II) Other touristic products                       | 1 102         | 916                 | 185          | 1 101  | 925                 | 177          | 2 203                       |  |
| 10 – Health services                               | 254           | 254                 | -            | -      | -                   | -            | 254                         |  |
| 11 – Food  | 690           | 552                 | 138          | 860    | 688                 | 172          | 1 550                       |  |
| 12 – Fuel  | 157           | 110                 | 47           | 242    | 237                 | 5            | 399                         |  |
| III) All remaining goods and services              | 4 541         | 3 857               | 684          | 4 285  | 2 888               | 1 398        | 8 826                       |  |
| 13 – Remaining goods                               | 3 296         | 2 868               | 429          | 2 805  | 2 440               | 365          | 6 101                       |  |
| 14 – Remaining services                            | 1 245         | 989                 | 255          | 1 480  | 447                 | 1 033        | 2 7 2 5                     |  |
| Total  | 26 147        | 22 838              | 3 309        | 20 737 | 18 187              | 2 5 5 1      | 46 884                      |  |

There may be deviations in the totals due to rounding in the subtotals.

# 2.1-2 Tourist expenses of foreigners in Germany

|  | 2015       | 2016       | 2017     | 2018   | 2019   |  |  |  |  |
|--|------------|------------|----------|--------|--------|--|--|--|--|
|  | Mill. Euro | Mill. Euro |          |        |        |  |  |  |  |
| I) Internationally defined touristic products      | 30 322     | 32 078     | 33 953   | 35 209 | 35 855 |  |  |  |  |
| 1 – Accommodation services for visitors            | 11 754     | 12 092     | 12 7 5 1 | 13 271 | 13 551 |  |  |  |  |
| 2 – Food and beverage serving services             | 9 596      | 9 869      | 10 324   | 10 584 | 10 801 |  |  |  |  |
| 3 – Railway passenger services                     | 322        | 338        | 352      | 369    | 373    |  |  |  |  |
| 4 – Road passenger transport services              | 762        | 780        | 780      | 806    | 814    |  |  |  |  |
| 5 – Water passenger transport services             | 767        | 860        | 979      | 1 086  | 1 190  |  |  |  |  |
| 6 – Air passenger transport services               | 6 262      | 7 128      | 7 672    | 7 925  | 7 880  |  |  |  |  |
| 7 – Transport equipment rental services            | 133        | 176        | 201      | 241    | 242    |  |  |  |  |
| 8 – Travel agencies and other reservation services | 613        | 719        | 759      | 772    | 848    |  |  |  |  |
| 9 – Sport, recreational and cultural services      | 113        | 115        | 134      | 154    | 157    |  |  |  |  |
| II) Other touristic products                       | 1 967      | 2 019      | 2 077    | 2 137  | 2 203  |  |  |  |  |
| 10 – Health services                               | 249        | 241        | 231      | 248    | 254    |  |  |  |  |
| 11 – Food  | 1 313      | 1 371      | 1 451    | 1 471  | 1 550  |  |  |  |  |
| 12 – Fuel  | 405        | 406        | 395      | 418    | 399    |  |  |  |  |
| III) All remaining goods and services              | 7 546      | 7 978      | 8 479    | 8 676  | 8 826  |  |  |  |  |
| 13 – Remaining goods                               | 5 387      | 5 541      | 5 906    | 6 033  | 6 101  |  |  |  |  |
| 14 – Remaining services                            | 2 159      | 2 437      | 2 573    | 2 642  | 2 725  |  |  |  |  |
| Total  | 39 835     | 42 074     | 44 509   | 46 022 | 46 884 |  |  |  |  |

# 2.2 TSA 2 - Tourist Expenses of Residents in Germany at Purchaser's Prices

Despite the large number of foreign tourists, tourist offers in Germany are predominantly used by residents. Table 2.2-1 shows the tourism expenditures of residents in Germany in 2019. First, we distinguish between private and business trips, then between overnight guests and day trippers. A total of around EUR 247.0 billion was spent on tourism residents in Germany. At over EUR 197.6 billion, the volume of private travel is significantly larger than the EUR 31.3 billion that was spent on business travel.

The columns in the table differentiate between the various tourism categories, while the rows provide information on goods and services that are characteristic of tourism.

Private overnight guests spent the most on touristic goods and services in 2019 with a total of EUR 123.6 billion, followed by private day trippers who came up to EUR 74.0 billion. As expected, the aggregate touristic consumption of business trips was many times lower, and with EUR 13.1 billion for overnight guests, around EUR 5 billion less than the expenditures of domestic business day trippers (EUR 18.2 billion). Residents preferred the areas of accommodation (EUR 36.7 billion) and food and beverage serving services (EUR 46.5 billion), followed by spending on sport, recreational and cultural services (EUR 18.5 billion). In addition, air and road passenger transport services were also relatively important for residents (EUR 14.6 billion and EUR 14.3 billion). Furthermore, "remaining goods" represented the largest expenditure item for residents at EUR 46.6 billion. This includes the purchase of goods, such as clothing, jewelry or publishing products.

The time series from 2015 to 2019 (see Table 2.2-2) shows the aggregated annual expenditures by domestic tourists in Germany. You can see that spending on most product categories increased through 2019. By contrast, tourism consumption in the areas of air and road passenger transport services, as well as fuel fell between 2015 and 2019. Overall, total spending by domestic tourists rose steadily from EUR 231.4 billion in 2015 to EUR 247.0 billion in 2019 by 6.7 %.

# 2.2-1 Tourist expenses of residents in Germany by type of trip, 2019

|  | Private Trip | Private Trips       |                 | Business Trips |                     |                 | Domestic                | Expenditures               |
|--|--------------|---------------------|-----------------|----------------|---------------------|-----------------|-------------------------|----------------------------|
|  | Total        | Total of which To   |                 | Total          | of which            |                 | expenses of<br>outbound | of residents<br>in Germany |
|  |              | Overnight<br>guests | Day<br>trippers |                | Overnight<br>guests | Day<br>trippers | travellers              | Total                      |
|  | Mill. Euro   |                     |                 |                |                     |                 |                         |                            |
| I) Internationally defined touristic products      | 115 278      | 79 972              | 35 306          | 16 373         | 8 603               | 7 770           | 17 141                  | 148 793                    |
| 1 – Accommodation services for visitors            | 34 854       | 34 854              | -               | 1 881          | 1 881               | -               | -                       | 36 735                     |
| 2 – Food and beverage serving services             | 39 088       | 20 822              | 18 266          | 7 459          | 3 0 3 9             | 4 4 2 0         | -                       | 46 547                     |
| 3 – Railway passenger services                     | 3 058        | 2 477               | 580             | 639            | 338                 | 301             | 134                     | 3 831                      |
| 4 – Road passenger transport services              | 12 436       | 5 633               | 6 803           | 1 354          | 539                 | 815             | 535                     | 14 326                     |
| 5 – Water passenger transport services             | 1 705        | 1 389               | 316             | 0              | -                   | -               | 175                     | 1 880                      |
| 6 – Air passenger transport services               | 5 361        | 5 361               | -               | 967            | 404                 | 564             | 8 2 2 9                 | 14 558                     |
| 7 – Transport equipment rental services            | 1 328        | 513                 | 815             | 1 0 2 0        | 667                 | 353             | 296                     | 2 644                      |
| 8 – Travel agencies and other reservation services | 853          | 853                 | -               | 1 1 3 9        | 740                 | 399             | 7 772                   | 9 764                      |
| 9 – Sport, recreational and cultural services      | 16 595       | 8 069               | 8 5 2 6         | 1 913          | 995                 | 919             | -                       | 18 508                     |
| II) Other touristic products                       | 27 432       | 16 607              | 10 825          | 8 417          | 2 416               | 6 001           | 453                     | 36 302                     |
| 10 – Health services                               | 7 873        | 7 873               | -               | -              | -                   | -               | -                       | 7 873                      |
| 11 – Food  | 10 902       | 6 382               | 4 5 2 1         | 1 504          | 506                 | 999             | -                       | 12 406                     |
| 12 – Fuel  | 8 657        | 2 353               | 6 304           | 6 912          | 1 910               | 5 002           | 453                     | 16 022                     |
| III) All remaining goods and services              | 54 913       | 27 020              | 27 893          | 6 5 2 9        | 2 0 5 3             | 4 477           | 448                     | 61 891                     |
| 13 – Remaining goods                               | 41 304       | 17 053              | 24 251          | 5 186          | 1 593               | 3 593           | 149                     | 46 639                     |
| 14 – Remaining services                            | 13 609       | 9 967               | 3 642           | 1 344          | 460                 | 884             | 299                     | 15 252                     |
| Total  | 197 624      | 123 600             | 74 024          | 31 319         | 13 072              | 18 248          | 18 042                  | 246 985                    |

There may be deviations in the totals due to rounding in the subtotals.

# 2.2-2 Tourit expenses of residents in Germany

| 1  | ,          |         |         |         |         |
|--|------------|---------|---------|---------|---------|
|  | 2015       | 2016    | 2017    | 2018    | 2019    |
|  | Mill. Euro |         |         |         |         |
| I) Internationally defined touristic products      | 136 422    | 137 641 | 142 521 | 145 756 | 148 793 |
| 1 – Accommodation services for visitors            | 30 992     | 31 881  | 33 398  | 35 009  | 36 735  |
| 2 – Food and beverage serving services             | 41 206     | 42 096  | 45 143  | 46 494  | 46 547  |
| 3 – Railway passenger services                     | 3 268      | 3 4 4 6 | 3 466   | 3 697   | 3 831   |
| 4 – Road passenger transport services              | 16 005     | 14 976  | 14 927  | 14 465  | 14 326  |
| 5 – Water passenger transport services             | 1 320      | 1 660   | 1 544   | 1 641   | 1 880   |
| 6 – Air passenger transport services               | 16 747     | 15 363  | 14 292  | 13 954  | 14 558  |
| 7 – Transport equipment rental services            | 1 805      | 2 0 2 6 | 2 2 2 9 | 2 440   | 2 644   |
| 8 – Travel agencies and other reservation services | 7 606      | 8 332   | 9 334   | 9 310   | 9 764   |
| 9 – Sport, recreational and cultural services      | 17 473     | 17 860  | 18 188  | 18 747  | 18 508  |
| II) Other touristic products                       | 38 053     | 36 350  | 36 193  | 35 979  | 36 302  |
| 10 – Health services                               | 6 4 1 4    | 6 913   | 7 425   | 7 478   | 7 873   |
| 11 – Food  | 11 483     | 11 821  | 12 103  | 12 418  | 12 406  |
| 12 – Fuel  | 20 1 56    | 17 616  | 16 665  | 16 082  | 16 022  |
| III) All remaining goods and services              | 56 953     | 58 679  | 60 277  | 62 989  | 61 891  |
| 13 – Remaining goods                               | 44 213     | 44 826  | 45 313  | 47 728  | 46 639  |
| 14 – Remaining services                            | 12 740     | 13 853  | 14 964  | 15 261  | 15 252  |
| Total  | 231 428    | 232 670 | 238 991 | 244 724 | 246 985 |
|  |            |         |         |         |         |

# 2.3 TSA 3 - Tourist Expenses of Residents Abroad at Purchaser's Prices

Another part of the economic factor tourism is the expenditures of residents during their tourist trips abroad. Table 2.3-1 contains the tourist expenditures of residents abroad at purchaser's prices differentiated according to type of trip and divided into tourist product groups. In 2019, tourism spending by residents abroad amounted to EUR 125.4 billion. Of this, 85% or EUR 106.0 billion were accounted for by private travelers and 15% or EUR 19.4 billion by business travelers.

For both private and business travelers, the spending of overnight guests was significantly higher than that of day trippers. The breakdown of tourism expenditures by product group shows further differences in spending behavior depending on the types of travel. For private as well as business overnight guests, the expenditure for accommodation services was the largest expenditure position with 29% and 35% respectively. For private day trippers, on the other hand, it was the remaining goods with 34% or EUR 2.6 billion and for business day trippers it was expenditure on fuel with 29% or EUR 74.0 million.

When analyzing the time series of TSA 3, one special feature must be taken into account. Due to a methodological change in the 2018 tourism statistics, the data of the time series are only comparable to a limited extent. Table 2.3-2 shows the results of tourism spending by residents abroad for the reporting years 2015 to 2019, given out separately according to tourism product groups. In the period from 2015 to 2019, tourism spending by residents abroad rose by 52% from EUR 82.5 billion to EUR 125.4 billion. The largest increase took place between 2017 and 2018, when domestic spending abroad increased by EUR 27.2 billion. Expenditures for health services increased the most proportionally by 65%, in absolute figures however, only by EUR 0.4 billion. In contrast, the greatest absolute growth was recorded in accommodation services (EUR 12.2 billion, 53%) and food and beverage serving services (EUR 8.4 billion, 52%).

# 2.3.1 Tourist expenses of residents abroad by type of trip, 2019

|  | Private Trip | Private Trips       |                   |          | Business Trips      |                                 |         |  |
|--|--------------|---------------------|-------------------|----------|---------------------|---------------------------------|---------|--|
|  |              |                     | Total             | of which |                     | of residents<br>abroad<br>Total |         |  |
|  |              | Overnight<br>guests | Day trip-<br>pers |          | Overnight<br>guests | Day trip-<br>pers               | _       |  |
|  | Mill. Euro   |                     |                   |          |                     |                                 |         |  |
| I) Internationally defined touristic products      | 76 350       | 72 589              | 3 761             | 15 257   | 15 146              | 111                             | 91 607  |  |
| 1 – Accommodation services for visitors            | 28 5 2 5     | 28 5 2 5            | -                 | 6 780    | 6 780               | -                               | 35 304  |  |
| 2 – Food and beverage serving services             | 21 189       | 19 292              | 1 897             | 3 4 4 8  | 3 386               | 63                              | 24 638  |  |
| 3 – Railway passenger services                     | 109          | 96                  | 13                | 55       | 50                  | 5                               | 163     |  |
| 4 – Road passenger transport services              | 3 045        | 2 823               | 223               | 672      | 658                 | 14                              | 3 717   |  |
| 5 – Water passenger transport services             | -            | -                   | -                 | -        | -                   | -                               | -       |  |
| 6 – Air passenger transport services               | 14 376       | 13 653              | 722               | 3 197    | 3 174               | 24                              | 17 573  |  |
| 7 – Transport equipment rental services            | -            | -                   | -                 | -        | -                   | -                               | -       |  |
| 8 – Travel agencies and other reservation services | -            | -                   | -                 | -        | -                   | -                               | -       |  |
| 9 – Sport, recreational and cultural services      | 9 106        | 8 201               | 906               | 1 105    | 1 099               | 7                               | 10 212  |  |
| II) Other touristic products                       | 8 5 1 8      | 7 699               | 818               | 1074     | 994                 | 80                              | 9 591   |  |
| 10 – Health services                               | 1 0 9 7      | 1 097               | -                 | -        | -                   | -                               | 1 097   |  |
| 11 – Food  | 5 508        | 4 899               | 609               | 685      | 679                 | 6                               | 6 193   |  |
| 12 - Fuel  | 1 913        | 1 704               | 209               | 388      | 315                 | 74                              | 2 301   |  |
| III) All remaining goods and services              | 21 150       | 18 269              | 2 880             | 3 0 2 1  | 2 961               | 60                              | 24 171  |  |
| 13 – Remaining goods                               | 17 691       | 15 134              | 2 5 5 8           | 2 5 5 8  | 2 505               | 54                              | 20 250  |  |
| 14 – Remaining services                            | 3 458        | 3 1 3 6             | 323               | 463      | 456                 | 7                               | 3 921   |  |
| Total  | 106 017      | 98 558              | 7 459             | 19 352   | 19 101              | 251                             | 125 369 |  |

There may be deviations in the totals due to rounding in the subtotals.

#### 2.3.2 Tourist expenses of residents abroad

| -  |            |        |        |         |         |
|--|------------|--------|--------|---------|---------|
|  | 2015       | 2016   | 2017   | 2018    | 2019    |
|  | Mill. Euro |        |        |         |         |
| I) Internationally defined touristic products      | 60 165     | 61 039 | 68 422 | 88 440  | 91 607  |
| 1 – Accommodation services for visitors            | 23 056     | 23 254 | 26 049 | 33 922  | 35 304  |
| 2 – Food and beverage serving services             | 16 238     | 16 572 | 18 593 | 23 904  | 24 638  |
| 3 – Railway passenger services                     | 116        | 114    | 126    | 153     | 163     |
| 4 – Road passenger transport services              | 2 472      | 2 501  | 2 800  | 3 579   | 3 717   |
| 5 – Water passenger transport services             | -          | -      | -      | -       | -       |
| 6 – Air passenger transport services               | 11 606     | 11 737 | 13 142 | 16 917  | 17 573  |
| 7 – Transport equipment rental services            | -          | -      | -      | -       | -       |
| 8 – Travel agencies and other reservation services | -          | -      | -      | -       | -       |
| 9 – Sport, recreational and cultural services      | 6 677      | 6 862  | 7 711  | 9 966   | 10 212  |
| II) Other touristic products                       | 6 286      | 6 452  | 7 258  | 9 354   | 9 591   |
| 10 – Health services                               | 666        | 701    | 797    | 1 092   | 1 097   |
| 11 – Food  | 4 067      | 4 178  | 4 693  | 6 0 4 1 | 6 193   |
| 12 – Fuel  | 1 552      | 1 573  | 1 768  | 2 2 2 1 | 2 301   |
| III) All remaining goods and services              | 16 081     | 16 471 | 18 473 | 23 516  | 24 171  |
| 13 – Remaining goods                               | 13 513     | 13 837 | 15 514 | 19 696  | 20 250  |
| 14 – Remaining services                            | 2 568      | 2 633  | 2 958  | 3 820   | 3 921   |
| Total  | 82 532     | 83 962 | 94 153 | 121 310 | 125 369 |

# 2.4 TSA 4 – Domestic tourist Consumption at Purchaser's Prices

In order to record the extent of tourist consumption in Germany, the expenditures of foreign and domestic tourists were combined. TSA table 4 shows the total domestic tourist demand at purchaser's prices. The columns in table 2.4-1 differentiate between the various categories of tourists, while the rows provide information on the expenditure on goods and services. "Other consumption" refers to goods and services purchased before the actual vacation. This includes sports equipment that was bought for a tourist activity such as ski boots, tennis rackets, bicycles or even caravans or expenses for holiday apartments (including imputed rents).

Total domestic tourism consumption in 2019 amounted to EUR 329.6 billion, direct expenditure (excluding other consumption) amounted to EUR 293.9 billion, of which around 84% (EUR 247.0 billion) came from residents. The different spending structures of residents and foreigners are shown in Table 2.4-1. As expected, foreign guests used 29% (EUR 13.6 billion) of their spending on accommodation services, a larger proportion than residents (15%, EUR 36.7 billion). In addition, foreign tourists used relatively more air and water passenger transport services (17% and 3% compared to 6% and 1%), which is also reflected in fuel expenditure (1% compared to 6%). Conversely, domestic residents are particularly interested in sport, recreational and cultural services, on which EUR 18.5 billion was spent in 2019, while foreign tourism consumption for these only amounted to EUR 157 million.

Overall, accommodation (EUR 54.4 billion) and food and beverage serving services (EUR 57.3 billion), followed by sport, recreational and cultural services (EUR 29.7 billion), were particularly important for the German tourism industry. The product category "remaining goods" was the largest item with slightly more than 21 % of total domestic consumption. It includes the purchase of goods from the retail trade that are not mainly made by tourists, such as bags, furniture, clothing, etc. and emphasizes the importance of "shopping" for the economy.

Over time, tourism expenditure in Germany rose from EUR 302.3 billion in 2015 to EUR 329.6 billion in 2019, thereby increased by EUR 27.2 billion or around 9%. The internationally defined tourism products have risen by around 11%, most of which were the transport equipment rental services (49%), water passenger transport services (47%) and the expenses for travel agencies and other reservation services (29%); on the other hand, spending on road passenger transport services has continuously decreased (– 10%). Expenditures for other touristic products (– 4%) were also declining slightly, the main reason being the falling spending on fuel (– 20%). The tourist expenditures for all remaining goods and services increased by 11%.

| 2.4-1 Domestic tourist consumption at purchaser's prices according to tourist categories, 2019 |
|--|
|--|

|  | of which     |   |         |          | Tourist dome-<br>stic consump- |  |  |
|--|--------------|---|---------|----------|--------------------------------|--|--|
|  | Tourist dome | Tourist domestic expenditure Other con- |         |          |                                |  |  |
|  | of which     |   | Total   | sumption |                                |  |  |
|  | Foreigners   |   |         |          |                                |  |  |
|  | Mill. Euro   |   |         |          |                                |  |  |
| I) Internationally defined touristic products      | 35 855       | 148 793                                 | 184 648 | 15 120   | 199 768                        |  |  |
| 1 – Accommodation services for visitors            | 13 551       | 36 735                                  | 50 287  | 4 078    | 54 365                         |  |  |
| a) Conventional accommodation services             | 13 551       | 36 735                                  | 50 287  | -        | 50 287                         |  |  |
| b) Imputed accommodation services                  | -            | -                                       | -       | 4 078    | 4 078                          |  |  |
| 2 – Food and beverage serving services             | 10 801       | 46 547                                  | 57 348  | -        | 57 348                         |  |  |
| 3 – Railway passenger services                     | 373          | 3 831                                   | 4 204   | -        | 4 204                          |  |  |
| 4 – Road passenger transport services              | 814          | 14 326                                  | 15 140  | -        | 15 140                         |  |  |
| 5 – Water passenger transport services             | 1 190        | 1 880                                   | 3 070   | -        | 3 070                          |  |  |
| 6 – Air passenger transport services               | 7 880        | 14 558                                  | 22 438  | -        | 22 438                         |  |  |
| 7 – Transport equipment rental services            | 242          | 2 644                                   | 2 886   | -        | 2 886                          |  |  |
| 8 – Travel agencies and other reservation services | 848          | 9 764                                   | 10 612  | -        | 10 612                         |  |  |
| 9 – Sport, recreational and cultural services      | 157          | 18 508                                  | 18 665  | 11 042   | 29 706                         |  |  |
| II) Other touristic products                       | 2 203        | 36 302                                  | 38 505  | -        | 38 505                         |  |  |
| 10 – Health services                               | 254          | 7 873                                   | 8 1 2 7 | -        | 8 127                          |  |  |
| 11 - Food  | 1 550        | 12 406                                  | 13 957  | -        | 13 957                         |  |  |
| 12 - Fuel  | 399          | 16 022                                  | 16 421  | -        | 16 421                         |  |  |
| III) All remaining goods and services              | 8 8 2 6      | 61 891                                  | 70 717  | 20 569   | 91 285                         |  |  |
| 13 – Remaining goods                               | 6 101        | 46 639                                  | 52 740  | 16 676   | 69 416                         |  |  |
| 14 – Remaining services                            | 2 7 2 5      | 15 252                                  | 17 977  | 3 892    | 21 869                         |  |  |
| Total  | 46 884       | 246 985                                 | 293 870 | 35 689   | 329 558                        |  |  |

There may be deviations in the totals due to rounding in the subtotals.

|  | 2015       | 2016       | 2017    | 2018    | 2019    |  |  |  |  |
|--|------------|------------|---------|---------|---------|--|--|--|--|
|  | Mill. Euro | Mill. Euro |         |         |         |  |  |  |  |
| I) Internationally defined touristic products      | 180 137    | 183 189    | 190 779 | 196 100 | 199 768 |  |  |  |  |
| 1 – Accommodation services for visitors            | 46 381     | 47 711     | 50 001  | 52 248  | 54 365  |  |  |  |  |
| 2 – Food and beverage serving services             | 50 803     | 51 965     | 55 467  | 57 078  | 57 348  |  |  |  |  |
| 3 – Railway passenger services                     | 3 590      | 3 784      | 3 818   | 4 066   | 4 204   |  |  |  |  |
| 4 – Road passenger transport services              | 16 767     | 15 756     | 15 706  | 15 271  | 15 140  |  |  |  |  |
| 5 – Water passenger transport services             | 2 087      | 2 5 2 0    | 2 5 2 3 | 2 7 2 7 | 3 070   |  |  |  |  |
| 6 – Air passenger transport services               | 23 009     | 22 491     | 21 964  | 21 879  | 22 438  |  |  |  |  |
| 7 – Transport equipment rental services            | 1 938      | 2 203      | 2 4 5 1 | 2 7 2 1 | 2 886   |  |  |  |  |
| 8 – Travel agencies and other reservation services | 8 219      | 9 0 5 1    | 10 093  | 10 082  | 10 612  |  |  |  |  |
| 9 – Sport, recreational and cultural services      | 27 344     | 27 709     | 28 7 56 | 30 027  | 29 706  |  |  |  |  |
| II) Other touristic products                       | 40 020     | 38 369     | 38 270  | 38 115  | 38 505  |  |  |  |  |
| 10 – Health services                               | 6 663      | 7 155      | 7 656   | 7 7 2 6 | 8 1 2 7 |  |  |  |  |
| 11 – Food  | 12 796     | 13 192     | 13 554  | 13 890  | 13 957  |  |  |  |  |
| 12 – Fuel  | 20 561     | 18 022     | 17 060  | 16 500  | 16 421  |  |  |  |  |
| III) All remaining goods and services              | 82 191     | 85 397     | 88 162  | 92 245  | 91 285  |  |  |  |  |
| 13 – Remaining goods                               | 63 890     | 65 513     | 66 903  | 70 586  | 69 416  |  |  |  |  |
| 14 – Remaining services                            | 18 301     | 19 884     | 21 259  | 21 659  | 21 869  |  |  |  |  |
| Total  | 302 348    | 306 955    | 317 211 | 326 461 | 329 558 |  |  |  |  |

# 2.5 TSA 5 – Output and Production Values of Tourism and other Sectors of the Economy at basic Prices

Tourist expenditures stand in juxtaposition to tourism-related production. Which sectors of the economy are dependent on tourism expenditure? And to what extent? TSA - Table 5 shows the output and mainly the production from a touristic viewpoint. The output in Germany is determined by economic sector and by product group.

For the reporting year 2019, the economic output was around EUR 6,304.8 billion, of which EUR 279.5 billion were destined for tourism (see Table 2.5-1). A further EUR 43.6 billion in imports were added to the tourism volume, which corresponds to 3% of the total import volume.

Tourism-relevant industries produced EUR 199.3 billion of the output intended for tourism, other industries EUR 80.2 billion. This includes goods and services that are consumed by tourists but come from non-tourist industries, such as clothing or jewelry.

As expected, most dependent on tourism were the accommodation industry with 95% and the food and beverage service industry with 74% of production. The relatively low tourism share of 4% in renting and leasing of cars and light motor vehicles (car rental) was due to the fact that the leasing business is part of the economic sector and makes up the majority of it. The importance of tourism in water transport was also low at 9%, since the transport of goods is of great economic importance here. In air transport, however, 66% of production was due to tourism.

Table 2.5-1 shows which goods and services were produced by the tourist economic sectors. For example, the food and beverage service industry also produces food valued at EUR 6 million as a secondary activity, which it sells to tourists.

At the end of TSA table 5 one can see how important the domestic tourism offer is. The output for tourism purposes – production and imports – amounted to 4.2% of the total output in 2019 (EUR 323.1 billion).

Table 2.5-2 shows the results of the calculations of tourism-relevant output in Germany, regardless of the economic sector in which it was generated, for the reporting years 2015 to 2019 in accordance with the national accounts status from summer 2020. EUR 288.9 billion in 2015 to EUR 323.1 billion in 2019, the tourism share developed in an opposite fashion. In 2015, the share for tourism purposes was calculated at 4.30%, afterwards the share decreased slightly in 2018 (4.19%) and then rose again to 4.22% in 2019. I. e. even if the tourist supply grew, this growth was less than the growth of non-tourist goods.

#### 2.5-1 Output of tourism and other branches of the economy at basic prices 2019

|   | Production f       | or tourist purop          | ises by industr                               | у                 |                   |                    |                  |  |  |  |                               |                               | Total of              | Other      | Total output            | Imports <sup>1</sup> | Output                  | Total output | Share (for           |
|---|--------------------|---------------------------|---|-------------------|-------------------|--------------------|------------------|--|--|--|-------------------------------|-------------------------------|-----------------------|------------|-------------------------|----------------------|-------------------------|--------------|----------------------|
|   | Accommo-<br>dation | Real estate<br>activities | Food and<br>beverage<br>service<br>activities | Rail<br>transport | Road<br>transport | Water<br>transport | Air<br>transport | Renting<br>and leasing<br>of cars and<br>light motor<br>vehicles | Travel<br>agencies<br>and tour<br>operator<br>activities | Sport,<br>recreational<br>and cultural<br>services | Other<br>economic<br>services | Human<br>health<br>activities | tourist<br>industries | industries | for tourist<br>purposes |                      | for tourist<br>purposes |              | tourist<br>purposes) |
|   | Mill. Euro         |                           |   |                   |                   |                    |                  |  |  |  | 1                             |                               |                       |            |                         |                      |                         |              | %                    |
| I) Internationally defined<br>touristic products      | 35 716             | 4 077                     | 49 310  | 3 529             | 16 771            | 2 116              | 17 400           | 2 474  | 33 070   | 20 353   | C                             | 0                             | 184 818               | 7 217      | 192 035                 | 19 587               | 211 622                 | 614 494      | 34,44                |
| 1 – Accommodation services<br>for visitors            | 35 716             | 4 077                     | 0   | 0                 | 0                 | 0                  | 0                | 0  | 0  | 0  | C                             | 0 0                           | 39 793                | 421        | 40 214                  | 10 186               | 50 400                  | 337 009      | 14,96                |
| a) Conventional accommoda-<br>tion services           | 35 716             | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0  | 0  | 0  | C                             | 0 0                           | 35 716                | 421        | 36 137                  | 10 186               | 46 323                  | 46 882       | 98,81                |
| b) Imputed accommodation<br>services                  | 0                  | 4 077                     | 0   | 0                 | 0                 | 0                  | 0                | 0  | 0  | 0  | C                             | 0 0                           | 4 077                 | 0          | 4 077                   | 0                    | 4 077                   | 290 127      | 1,41                 |
| 2 – Food and beverage<br>serving services             | 0                  | 0                         | 49 310  | 0                 | 0                 | 0                  | 0                | 0  | 0  | 0  | C                             | 0                             | 49 310                | 0          | 49 310                  | 2 501                | 51 812                  | 56 265       | 92,08                |
| 3 – Railway passenger services                        | 0                  | 0                         | 0   | 3 529             | 0                 | 0                  | 0                | 0  | 0  | 0  | C                             | 0                             | 3 529                 | 0          | 3 529                   | 293                  | 3 822                   | 4 916        | 77,74                |
| 4 - Road passenger transport<br>services              | 0                  | 0                         | 0   | 0                 | 16 743            | 0                  | 0                | 0  | 39   | 0  | C                             | 0                             | 16 782                | 146        | 16 928                  | 73                   | 17 001                  | 46 670       | 36,43                |
| 5 – Water passenger transport<br>services             | 0                  | 0                         | 0   | 0                 | 0                 | 2 116              | 0                | 0  | 0  | 0  | C                             | 0                             | 2 116                 | 0          | 2 116                   | 865                  | 2 981                   | 5 581        | 53,42                |
| 6 – Air passenger transport<br>services               | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 17 400           | 0  | 0  | 0  | C                             | 0 0                           | 17 400                | 0          | 17 400                  | 3 915                | 21 315                  | 23 591       | 90,35                |
| 7 – Transport equipment<br>rental services            | 0                  | 0                         | 0   | 0                 | 28                | 0                  | 0                | 2 474  | 0  | 0  | C                             | 0                             | 2 502                 | 32         | 2 534                   | 144                  | 2 678                   | 46 471       | 5,76                 |
| 8 – Travel agencies and other<br>reservation services | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0  | 33 031   | 0  | C                             | 0                             | 33 031                | 0          | 33 031                  | 192                  | 33 223                  | 33 223       | 100,00               |
| 9 – Sport, recreational and<br>cultural services      | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0  | 0  | 20 353   | C                             | 0 0                           | 20 353                | 6 618      | 26 972                  | 1 419                | 28 390                  | 60 768       | 46,72                |
| II) Other touristic products                          | 2                  | 0                         | 6   | 0                 | 0                 | 0                  | 0                | 0  | 0  | 0  | C                             | 8 108                         | 8 116                 | 11 657     | 19 773                  | 6 410                | 26 184                  | 482 453      | 5,43                 |
| 10 – Health services                                  | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0  | 0  | 0  | C                             | 8 108                         | 8 108                 | 0          | 8 108                   | 3                    | 8 1 1 1                 | 118 980      | 6,82                 |
| 11 – Food   | 2                  | 0                         | 6   | 0                 | 0                 | 0                  | 0                | 0  | 0  | 0  | C                             | 0                             | 8                     | 6 496      | 6 504                   | 2 753                | 9 257                   | 310 856      | 2,98                 |
| 12 – Fuel   | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0  | 0  | 0  | C                             | 0                             | 0                     | 5 161      | 5 161                   | 3 655                | 8 816                   | 52 617       | 16,76                |
| III) All remaining goods and services                 | 14                 | 262                       | 146   | 93                | 590               | 255                | 81               | 285  | 1 414  | 145  | 1 621                         | 1 442                         | 6 349                 | 61 319     | 67 668                  | 17 651               | 85 319                  | 6 566 209    | 1,30                 |
| 13 – Remaining goods                                  | 1                  | 1                         | 1   | 0                 | 10                | 5                  | 1                | 2  | 0  | 10   | 2                             | 3                             | 35                    | 32 087     | 32 122                  | 14 964               | 47 086                  | 3 176 801    | 1,48                 |
| 14 – Remaining services                               | 14                 | 260                       | 145   | 93                | 581               | 249                | 80               | 283  | 1 414  | 135  | 1 619                         | 1 4 3 9                       | 6 313                 | 29 232     | 35 545                  | 2 688                | 38 233                  | 3 389 408    | 1,13                 |
| Production for tourist purposes                       | 35 733             | 4 339                     | 49 462  | 3 623             | 17 362            | 2 371              | 17 481           | 2 760  | 34 484   | 20 498   | 1 621                         | 9 5 5 1                       | 199 283               | 80 193     | 279 476                 | 43 649               | 323 125                 | -            | -                    |
| Total production                                      | 37 530             | 440 756                   | 67 077  | 13 098            | 100 437           | 27 229             | 26 670           | 69 090   | 36 234   | 56 684   | 65 047                        | 251 237                       | 1 191 089             | 5 113 754  | 6 304 843               | 1 358 313            | 7 663 156               | -            | -                    |
|   | %                  |                           |   |                   |                   |                    |                  |  |  |  |                               |                               |                       |            |                         |                      |                         |              |                      |
| Touristic share                                       | 95,21              | 0,98                      | 73,74   | 27,66             | 17,29             | 8,71               | 65,54            | 3,99   | 95,17  | 36,16  | 2,49                          | 3,80                          | 16,73                 | 1,57       | 4,43                    | 3,21                 | 4,22                    | -            | -                    |

There may be deviations in the totals due to rounding in the subtotals.

1 (for tourist purposes) (cif) without consumption spending of residents in the rest of the world.

#### 2.5-2 Output of total economy and tourism share at basic prices

|  | 2015                              |              |                                    | 2016                              |              |                                    | 2017                              |              |                                    | 2018                              |              |                                    | 2019                              |              |                                    |
|--|-----------------------------------|--------------|------------------------------------|-----------------------------------|--------------|------------------------------------|-----------------------------------|--------------|------------------------------------|-----------------------------------|--------------|------------------------------------|-----------------------------------|--------------|------------------------------------|
|  | Output<br>for tourist<br>purposes | Total output | Share (for<br>tourist<br>purposes) | Output<br>for tourist<br>purposes | Total output | Share (for<br>tourist<br>purposes) | Output<br>for tourist<br>purposes | Total output | Share (for<br>tourist<br>purposes) | Output<br>for tourist<br>purposes | Total output | Share (for<br>tourist<br>purposes) | Output<br>for tourist<br>purposes | Total output | Share (for<br>tourist<br>purposes) |
|  | Mill. Euro                        |              | %                                  |
| I) Internationally defined touristic products      | 187 869                           | 545 453      | 34,44                              | 189 939                           | 561 070      | 33,85                              | 199 639                           | 582 080      | 34,30                              | 205 497                           | 602 520      | 34,11                              | 211 622                           | 614 494      | 34,44                              |
| 1 – Accommodation services for visitors            | 43 140                            | 304 458      | 14,17                              | 44 441                            | 312 736      | 14,21                              | 46 572                            | 322 518      | 14,44                              | 48 630                            | 332 362      | 14,63                              | 50 400                            | 337 009      | 14,96                              |
| a) Conventional accommodation services             | 39 508                            | 39 980       | 98,82                              | 40 706                            | 41 184       | 98,84                              | 42 723                            | 43 115       | 99,09                              | 44 664                            | 45 146       | 98,93                              | 46 323                            | 46 882       | 98,81                              |
| b) Imputed accommodation services                  | 3 632                             | 264 478      | 1,37                               | 3 7 3 5                           | 271 552      | 1,38                               | 3 849                             | 279 403      | 1,38                               | 3 966                             | 287 216      | 1,38                               | 4 077                             | 290 127      | 1,41                               |
| 2 – Food and beverage serving services             | 45 390                            | 46 871       | 96,84                              | 46 331                            | 48 525       | 95,48                              | 49 611                            | 51 696       | 95,97                              | 51 143                            | 53 670       | 95,29                              | 51 812                            | 56 265       | 92,08                              |
| 3 – Railway passenger services                     | 3 248                             | 4 297        | 75,58                              | 3 421                             | 4 4 1 4      | 77,51                              | 3 466                             | 4 390        | 78,94                              | 3 696                             | 4 719        | 78,33                              | 3 822                             | 4 916        | 77,74                              |
| 4 – Road passenger transport services              | 15 416                            | 40 979       | 37,62                              | 14 592                            | 43 062       | 33,89                              | 14 617                            | 43 618       | 33,51                              | 14 231                            | 45 421       | 31,33                              | 17 001                            | 46 670       | 36,43                              |
| 5 – Water passenger transport services             | 2 016                             | 3 705        | 54,42                              | 2 439                             | 4 002        | 60,95                              | 2 4 4 4                           | 4 716        | 51,82                              | 2 643                             | 5 270        | 50,15                              | 2 981                             | 5 581        | 53,42                              |
| 6 – Air passenger transport services               | 21 899                            | 24 743       | 88,51                              | 21 420                            | 23 889       | 89,67                              | 20 841                            | 22 844       | 91,23                              | 20 7 1 5                          | 22 967       | 90,19                              | 21 315                            | 23 591       | 90,35                              |
| 7 – Transport equipment rental services            | 1 820                             | 40 101       | 4,54                               | 2 082                             | 42 469       | 4,90                               | 2 306                             | 43 354       | 5,32                               | 2 545                             | 45 933       | 5,54                               | 2 678                             | 46 471       | 5,76                               |
| 8 – Travel agencies and other reservation services | 29 103                            | 29 103       | 100,00                             | 28 918                            | 28 918       | 100,00                             | 32 369                            | 32 369       | 100,00                             | 33 279                            | 33 279       | 100,00                             | 33 223                            | 33 223       | 100,00                             |
| 9 – Sport, recreational and cultural services      | 25 837                            | 51 196       | 50,47                              | 26 294                            | 53 055       | 49,56                              | 27 414                            | 56 576       | 48,46                              | 28 615                            | 58 899       | 48,58                              | 28 390                            | 60 768       | 46,72                              |
| II) Other touristic products                       | 24 204                            | 437 693      | 5,53                               | 23 771                            | 441 763      | 5,38                               | 24 271                            | 469 231      | 5,17                               | 24 745                            | 477 261      | 5,18                               | 26 184                            | 482 453      | 5,43                               |
| 10 – Health services                               | 6 650                             | 100 685      | 6,60                               | 7 142                             | 105 034      | 6,80                               | 7 641                             | 109 158      | 7,00                               | 7 711                             | 113 554      | 6,79                               | 8 111                             | 118 980      | 6,82                               |
| 11 – Food  | 8 368                             | 288 411      | 2,90                               | 8 681                             | 294 137      | 2,95                               | 8 918                             | 314 650      | 2,83                               | 9 1 5 2                           | 309 660      | 2,96                               | 9 257                             | 310 856      | 2,98                               |
| 12 – Fuel  | 9 186                             | 48 597       | 18,90                              | 7 949                             | 42 592       | 18,66                              | 7 711                             | 45 423       | 16,98                              | 7 882                             | 54 047       | 14,58                              | 8 816                             | 52 617       | 16,76                              |
| III) All remaining goods and services              | 76 871                            | 5 732 242    | 1,34                               | 80 220                            | 5 902 717    | 1,36                               | 82 862                            | 6 218 058    | 1,33                               | 86 462                            | 6 473 447    | 1,34                               | 85 319                            | 6 566 209    | 1,30                               |
| 13 – Remaining goods                               | 42 529                            | 2 818 277    | 1,51                               | 44 463                            | 2 880 185    | 1,54                               | 45 414                            | 3 066 666    | 1,48                               | 48 042                            | 3 189 230    | 1,51                               | 47 086                            | 3 176 801    | 1,48                               |
| 14 – Remaining services                            | 34 342                            | 2 913 965    | 1,18                               | 35 756                            | 3 022 532    | 1,18                               | 37 448                            | 3 151 392    | 1,19                               | 38 420                            | 3 284 217    | 1,17                               | 38 233                            | 3 389 408    | 1,13                               |
| Total  | 288 944                           | 6 715 387    | 4,30                               | 293 930                           | 6 905 550    | 4,26                               | 306 771                           | 7 269 369    | 4,22                               | 316 704                           | 7 553 228    | 4,19                               | 323 125                           | 7 663 156    | 4,22                               |

# 2.6 TSA 6 - Tourism Use Table

#### Use

To organize the touristic monetary flows in the economy, the tourist use table is suitable. A use table describes the use flows of the economy, namely the intermediate consumption according to branches of the economy and individual categories of the last use. Table 2.6-1 is the central table of the entire TSA system and contains mentioned last, tourist use at purchaser's prices of the tourist product classes in millions of EUR. Each category is divided into total use and tourism use.

The total use of tourist goods and services in purchaser's prices in 2019 was estimated at EUR 356.7 billion. At EUR 233.5 billion, private consumption expenditures of private, domestic households represents the bulk of the last use of tourist goods and services. Also, tourism products to the value of EUR 20.7 billion were exported. In addition to non-profit institutions serving households (NPISH) (EUR 0.3 billion), the state in particular accounts for EUR 10.6 billion or 36% of the total tourist use in the sports, recreational and cultural services. In the case of a swimming pool, for example, the NPISH would cover their club costs, while the state would subsidize tickets and renovations.

#### **Gross Value Added**

The importance of tourism for the German economy is measured as the share of tourism-specific GVA in total GVA. Table 2.6-2 shows output at basic prices, intermediate consumption at purchaser's prices, GVA and the tourism share of GVA for each sector of the economy. For example, in 2019 the accommodation industry required a total of EUR 18.5 billion in intermediate consumption to create EUR 35.7 billion in output. The GVA was EUR 17.2 billion, which corresponded to a GVA ratio of 48%. The importance of tourism for the economic sector was capital, as 94% of GVA could be traced back to it. The remaining 6% could have stemmed from hotel stays of a non-tourist nature, for example. Overall, the share of tourism-related GVA in total economic GVA was 4%. If one examines tourism-based economic sectors, the share of tourism was higher at 12%; in other economic sectors it played a subordinate role for the GVA (1%).

As expected, tourists were responsible for the majority of GVA in the travel agencies and tour operator activities sector, accounting for 94%. The least significant – out of the selected economic sectors – was tourism with 4% in human health activities and 2% of GVA in the provision of other economic services. Also, in the car rental industry, tourism accounted for a relatively low share of GVA with 4%. The main reason for this was that this branch of industry also includes the leasing business, which is, however, viewed as non-touristy in the TSA calculation.

From 2015 to 2019 (Table 2.6-3), tourism-related GVA rose continuously from EUR 110.5 billion to EUR 123.8 billion. The output, intermediate consumption and GVA for the economy as a whole and tourism developed parallel to each other. In 2015 the GVA share was 4.06%, from 2016 to 2019 it was just under 4 percent. The largest absolute increase of the three values was achieved from 2016 to 2017, when tourism GVA rose by around EUR 4 billion.

2.6-1 Use of tourist products at purchaser's prices, 2019

|   | Intermediat<br>consumptio |                      | Final uses of                               | goods                |  |                      |   |                      |                               |                      |              |                      |  |                            |              |                      | Final uses |                      | Total uses |                      |
|---|---------------------------|----------------------|---|----------------------|--|----------------------|---|----------------------|-------------------------------|----------------------|--------------|----------------------|--|----------------------------|--------------|----------------------|------------|----------------------|------------|----------------------|
|   | consumptio                |                      | Final consum<br>expenditure<br>domestic hou | of private,          | Final consum<br>expenditure<br>institutions s<br>household | of non-profit        | Government<br>consumptio<br>expenditure | n                    | Machinery, e<br>and other fix |                      | Constructior | ו                    | Changes in<br>acquisitions<br>sals of valua<br>statistical d | s less dispo-<br>ables and | Exports, fob |                      |            |                      |            |                      |
|   | Total                     | Value for<br>tourism | Total                                       | Value for<br>tourism | Total  | Value for<br>tourism | Total                                   | Value for<br>tourism | Total                         | Value for<br>tourism | Total        | Value for<br>tourism | Total  | Value for<br>tourism       | Total        | Value for<br>tourism | Total      | Value for<br>tourism | Total      | Value for<br>tourism |
|   | Mill. Euro                | 1                    |   |                      |  |                      |   |                      |                               |                      | 1            | 1                    | 1  | 1                          | 1            |                      |            |                      |            |                      |
| I) Internationally defined touristic products             | 117 578                   | 50 193               | 476 583                                     | 150 289              | 2 365  | 317                  | 16 937                                  | 10 629               | 0                             | 0                    | 0            | 0                    | 713  | 95                         | 16 838       | 15 351               | 513 436    | 176 681              | 631 014    | 226 874              |
| 1 – Accommodation services<br>for visitors                | 15 534                    | 15 495               | 321 218                                     | 34 581               | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 4 376        | 4 288                | 325 594    | 38 870               | 341 128    | 54 365               |
| a) Conventional accommoda-<br>tion services               | 15 534                    | 15 495               | 30 995                                      | 30 503               | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 4 376        | 4 288                | 35 371     | 34 791               | 50 905     | 50 287               |
| <ul> <li>b) Imputed accommodation<br/>services</li> </ul> | 0                         | 0                    | 290 223                                     | 4 078                | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 0            | 0                    | 290 223    | 4 078                | 290 223    | 4 078                |
| 2 – Food and beverage serving<br>services                 | 10 118                    | 9 725                | 47 662                                      | 44 090               | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 4 460        | 3 533                | 52 121     | 47 623               | 62 239     | 57 348               |
| 3 – Railway passenger services                            | 2 534                     | 1 861                | 2 519                                       | 2 161                | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 320          | 181                  | 2 840      | 2 343                | 5 373      | 4 204                |
| 4 – Road passenger transport<br>services                  | 17 415                    | 6 200                | 23 562                                      | 8 844                | 0  | 0                    | 465                                     | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 280          | 95                   | 24 307     | 8 940                | 41 722     | 15 140               |
| 5 – Water passenger transport<br>services                 | 1 264                     | 542                  | 4 328                                       | 2 393                | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 148          | 134                  | 4 476      | 2 528                | 5 741      | 3 070                |
| 6 – Air passenger transport<br>services                   | 9 585                     | 9 069                | 9 205                                       | 6 331                | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 6 218        | 7 038                | 15 423     | 13 368               | 25 008     | 22 438               |
| 7 – Transport equipment rental<br>services                | 42 946                    | 1 694                | 3 690                                       | 1 175                | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 977          | 17                   | 4 667      | 1 192                | 47 612     | 2 886                |
| 8 – Travel agencies and other<br>reservation services     | 3 660                     | 3 660                | 34 057                                      | 34 057               | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 0            | 0                    | 34 057     | 34 057               | 37 718     | 37 718               |
| 9 – Sport, recreational and<br>cultural services          | 14 522                    | 1 945                | 30 341                                      | 16 656               | 2 365  | 317                  | 16 472                                  | 10 629               | 0                             | 0                    | 0            | 0                    | 713  | 95                         | 60           | 64                   | 49 951     | 27 761               | 64 473     | 29 706               |
| II) Other touristic products                              | 198 195                   | 9 0 2 8              | 296 518                                     | 28 375               | 0  | 0                    | 95 510                                  | 0                    | 257                           | 0                    | 0            | 0                    | - 17 058   | 0                          | 84 583       | 1 101                | 459 810    | 29 477               | 658 005    | 38 505               |
| 10 – Health services                                      | 6 717                     | 79                   | 18 500                                      | 8 048                | 0  | 0                    | 94 337                                  | 0                    | 0                             | 0                    | 0            | 0                    | 0  | 0                          | 90           | 0                    | 112 927    | 8 048                | 119 644    | 8 127                |
| 11 – Food   | 128 150                   | 1 720                | 226 415                                     | 11 377               | 0  | 0                    | 1 173                                   | 0                    | 257                           | 0                    | 0            | 0                    | 2 961  | 0                          | 75 952       | 860                  | 306 758    | 12 237               | 434 908    | 13 957               |
| 12 – Fuel   | 63 328                    | 7 229                | 51 603                                      | 8 950                | 0  | 0                    | 0                                       | 0                    | 0                             | 0                    | 0            | 0                    | - 20 019   | 0                          | 8 541        | 242                  | 40 125     | 9 192                | 103 453    | 16 421               |
| III) All remaining goods and<br>services                  | 2 882 912                 | 14 583               | 947 410                                     | 54 839               | 48 858   | 215                  | 592 089                                 | 0                    | 374 034                       | 8 486                | 373 695      | 8 831                | 6 071  | 45                         | 1 491 961    | 4 285                | 3 834 118  | 76 702               | 6 717 030  | 91 285               |
| 13 – Remaining goods                                      | 1 377 144                 | 7 952                | 543 442                                     | 44 974               | 0  | 0                    | 46 917                                  | 0                    | 240 280                       | 6 384                | 305 541      | 7 220                | 14 258   | 81                         | 1 241 372    | 2 805                | 2 391 810  | 61 465               | 3 768 955  | 69 416               |
| 14 – Remaining services                                   | 1 505 768                 | 6 631                | 403 968                                     | 9 865                | 48 858   | 215                  | 545 172                                 | 0                    | 133 754                       | 2 102                | 68 154       | 1 611                | - 8 187  | -36                        | 250 589      | 1 480                | 1 442 308  | 15 238               | 2 948 076  | 21 869               |
| Total   | 3 198 685                 | 73 804               | 1 720 510                                   | 233 503              | 51 223   | 532                  | 704 536                                 | 10 629               | 374 291                       | 8 486                | 373 695      | 8 831                | - 10 274   | 141                        | 1 593 382    | 20 737               | 4 807 364  | 282 860              | 8 006 049  | 356 664              |

#### 2.6-2 Gross value added for tourism products by industry, 2019

|                                   | Tourist indus      | tries                     |   |                   |                   |                    |                  |  |  |        |                               |                               | Total of              | Other      | Economic tot | al                  |
|-----------------------------------|--------------------|---------------------------|---|-------------------|-------------------|--------------------|------------------|--|--|--------|-------------------------------|-------------------------------|-----------------------|------------|--------------|---------------------|
|                                   | Accommo-<br>dation | Real estate<br>activities | Food and<br>beverage<br>service<br>activities | Rail<br>transport | Road<br>transport | Water<br>transport | Air<br>transport | Renting and<br>leasing of<br>cars and<br>light motor<br>vehicles | Travel<br>agencies<br>and tour<br>operator<br>activities |        | Other<br>economic<br>services | Human<br>health<br>activities | tourist<br>industries | industries | Total        | of which<br>tourism |
|                                   | Mill. Euro         |                           |   |                   |                   |                    |                  |  |  |        |                               |                               |                       |            |              |                     |
| l Output                          | 35 733             | 4 339                     | 49 462  | 3 623             | 17 362            | 2 371              | 17 481           | 2 760  | 34 484   | 20 498 | 1 621                         | 9 551                         | 199 283               | 80 193     | 6 304 843    | 279 476             |
| II Total intermediate consumption | 18 486             | 197                       | 25 124  | 2 783             | 8 601             | 1 860              | 12 704           | 797  | 27 251   | 7 674  | 867                           | 3 064                         | 109 409               | 46 234     | 3 198 686    | 155 643             |
| I–II Gross value added            | 17 247             | 4 1 4 2                   | 24 338  | 839               | 8 760             | 511                | 4 777            | 1 962  | 7 233  | 12 824 | 754                           | 6 487                         | 89 874                | 33 959     | 3 106 157    | 123 833             |
|                                   | %                  |                           |   |                   |                   |                    |                  |  |  |        |                               |                               |                       |            |              |                     |
| Share of tourism of GVA           | 94                 | 1                         | 73  | 27                | 18                | 8                  | 63               | 4  | 94   | 36     | 2                             | 4                             | 12                    | 1          | -            | 4                   |

There may be deviations in the totals due to rounding in the subtotals.

#### 2.6-3 Gross value added for tourism products and total

|                                   | 2015              |                     | 2016              |                     | 2017              |                     | 2018              |                     | 2019              |                     |
|-----------------------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|
|                                   | Economic<br>total | of which<br>tourism |
|                                   | Mill. Euro        |                     |                   |                     |                   |                     |                   |                     |                   |                     |
| I Output                          | 5 574 794         | 251 233             | 5 744 492         | 256 206             | 6 015 126         | 266 224             | 6 227 861         | 274 255             | 6 304 843         | 279 476             |
| II Total intermediate consumption | 2 852 775         | 140 767             | 2 922 049         | 143 426             | 3 078 423         | 149 158             | 3 203 439         | 153 760             | 3 198 686         | 155 643             |
| I–II Gross value added            | 2 722 019         | 110 466             | 2 822 443         | 112 779             | 2 936 703         | 117 065             | 3 024 422         | 120 495             | 3 106 157         | 123 833             |
|                                   | %                 |                     |                   |                     |                   |                     |                   |                     |                   |                     |
| Share of tourism of GVA           | -                 | 4,06                | -                 | 4,00                | -                 | 3,99                | -                 | 3,98                | -                 | 3,99                |

# 2.7 TSA 7 – Employed Persons connected to Tourism Consumption

An important part of tourism as an economic factor are the jobs that are dependent on tourism consumption. Table 2.7-1 contains the persons in employment in Germany for the year 2019. The persons in employment associated with tourism consumption are shown in more detail. In the columns the 12 tourism-relevant economic sectors are shown individually, the non-tourism-related industries are summarized in the column "other economic sectors". In addition, the employees are broken down in the rows according to the tourism-relevant product groups as well as the remaining goods and services.

Overall, those in employment associated with tourism consumption accounted for 2.8 million in 2019, which corresponds to 6% of the total number of persons in employment in Germany. In touristic industries, this share was 27% (2.2 million) and in others it was 1.6% (0.6 million). This means that the shares of those in employment with a tourism-related background were higher than the corresponding shares of tourism GVA. This difference was particularly noticeable in touristic economic sectors, where, according to TSA 6, only 12% of GVA but 27% of employment was related to tourism. This difference arose, for example, from the fact that real estate activities are included in the table as a touristic economic sector. In real estate activities, EUR 327 billion GVA was generated, of which only 1.3% was touristic. Without this industry, the share of tourism GVA in the tourism economic sectors is 21% and the share of those employed through tourism was 29%. Table 2.7-2 shows the GVA per employee for tourist and non-tourist activities and employees. One can see that there were big differences between the tourist economic sectors. The GVA per employee ranged from EUR 24,000 in the food and beverage service industry to EUR 681,000 in real estate activities. However, the rates between tourist and non-tourist activities hardly differ.

The results of TSA table 7 and TSA table 6 indicate that tourism contributed to the GVA (4%), but that its relevance to the labor market was greater (6%), due to the high number of people employed in the industries of accommodation and food and beverage serving services.

The share of those in employment with a tourism connection in the economic sector water transport was particularly low (9%), since this industry is dominated by goods transportation. In addition, the car rental industry (4%), the provision of other economic services (2%) and human health activities (4%) had low tourist employment shares.

Table 2.7-3 shows the time series of persons in employment who are employed in a tourism-related manner over the period 2015-2019. Most of the people (around 1 million) provided food and beverage serving services and almost 500,000 accommodation services. Overall, the jobs related to tourism consumption have developed slightly positively since 2015. While around 2.7 million people were employed in the tourism sector in 2015 and 2016, their number rose by 1% to 2.8 million people in 2019. Over the time series, the largest increase in jobs, by 13,000 in absolute numbers, took place in the accommodation sector.

#### 2.7-1 Tourism-related employment according to tourism and other economic sectors, 2019

|  | Tourism-rela       | ated employn              | nent  |                   |                   |                    |                  |   |  |   |                               |                               | Total of              | Other      | Total                               | Total                         | Share of |
|--|--------------------|---------------------------|---|-------------------|-------------------|--------------------|------------------|---|--|---|-------------------------------|-------------------------------|-----------------------|------------|-------------------------------------|-------------------------------|----------|
|  | Accommo-<br>dation | Real estate<br>activities | Food and<br>beverage<br>service<br>activities | Rail<br>transport | Road<br>transport | Water<br>transport | Air<br>transport | Renting<br>and<br>leasing of<br>cars and<br>light motor<br>vehicles | Travel<br>agencies<br>and tour<br>operator<br>activities | Sport,<br>recreati-<br>onal and<br>cultural<br>services | Other<br>economic<br>services | Human<br>health<br>activities | tourist<br>industries | industries | persons<br>of tourist<br>industries | persons in<br>employ-<br>ment | Tourism  |
|  | in 1 000           |                           |   |                   |                   |                    |                  |   |  |   |                               |                               |                       |            |                                     |                               | %        |
| I) Internationally defined touristic<br>products                           | 483                | 4                         | 1 019   | 16                | 150               | 2                  | 44               | 5   | 100  | 221   | 0                             | 0                             | 2 044                 | 52         | 2 097                               | 3 178                         | 6        |
| 1 – Accommodation services for visitors                                    | 483                | 4                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 488                   | 3          | 491                                 | 809                           | 6        |
| a) Conventional accommodation services                                     | 483                | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 483                   | 3          | 486                                 | 492                           | 99       |
| b) Imputed accommodation services  | 0                  | 4                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 4                     | 0          | 4                                   | 316                           |          |
| 2 – Food and beverage serving services                                     | 0                  | 0                         | 1 019   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 1 019                 | 0          | 1 019                               | 1 107                         | 93       |
| 3 – Railway passenger services   | 0                  | 0                         | 0   | 16                | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 16                    | 0          | 16                                  | 20                            | 7        |
| 4 – Road passenger transport services                                      | 0                  | 0                         | 0   | 0                 | 150               | 0                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 150                   | 1          | 151                                 | 414                           | 3        |
| 5 – Water passenger transport services                                     | 0                  | 0                         | 0   | 0                 | 0                 | 2                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 2                     | 0          | 2                                   | 4                             | 5        |
| 6 – Air passenger transport services                                       | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 44               | 0   | 0  | 0   | 0                             | 0                             | 44                    | 0          | 44                                  | 48                            | 90       |
| 7 – Transport equipment rental services                                    | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 5   | 0  | 0   | 0                             | 0                             | 6                     | 0          | 6                                   | 101                           |          |
| <ul> <li>8 – Travel agencies and other<br/>reservation services</li> </ul> | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 100  | 0   | 0                             | 0                             | 100                   | 0          | 100                                 | 100                           | 10       |
| 9 – Sport, recreational and cultural services                              | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 221   | 0                             | 0                             | 221                   | 48         | 269                                 | 575                           | 4        |
| II) Other touristic products   | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 106                           | 106                   | 85         | 191                                 | 3 372                         |          |
| 10 – Health services   | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 106                           | 106                   | 0          | 106                                 | 1 559                         | ;        |
| 11 – Food  | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 0                     | 47         | 47                                  | 1 589                         | 3        |
| 12 - Fuel  | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 0                     | 37         | 37                                  | 224                           | 1        |
| III) All remaining goods and services                                      | 0                  | 2                         | 3   | 0                 | 5                 | 0                  | 0                | 1   | 0  | 2   | 14                            | 19                            | 46                    | 445        | 491                                 | 38 719                        | :        |
| 13 – Remaining goods   | 0                  | 0                         | 0   | 0                 | 0                 | 0                  | 0                | 0   | 0  | 0   | 0                             | 0                             | 0                     | 233        | 233                                 | 15 752                        | :        |
| 14 – Remaining services  | 0                  | 2                         | 3   | 0                 | 5                 | 0                  | 0                | 1   | 0  | 1   | 14                            | 19                            | 46                    | 212        | 258                                 | 22 967                        | :        |
| Tourisms-related employees   | 483                | 6                         | 1 0 2 2                                       | 16                | 155               | 2                  | 44               | 6   | 100  | 222   | 14                            | 125                           | 2 197                 | 582        | 2 779                               | -                             |          |
| Total employees  | 508                | 481                       | 1 386   | 58                | 898               | 25                 | 67               | 149   | 110  | 614   | 554                           | 3 294                         | 8 145                 | 37 124     | 45 269                              | -                             |          |
|  | %                  |                           |   |                   |                   |                    |                  |   |  |   |                               |                               |                       |            |                                     |                               |          |
| Tourism share in %   | 95,21              | 1,30                      | 73,74   | 27,66             | 17,29             | 8,71               | 65,54            | 3,99  | 91,36  | 36,16   | 2,49                          | 3,80                          | 26,97                 | 1,57       | 6,14                                | -                             |          |

2.7-2 Gross value added per employed person for selected economic sectors

|                   | Gross value a      | dded per emplo            | yed person                                    |                   |                   |                    |                  |  |   |  |                              |                               | Total of              | Other      | Total                   |
|-------------------|--------------------|---------------------------|---|-------------------|-------------------|--------------------|------------------|--|---|--|------------------------------|-------------------------------|-----------------------|------------|-------------------------|
|                   | Accommoda-<br>tion | Real estate<br>activities | Food and<br>beverage<br>service<br>activities | Rail<br>transport | Road<br>transport | Water<br>transport | Air<br>transport | Renting and<br>leasing of<br>cars and<br>light motor<br>vehicles | Travel agen-<br>cies and tour<br>operator<br>activities | Sport,<br>recreational<br>and cultural<br>services | Other econo-<br>mic services | Human<br>health<br>activities | tourist<br>industries | industries | persons in<br>employmen |
|                   | in 1 000           |                           |   |                   |                   |                    |                  |  |   |  |                              |                               |                       |            |                         |
|                   | 2015               |                           |   |                   |                   |                    |                  |  |   |  |                              |                               |                       |            |                         |
| total             | 32                 | 640                       | 20  | 58                | 53                | 238                | 129              | 316  | 69  | 52   | 44                           | 47                            | 85                    | 58         | 6                       |
| Value for tourism | 31                 | 610                       | 20  | 57                | 54                | 233                | 126              | 316  | 71  | 52   | 44                           | 47                            | 37                    | 54         | . 4                     |
|                   | 2016               |                           |   |                   |                   |                    |                  |  |   |  |                              |                               |                       |            |                         |
| total             | 33                 | 655                       | 21  | 48                | 53                | 163                | 126              | 335  | 61  | 53   | 45                           | 48                            | 86                    | 60         | 6                       |
| Value for tourism | 32                 | 628                       | 21  | 47                | 54                | 143                | 121              | 335  | 62  | 53   | 45                           | 48                            | 37                    | 55         | 4                       |
|                   | 2017               |                           |   |                   |                   |                    |                  |  |   |  |                              |                               |                       |            |                         |
| total             | 34                 | 658                       | 22  | 51                | 53                | 249                | 119              | 332  | 64  | 55   | 46                           | 49                            | 87                    | 62         | 6                       |
| Value for tourism | 33                 | 633                       | 21  | 50                | 54                | 229                | 115              | 334  | 66  | 55   | 46                           | 49                            | 38                    | 58         | 4                       |
|                   | 2018               |                           |   |                   |                   |                    |                  |  |   |  |                              |                               |                       |            |                         |
| total             | 35                 | 666                       | 23  | 52                | 54                | 236                | 107              | 329  | 71  | 57   | 54                           | 50                            | 89                    | 63         | 6                       |
| Value for tourism | 34                 | 653                       | 24  | 51                | 50                | 228                | 103              | 351  | 72  | 59   | 54                           | 54                            | 39                    | 58         | 4                       |
|                   | 2019               |                           |   |                   |                   |                    |                  |  |   |  |                              |                               |                       |            |                         |
| total             | 36                 | 681                       | 24  | 54                | 55                | 250                | 113              | 329  | 70  | 58   | 55                           | 52                            | 91                    | 64         | 6                       |
| Value for tourism | 36                 | 664                       | 24  | 53                | 56                | 232                | 109              | 329  | 72  | 58   | 55                           | 52                            | 41                    | 58         | 4                       |

#### 2.7-3 Employees relevant to tourism

|  | 2015     | 2016  | 2017  | 2018  | 2019  |
|--|----------|-------|-------|-------|-------|
|  | in 1 000 |       |       |       |       |
| I) Internationally defined touristic products      | 2 076    | 2 064 | 2 095 | 2 100 | 2 097 |
| 1 – Accommodation services for visitors            | 477      | 481   | 485   | 489   | 491   |
| a) Conventional accommodation services             | 473      | 477   | 481   | 485   | 486   |
| b) Imputed accommodation services                  | 4        | 4     | 4     | 4     | 4     |
| 2 – Food and beverage serving services             | 1 015    | 1 008 | 1 037 | 1 040 | 1 019 |
| 3 – Railway passenger services                     | 15       | 15    | 15    | 15    | 16    |
| 4 – Road passenger transport services              | 147      | 139   | 136   | 128   | 151   |
| 5 – Water passenger transport services             | 1        | 2     | 2     | 2     | 2     |
| 6 – Air passenger transport services               | 45       | 45    | 45    | 44    | 44    |
| 7 – Transport equipment rental services            | 4        | 4     | 5     | 6     | 6     |
| 8 – Travel agencies and other reservation services | 96       | 94    | 97    | 100   | 100   |
| 9 – Sport, recreational and cultural services      | 277      | 274   | 273   | 276   | 269   |
| II) Other touristic products                       | 187      | 186   | 188   | 185   | 191   |
| 10 – Health services                               | 96       | 101   | 105   | 104   | 106   |
| 11 – Food  | 47       | 47    | 47    | 47    | 47    |
| 12 - Fuel  | 44       | 38    | 35    | 34    | 37    |
| III) All remaining goods and services              | 485      | 497   | 495   | 502   | 491   |
| 13 – Remaining goods                               | 233      | 240   | 235   | 241   | 233   |
| 14 – Remaining services                            | 252      | 258   | 261   | 261   | 258   |
| Total  | 2 748    | 2 748 | 2 778 | 2 786 | 2 779 |

There may be deviations in the totals due to rounding in the subtotals.

# 2.8 TSA 8 - Gross fixed Capital Formation in the tourist Industries

This section describes the gross fixed capital formation due to tourism. This includes, for example, new beds for a hotel or a tour operator's investment in new computers. The TSA table 8 of the gross fixed capital formation of the tourism industries contains in the columns the sum of the tourism-relevant as well as the other economic sectors, and in the rows based on the economically most important goods groups for the gross capital investments the tourism-relevant goods groups, separated for gross fixed capital formation in construction, machinery and equipment and other fixed assets.

In total, tourism investments in 2019 amounted to EUR 17.3 billion, which corresponds to 2% of total German gross fixed capital formation. Within the tourist economic sectors, 3% i.e. EUR 11.4 billion of the EUR 333.6 billion in investments were used for tourist consumption. Construction accounted for the largest positions in tourism investments with EUR 8.8 billion (51%), followed by other assets with EUR 2.1 billion (12%) and machinery with EUR 1.9 billion (11%). The most tourist investments were made in these products in the other economic sectors as well. Around two thirds of the investments for tourism purposes were made in the tourism economic sectors.

From 2015 to 2019, tourism-related gross fixed capital formation developed largely positively, as shown in Table 2.8-2. They rose by 9% from EUR 15.8 billion in 2015 to EUR 17.3 billion in 2019, after a high of EUR 17.5 billion in 2018. With an increase of 16% in the observed period, the tourist gross fixed capital formation in construction grew especially much. The development of investments in machinery and equipment was similar rose from 2015 to 2018 by 10% from 6.4 billion EUR to 7.1 billion EUR, in 2019 it fell again to the level of 2015.

|  | Total of tourist inc | lustries             | Other industries |                      | Capital formation | Total             |
|--|----------------------|----------------------|------------------|----------------------|-------------------|-------------------|
|  | Total                | Value for<br>tourism | Total            | Value for<br>tourism | Total             | Value for tourism |
|  | Mill. Euro           |                      |                  |                      |                   |                   |
| I) Construction                            | 259 530              | 7 042                | 114 165          | 1 789                | 373 695           | 8 831             |
| other goods                                | 212 197              | 5 757                | 93 344           | 1 462                | 305 541           | 7 220             |
| other services                             | 47 333               | 1 285                | 20 821           | 326                  | 68 154            | 1 611             |
| II) Machinery and equipment                | 74 042               | 4 347                | 166 097          | 2 037                | 240 139           | 6 384             |
| 1 – Machinery                              | 8 092                | 1 020                | 57 856           | 906                  | 65 948            | 1 926             |
| 2 – Computer and office equipment          | 3 390                | 341                  | 9 601            | 151                  | 12 991            | 492               |
| 3 – Communication equipment                | 1 970                | 213                  | 5 575            | 88                   | 7 545             | 301               |
| 4 – Furniture, music and sports equipment  | 3 270                | 656                  | 7 334            | 115                  | 10 604            | 771               |
| 5 – Motor vehicles and motor vehicle parts | 31 108               | 705                  | 28 855           | 0                    | 59 963            | 705               |
| 6 – Other vehicles                         | 11 212               | 0                    | 7 824            | 8                    | 19 036            | 8                 |
| 7 – Other machinery and devices            | 7 994                | 601                  | 16 575           | 260                  | 24 569            | 861               |
| 8 – Other equipment                        | 7 006                | 811                  | 32 477           | 509                  | 39 483            | 1 320             |
| III) Other assets                          | 0                    | 0                    | 134 152          | 2 102                | 134 152           | 2 102             |
| Total                                      | 333 572              | 11 390               | 414 414          | 5 928                | 747 986           | 17 317            |

# 2.8-1 Gross fixed capital formation in tourism and other economic sectors, 2019

There may be deviations in the totals due to rounding in the subtotals.

# 2.8-2 Gross fixed capital formation

|   | 2015       |                      | 2016    |                      | 2017    |                      | 2018     |                      | 2019     |                      |
|---|------------|----------------------|---------|----------------------|---------|----------------------|----------|----------------------|----------|----------------------|
|   | Total      | Value for<br>tourism | Total   | Value for<br>tourism | Total   | Value for<br>tourism | Total    | Value for<br>tourism | Total    | Value for<br>tourism |
|   | Mill. Euro |                      | <u></u> |                      |         |                      | <u>.</u> | ·                    | <u>.</u> | <u>.</u>             |
| I) Construction                               | 291 243    | 7 631                | 307 923 | 7 898                | 321 016 | 8 158                | 344 866  | 8 403                | 373 695  | 8 831                |
| other goods                                   | 235 660    | 6 175                | 247 812 | 6 357                | 257 957 | 6 555                | 280 991  | 6 847                | 305 541  | 7 220                |
| other services                                | 55 583     | 1 456                | 60 111  | 1 541                | 63 059  | 1 603                | 63 875   | 1 556                | 68 154   | 1 611                |
| II) Machinery and equipment                   | 206 943    | 6 416                | 214 122 | 6 707                | 224 492 | 6 694                | 235 619  | 7 079                | 240 139  | 6 384                |
| 1 – Machinery                                 | 58 979     | 1 848                | 62 152  | 2 000                | 63 749  | 2 006                | 66 966   | 2 037                | 65 948   | 1 926                |
| 2 – Computer and office<br>equipment          | 12 391     | 502                  | 12 215  | 509                  | 12 359  | 498                  | 13 244   | 523                  | 12 991   | 492                  |
| 3 – Communication equipment                   | 6 358      | 272                  | 7 225   | 307                  | 8 300   | 340                  | 8 201    | 343                  | 7 545    | 301                  |
| 4 – Furniture, music and sports equipment     | 9 484      | 767                  | 9 792   | 797                  | 9 924   | 758                  | 10 208   | 751                  | 10 604   | 771                  |
| 5 – Motor vehicles and motor<br>vehicle parts | 43 443     | 805                  | 47 340  | 836                  | 52 053  | 854                  | 53 619   | 948                  | 59 963   | 705                  |
| 6 – Other vehicles                            | 15 851     | 3                    | 14 616  | 5                    | 15 167  | 5                    | 16 299   | 7                    | 19 036   | 8                    |
| 7 – Other machinery and devices               | 24 716     | 949                  | 24 886  | 975                  | 24 514  | 931                  | 25 717   | 1 065                | 24 569   | 861                  |
| 8 – Other equipment                           | 35 721     | 1 269                | 35 895  | 1 279                | 38 424  | 1 302                | 41 365   | 1 405                | 39 483   | 1 320                |
| III) Other assets                             | 107 650    | 1 794                | 114 254 | 1 893                | 120 457 | 1 940                | 128 768  | 2 0 2 3              | 134 152  | 2 102                |
| Total   | 605 836    | 15 841               | 636 299 | 16 498               | 665 965 | 16 792               | 709 253  | 17 506               | 747 986  | 17 317               |

# 2.9 TSA 9 – Tourism-related Tax Revenues and Government Expenditures

The government budget is also affected by tourism. On the one hand, part of its income is generated through tourism. On the other hand, the state has tourism-related expenditures, for example in the form of subsidies or salaries. Table 2.9-1 shows the tax revenues and government expenditures related to tourism for the year 2019 calculated within the framework of the project. The tax revenues and government expenditures not related to tourism are summarized in each case, those related to tourism are broken down in more detail.

According to the calculation, the state receives income with possible tourism relation via current taxes in the amount of EUR 49.5 billion, which corresponds to 3% of the total income and 6% of current tax income. Of this, EUR 36.7 billion was generated through production and import taxes, namely taxes on goods and value added tax, and EUR 11.9 billion through income tax (wage tax, corporation tax and assessed income tax). In the income category production and import taxes, tourism-related income is particularly important with a share of 11% of total income, while income tax only has a 3% tourism share. In 2019 tourist-related Government spending amounted to EUR 15.9 billion. The largest expenditure items were employee compensations (EUR 6.9 billion) and intermediate consumption (EUR 5.5 billion).

In the period from 2015 to 2019, the state's income with a possible tourism connection rose from EUR 48.9 billion to EUR 49.5 billion, which corresponds to an increase of 1.3%. The increase in revenues in the areas of VAT (by EUR 0.7 billion), wage tax (by EUR 1.6 billion) and corporation tax (by EUR 0.4 billion) could offset to the decrease in taxes on products (excluding VAT) by EUR 2.0 billion. The state's expenditures with a possible tourism connection rose in the same period by 11% to EUR 15.9 billion in 2019. The state increased its expenditures for intermediate consumption, employee compensation, other subsidies and gross fixed capital formation, all other areas remained unfunded.

| 2.9-1 Tourism-related | d government income and expenditures |
|-----------------------|--------------------------------------|
|-----------------------|--------------------------------------|

|  | 2015       | 2016    | 2017    | 2018    | 2019    | 2015                     | 2016                   | 2017        | 2018       | 2019  |
|--|------------|---------|---------|---------|---------|--------------------------|------------------------|-------------|------------|-------|
|  | Mill. Euro | )       |         |         |         | Share of §<br>respective | government<br>ely in % | t income ar | ıd expendi | ture, |
| Government income                                    | 1 364,9    | 1 426,7 | 1 485,2 | 1 553,8 | 1 610,6 | -                        | -                      | -           | -          | -     |
| of which   |            |         |         |         |         |                          |                        |             |            |       |
| Tourism-related government income                    | 48,9       | 47,5    | 48,0    | 49,6    | 49,5    | 3,6                      | 3,3                    | 3,2         | 3,2        | 3,1   |
| of which   |            |         |         |         |         |                          |                        |             |            |       |
| Taxes on products (without value added tax)          | 13,0       | 12,0    | 11,0    | 11,0    | 11,0    | -                        | -                      | -           | -          | -     |
| Value added tax                                      | 25,0       | 24,0    | 25,0    | 26,0    | 25,7    | -                        | -                      | -           | -          | -     |
| Other taxes on products (government)                 | 1,0        | 1,0     | 1,0     | 1,0     | 0,9     | -                        | -                      | -           | -          | -     |
| Assessed income tax (including solidarity surcharge) | 0,0        | 0,0     | 0,0     | 0,0     | 0,0     | -                        | -                      | -           | -          | -     |
| Wage tax (including solidarity surcharge)            | 9,3        | 9,6     | 10,0    | 10,5    | 10,9    | -                        | -                      | -           | -          | -     |
| Corporation tax                                      | 0,6        | 0,9     | 0,9     | 1,1     | 1,0     | -                        | -                      | -           | -          | -     |
| Trade tax  | 0,0        | 0,0     | 0,0     | 0,0     | 0,0     | -                        | -                      | -           | -          | -     |
| Government expenditure                               | 1 335,8    | 1 390,4 | 1 440,8 | 1 492,2 | 1 558,1 | -                        | -                      | -           | -          | -     |
| of which   |            |         |         |         |         |                          |                        |             |            |       |
| Tourism-related government expenditure               | 14,2       | 14,6    | 14,8    | 15,5    | 15,9    | 1,1                      | 1,0                    | 1,0         | 1,0        | 1,0   |
| of which   |            |         |         |         |         |                          |                        |             |            |       |
| Intermediate consumption                             | 5,0        | 5,2     | 5,3     | 5,4     | 5,5     | -                        | -                      | -           | -          | -     |
| Employee compensation                                | 6,3        | 6,4     | 6,5     | 6,8     | 6,9     | -                        | -                      | -           | -          | -     |
| Other spending on production                         | 0,0        | 0,0     | 0,0     | 0,0     | 0,0     | -                        | -                      | -           | -          | -     |
| Subsidies on products (of the government)            | 0,0        | 0,0     | 0,0     | 0,0     | 0,0     | -                        | -                      | -           | -          | -     |
| Other subsidies                                      | 1,3        | 1,3     | 1,3     | 1,4     | 1,5     | -                        | -                      | -           | -          | -     |
| Investment grants                                    | 0,0        | 0,0     | 0,0     | 0,0     | 0,0     | -                        | -                      | -           | -          | -     |
| Gross fixed capital formation                        | 1,6        | 1,6     | 1,7     | 1,9     | 1,9     | -                        | -                      | -           | -          | -     |

# 2.10 TSA 10 – Indirect Effects

The full economic analysis of domestic tourism must consider both direct and indirect effects. A change in the demand for tourist goods also influences the demand for their intermediate consumption. The provision of food and beverage serving services, for example, requires food. Hence, the direct demand for food and beverage serving services indirectly affects food production. The jobs of the supplying industries also depend indirectly on the demand for tourist goods. The total number of employees related to tourism is thus composed of people employed in the production of tourism goods directly, and people employed in the production of tourism goods indirectly. The same applies to the GVA along the value-added chain.

The TSA- tables show three indirect effects:

- Indirect domestic production the domestically manufactured products that are inputs for tourist goods and services;
- Cumulative gross value added the GVA that arises along the value chain due to tourism;
- The indirect and cumulative number of persons in employment the comprehensive impact of tourism on the labor market.

#### 2.10.1 - Indirect Production

The direct production of the tourist products in demand amounting to EUR 279.5 billion in 2019 were linked to EUR 199.9 billion from products indirectly produced domestically. Thus, a total of EUR 479.4 billion of products were related to the tourism industry. In terms of production as a whole, direct and indirect tourism-related production accounted for 7.6%.

In 2019, the transport sector played the most important economic role as a "supplier" for tourism. From the total of EUR 199.9 billion of indirect production, the traffic-relevant areas produced 19% (land traffic and transport services in pipelines; air passenger transport services; warehouse services, other transport services; rental services for movable property). Also important for tourism were real estate and housing services with EUR 13.6 billion and the food and feed, beverages and tobacco products industries with EUR 11.1 billion.

Over the period 2015-2019, indirect production increased by a total of 12%. The areas of air passenger transport, financial services and sale of food, animal feeds, beverages and tobacco fell by 34%, 5% and 2% respectively, as indirect intermediate consumption for tourism. The structure of indirect production, however, did not change significantly, since the economic production structure mostly remained constant during this period.

|   | 2015              | 2016                    | 2017      | 2018      | 2019      |  |  |  |  |
|---|-------------------|-------------------------|-----------|-----------|-----------|--|--|--|--|
|   | Mill. Euro        | Mill. Euro              |           |           |           |  |  |  |  |
| Dutput total  | 5 574 794         | 5 744 492               | 6 015 126 | 6 227 861 | 6 304 843 |  |  |  |  |
| of which  |                   |                         |           |           |           |  |  |  |  |
| Tourism-relevant output                                   | 428 930           | 437 215                 | 454 409   | 470 521   | 479 378   |  |  |  |  |
| of which  |                   |                         |           |           |           |  |  |  |  |
| Indirect output   | 177 697           | 181 010                 | 188 186   | 196 266   | 199 903   |  |  |  |  |
| Warehousing and support activities for transportation     | 13 711            | 14 138                  | 14 665    | 15 005    | 15 779    |  |  |  |  |
| Real estate activities                                    | 12 223            | 12 597                  | 12 829    | 13 313    | 13 573    |  |  |  |  |
| Sale of food, animal feeds, beverages and tobacco         | 11 309            | 10 656                  | 11 527    | 10 886    | 11 110    |  |  |  |  |
| Land transport and transport via pipelines                | 9 301             | 9 858                   | 10 7 2 6  | 10 886    | 11 181    |  |  |  |  |
| Wholesale trade, except of motor vehicles and motorcycles | 8 101             | 8 926                   | 9 098     | 9 845     | 10 003    |  |  |  |  |
| Legal, accounting and consulting activities               | 7 957             | 8 457                   | 8 7 5 7   | 8 666     | 8 778     |  |  |  |  |
| Air transport services                                    | 6 498             | 5 777                   | 4 991     | 4 282     | 4 311     |  |  |  |  |
| Specialised construction activities                       | 6 133             | 6 396                   | 6 7 5 7   | 6 818     | 6 969     |  |  |  |  |
| Financial service activities                              | 5 991             | 5 806                   | 5 627     | 5 594     | 5 701     |  |  |  |  |
| Rental and leasing activities                             | 5 999             | 6 172                   | 5 772     | 6 001     | 6 161     |  |  |  |  |
| Other output  | 90 473            | 92 228                  | 97 437    | 104 969   | 106 338   |  |  |  |  |
| Direct output   | 251 233           | 256 206                 | 266 224   | 274 255   | 279 476   |  |  |  |  |
|   | Share of total ou | Share of total output % |           |           |           |  |  |  |  |
| Tourism-relevant output                                   | 7,7               | 7,6                     | 7,6       | 7,6       | 7,6       |  |  |  |  |
| of which  |                   |                         |           |           |           |  |  |  |  |
| Indirect output   | 3,2               | 3,2                     | 3,1       | 3,2       | 3,2       |  |  |  |  |
| Direct output   | 4,5               | 4,5                     | 4,4       | 4,4       | 4,4       |  |  |  |  |

#### 2.10-1 Direct and indirect output for tourism purposes

#### 2.10.2 – Indirect Gross Value Added

The economic importance of tourism in 2019, measured directly, was 3.99%. This number increases to a total of 6.96% when the domestic intermediate supply is included. The total gross value added in Germany was EUR 3,106.2 billion, of which EUR 123.8 billion was directly related to tourism demand and EUR 92.4 billion indirectly.

Over the course of time between 2015 and 2019, the development of the cumulative gross value added from tourism was the same as the development of the direct gross value added from tourism, namely, it rose at a relatively constant rate.

#### 2.10-2 Direct and indirect gross value added for tourism purposes

| 15<br>I. Euro<br>2 722 019 | 2016                                     | 2017   | 2018   | 2019   |
|----------------------------|--|--|--|--|
|                            |  |  |  |  |
| 2 722 019                  |  |  |  |  |
|                            | 2 822 443                                | 2 936 703  | 3 024 422  | 3 106 157  |
|                            |  |  |  |  |
| 191 918                    | 196 205                                  | 203 818  | 210 526  | 216 186  |
|                            |  |  |  |  |
| 110 466                    | 112 779                                  | 117 065  | 120 495  | 123 805  |
| 81 452                     | 83 426                                   | 86 753   | 90 031   | 92 381   |
| are of total gro           | oss value added %                        | ,  |  |  |
| 7,05                       | 6,95                                     | 6,94   | 6,96   | 6,96   |
|                            |  |  |  |  |
| 4,06                       | 4,00                                     | 3,99   | 3,98   | 3,99   |
| 2,99                       |  |  |  | 2,97   |
| ıre                        | 81 452<br>e of total gro<br>7,05<br>4,06 | 81 452         83 426           e of total gross value added %         7,05         6,95           4,06         4,00         4,00         4,00 | 81 452         83 426         86 753           e of total gross value added %         7,05         6,95         6,94           4,06         4,00         3,99         3,99 | 81 452         83 426         86 753         90 031           e of total gross value added %         7,05         6,95         6,94         6,96           4,06         4,00         3,99         3,98 |

#### 2.10.3 - Indirect Persons in Employment

Tourism supply chains also have an impact on employment. Viewed directly, 2.8 million people were employed in tourism in 2019. A further 1.3 million people were indirectly employed. This means that more than 4 million people in employment were directly and indirectly dependent on tourism in Germany, which makes up 9% of the total number employees.

In principle, the distribution of indirect employees follows the distribution of indirect production; Transport and trade services play the largest role in this. Together, these two areas employed over 23% of the indirect workforce. Overall, compared to 2015 there were 3% more persons indirectly employed through tourism in 2019, while their number in sale of food, animal feed, beverages and tobacco fell by 6 000, in air transport services by 4 000, in financial service activities by 3 000 and by 2 000 in the area of specialised construction activities.

#### 2.10-3 Direct and indirect persons in employment in tourism

|   | 2015                                   | 2016   | 2017   | 2018   | 2019   |  |  |  |  |  |  |
|---|--|--------|--------|--------|--------|--|--|--|--|--|--|
|   | 1 000                                  |        |        |        |        |  |  |  |  |  |  |
| Total persons in employment                               | 43 122                                 | 43 661 | 44 262 | 44 868 | 45 269 |  |  |  |  |  |  |
| of which  |  |        |        |        |        |  |  |  |  |  |  |
| Tourism-relevant persons in employment <sup>1</sup>       | 4 011                                  | 4 009  | 4 060  | 4 102  | 4 086  |  |  |  |  |  |  |
| of which  |  |        |        |        |        |  |  |  |  |  |  |
| Indirect output <sup>1</sup>                              | 1 264                                  | 1 261  | 1 282  | 1 316  | 1 307  |  |  |  |  |  |  |
| Warehousing and support activities for transportation     | 73                                     | 76     | 75     | 76     | 78     |  |  |  |  |  |  |
| Real estate activities                                    | 15                                     | 15     | 15     | 15     | 15     |  |  |  |  |  |  |
| Sale of food, animal feeds, beverages and tobacco         | 56                                     | 52     | 53     | 51     | 50     |  |  |  |  |  |  |
| Land transport and transport via pipelines                | 88                                     | 92     | 99     | 96     | 97     |  |  |  |  |  |  |
| Wholesale trade, except of motor vehicles and motorcycles | 64                                     | 68     | 65     | 66     | 66     |  |  |  |  |  |  |
| Legal, accounting and consulting activities               | 67                                     | 68     | 68     | 71     | 70     |  |  |  |  |  |  |
| Air transport services                                    | 15                                     | 14     | 12     | 11     | 11     |  |  |  |  |  |  |
| Specialised construction activities                       | 58                                     | 58     | 59     | 56     | 56     |  |  |  |  |  |  |
| Financial service activities                              | 26                                     | 26     | 24     | 24     | 23     |  |  |  |  |  |  |
| Rental and leasing activities                             | 12                                     | 12     | 12     | 12     | 12     |  |  |  |  |  |  |
| Other output  | 790                                    | 781    | 801    | 838    | 830    |  |  |  |  |  |  |
| Direct output   | 2 748                                  | 2 748  | 2 778  | 2 786  | 2 779  |  |  |  |  |  |  |
|   | Share of total persons in employment % |        |        |        |        |  |  |  |  |  |  |
| Tourism-relevant persons in employment                    | 9,3                                    | 9,2    | 9,2    | 9,1    | 9,0    |  |  |  |  |  |  |
| of which  |  |        |        |        |        |  |  |  |  |  |  |
| Indirect persons in employment                            | 2,9                                    | 2,9    | 2,9    | 2,9    | 2,9    |  |  |  |  |  |  |
| Direct persons in employment                              | 6,4                                    | 6,3    | 6,3    | 6,2    | 6,1    |  |  |  |  |  |  |

# **3 Sustainability and Tourism**

The tables in the chapter on "Sustainability and Tourism" aim to show the most essential environmental issues associated with tourism. They are presented within the overall system of Environmental-Economic Accounts in order to put them in perspective to the economy as a whole.

Chapter 3.1 deals with domestic energy consumption for the production of products that satisfy touristic demand. Subsequently, chapter 3.2 deals with greenhouse gas emissions that are associated with the consumption of energy carriers. Both the calculations of energy consumption and greenhouse gas emissions are solely based on the production within the value-added process. Thus, the calculations do explicitly not include consumption or emissions from the production of intermediate products.

Chapter 3.3 provides an overview of the raw materials used for the production of products that satisfy touristic demand in Germany, measured in raw material equivalents. The calculation of raw material equivalents allows for a consideration of all raw materials that were required worldwide throughout the entire value chain (i.e. in the context of value added as well as for the production of intermediate products) for the provision of touristic products.

Finally, chapter 3.4 deals with the use of market-based environmental protection services by companies in the tourism sector in Germany.

#### **3.1 Energy consumption**

The provision of touristic goods and services requires a significant input of energy. Tables 3.1-1 and 3.1-2 show the domestic energy consumption for the production of products that satisfy touristic demand. It is important to note that the columns' totals contain the final energy consumption and thus make it possible to put the energy consumption of tourism in perspective to the economy as a whole. In addition, the product breakdown known from the TSA tables in chapter 2 was applied. The product groups which are relevant to tourism are listed individually in the product breakdown, and supplemented by the remaining goods and services in rows 13 and 14. The energy consumption for the products that are not related to tourism.

In table 3.1-1, the energy consumption of all energy carriers and economic sectors is shown in aggregated form and presented as a time series for the reporting years 2015 to 2019.

Following the Energy Accounts provided by the Environmental-Economic Accounts, Germany's final energy consumption in the reporting year 2019 amounted to 8.97 million terajoules (TJ)<sup>1</sup>. Table 3.1-1 shows for the reporting year 2019, that tourism-related goods and services in Germany were produced using 298,824 TJ. In terms of the benchmark figure of the final energy consumption from the Energy Accounts, this means that around 3.3% of Germany's energy consumption was spent on the production of tourism-related products.

Furthermore, table 3.1-1 indicates that around 80% of the touristic energy consumption, i.e. 240,319 TJ, was used for the production of products internationally defined as touristic. Among these, about 35% of energy consumption was used for the provision of air passenger transport services, 14% for food and beverage serving services, 11% for road passenger transport services, and 9% for accommodation services for visitors. A further 2% was used for the production of other touristic products and 17% for the production of all remaining goods and services, which are also related to tourism, albeit to a lesser extent.

Table 3.1-2 shows the energy consumption for the reporting year 2019 and distinguishes between seven different types of energy carriers. One sees that mineral oils accounted for around 58% of the touristic energy consumption in 2019. Usage of electricity accounted for another 24% and the use of gases for 12%. However, coal, renewable energies, and district heating, accounted for each only about 2% of the touristic energy consumption, while other energy carriers hardly played a role at 0.4%.

Table 3.1-2 also shows that food and beverage serving services (23,113 TJ), accommodation services for visitors (15,363 TJ), railway passenger services (6,337 TJ) as well as sport, recreational and cultural services (6,126 TJ) mainly used electricity, whereas air passenger transport services (105,744 TJ), road passenger transport services (27,899 TJ), and water passenger transport services (4,701 TJ) essentially used mineral oils.

<sup>1</sup> Federal Statistical Office of Germany (Destatis), 2021d.

# Sustainability and Tourism

# 3.1-1 Tourism-related energy consumption by product group

|  | 2015                         | 2016                   | 2017      | 2018      | 2019      |  |  |  |  |  |  |
|--|------------------------------|------------------------|-----------|-----------|-----------|--|--|--|--|--|--|
|  | Terajoule                    |                        |           |           |           |  |  |  |  |  |  |
|  | I) Internationally de        | efined touristic produ | icts      |           |           |  |  |  |  |  |  |
| 1 – Accommodation services for visitors              | 25 428                       | 27 893                 | 30 1 36   | 28 238    | 28 012    |  |  |  |  |  |  |
| a) Conventional accommodation services               | 25 071                       | 27 532                 | 29 773    | 27 875    | 27 671    |  |  |  |  |  |  |
| b) Imputed accommodation services                    | 357                          | 361                    | 363       | 363       | 341       |  |  |  |  |  |  |
| 2 – Food and beverage serving services               | 48 922                       | 51 132                 | 49 725    | 45 405    | 42 310    |  |  |  |  |  |  |
| 3 – Railway passenger services                       | 6 895                        | 7 821                  | 8 309     | 8 145     | 8 0 2 9   |  |  |  |  |  |  |
| 4 – Road passenger transport services                | 45 655                       | 41 661                 | 38 476    | 34 373    | 32 474    |  |  |  |  |  |  |
| 5 – Water passenger transport services               | 5 344                        | 9 058                  | 7 199     | 5 381     | 4 704     |  |  |  |  |  |  |
| 6 – Air passenger transport services                 | 96 630                       | 100 834                | 109 213   | 110 594   | 105 832   |  |  |  |  |  |  |
| 7 – Transport equipment rental services              | 179                          | 189                    | 207       | 206       | 210       |  |  |  |  |  |  |
| 8 – Travel agencies and other reservation services   | 2 1 5 5                      | 2 012                  | 2 1 3 1   | 2 049     | 2 056     |  |  |  |  |  |  |
| 9 – Sport, recreational and cultural services        | 19 490                       | 18 940                 | 18 949    | 17 535    | 16 692    |  |  |  |  |  |  |
|  | II) Other touristic products |                        |           |           |           |  |  |  |  |  |  |
| 10 – Health services                                 | 3 294                        | 3 234                  | 3 353     | 3 014     | 3 155     |  |  |  |  |  |  |
| 11 – Food  | 2 927                        | 3 065                  | 3 205     | 2 942     | 2 898     |  |  |  |  |  |  |
| 12 – Fuel  | 530                          | 538                    | 414       | 235       | 336       |  |  |  |  |  |  |
|  | III) All remaining go        | oods and services      |           |           |           |  |  |  |  |  |  |
| 13 – Remaining goods                                 | 19 790                       | 20 706                 | 20 449    | 20 019    | 18 911    |  |  |  |  |  |  |
| 14 – Remaining services                              | 34 841                       | 34 786                 | 35 805    | 34 558    | 33 206    |  |  |  |  |  |  |
| Total tourism-related energy consumption             | 312 078                      | 321 870                | 327 571   | 312 697   | 298 824   |  |  |  |  |  |  |
| Non-tourism-related energy consumption               | 4 584 593                    | 4 625 280              | 4 744 513 | 4 618 415 | 4 577 585 |  |  |  |  |  |  |
| Energy consumption of private households             | 4 057 766                    | 4 146 833              | 4 110 209 | 4 037 215 | 4 140 329 |  |  |  |  |  |  |
| Final energy consumption (final consumption concept) | 8 954 437                    | 9 093 983              | 9 182 293 | 8 968 327 | 9 016 739 |  |  |  |  |  |  |
| Statistical difference <sup>1</sup>                  | - 56 344                     | - 22 792               | 25 507    | - 5 310   | - 43 386  |  |  |  |  |  |  |
| Final energy consumption (sales concept)             | 8 898 093                    | 9 071 191              | 9 207 800 | 8 963 017 | 8 973 353 |  |  |  |  |  |  |

There may be deviations in the totals due to rounding in the subtotals.

1 The difference includes the disparity between actual domestic fuel consumption and domestic fuel sales.

# 3.1-2 Tourism-related energy consumption by product group and energy carriers, 2019

|   | Total   |                |             |                 |           |                       |                     |                       |  |  |  |  |  |
|---|---|----------------|-------------|-----------------|-----------|-----------------------|---------------------|-----------------------|--|--|--|--|--|
|   | energy<br>carriers                            | Coal           | Electricity | Mineral<br>oils | Gases     | Renewable<br>energies | District<br>heating | Other energy carriers |  |  |  |  |  |
|   | Terajoule                                     |                |             |                 |           |                       |                     |                       |  |  |  |  |  |
|   | I) Internationally defined touristic products |                |             |                 |           |                       |                     |                       |  |  |  |  |  |
| 1 – Accommodation services for visitors                 | 28 012  | 38             | 15 363      | 6 7 5 3         | 5 266     | 27                    | 558                 | 7                     |  |  |  |  |  |
| a) Conventional accommodation services                  | 27 671  | 38             | 15 101      | 6 706           | 5 238     | 25                    | 556                 | 7                     |  |  |  |  |  |
| b) Imputed accommodation services                       | 341   | -              | 262         | 46              | 28        | 2                     | 3                   | -                     |  |  |  |  |  |
| 2 – Food and beverage serving services                  | 42 310  | 2              | 23 113      | 10 236          | 8 111     | -                     | 849                 | -                     |  |  |  |  |  |
| 3 – Railway passenger services                          | 8 0 2 9                                       | -              | 6 337       | 1 425           | 67        | 172                   | 29                  | -                     |  |  |  |  |  |
| 4 – Road passenger transport services                   | 32 474  | 12             | 2 842       | 27 899          | 179       | 1 528                 | 12                  | 2                     |  |  |  |  |  |
| 5 – Water passenger transport services                  | 4 704   | -              | 0           | 4 701           | 0         | 2                     | 0                   | -                     |  |  |  |  |  |
| 6 – Air passenger transport services                    | 105 832                                       | -              | 0           | 105 744         | 63        | 20                    | 4                   | -                     |  |  |  |  |  |
| 7 – Transport equipment rental services                 | 210   | 4              | 27          | 146             | 23        | 7                     | 4                   | 1                     |  |  |  |  |  |
| 8 – Travel agencies and other reservation services      | 2 056   | -              | 417         | 902             | 648       | -                     | 89                  | -                     |  |  |  |  |  |
| 9 – Sport, recreational and cultural services           | 16 692  | 670            | 6 1 2 6     | 3 009           | 4 489     | 1 683                 | 588                 | 126                   |  |  |  |  |  |
|   | II) Other tour                                | istic products |             |                 |           |                       |                     |                       |  |  |  |  |  |
| 10 – Health services                                    | 3 155   | -              | 1 244       | 451             | 1 305     | 24                    | 131                 | -                     |  |  |  |  |  |
| 11 – Food   | 2 898   | 284            | 831         | 555             | 834       | 195                   | 145                 | 54                    |  |  |  |  |  |
| 12 – Fuel   | 336   | 33             | 96          | 64              | 97        | 23                    | 17                  | 6                     |  |  |  |  |  |
|   | III) All remaining goods and services         |                |             |                 |           |                       |                     |                       |  |  |  |  |  |
| 13 – Remaining goods                                    | 18 911  | 1 848          | 5 413       | 3 649           | 5 432     | 1 274                 | 945                 | 350                   |  |  |  |  |  |
| 14 – Remaining services                                 | 33 206  | 2 889          | 9 1 3 3     | 8 232           | 8 824     | 2 069                 | 1 513               | 547                   |  |  |  |  |  |
| Total tourism-related energy consumption                | 298 824                                       | 5 780          | 70 943      | 173 765         | 35 336    | 7 023                 | 4 885               | 1 094                 |  |  |  |  |  |
| Non-tourism-related energy consumption                  | 4 577 585                                     | 397 484        | 1 276 014   | 1 113 201       | 1 220 504 | 286 471               | 208 592             | 75 319                |  |  |  |  |  |
| Energy consumption of private households                | 4 140 329                                     | 14 482         | 453 351     | 2 139 823       | 927 057   | 415 855               | 189 760             | -                     |  |  |  |  |  |
| Final energy consumption (final consumption<br>concept) | 9 016 739                                     | 417 746        | 1 800 308   | 3 426 788       | 2 182 897 | 709 349               | 403 237             | 76 413                |  |  |  |  |  |
| Statistical difference <sup>1</sup>                     | - 43 386                                      | -              | - 559       | - 31 265        | 2 109     | - 13 670              | -                   | -                     |  |  |  |  |  |
| Final energy consumption (sales concept)                | 8 973 353                                     | 417 746        | 1 799 749   | 3 395 523       | 2 185 006 | 695 679               | 403 237             | 76 413                |  |  |  |  |  |

There may be deviations in the totals due to rounding in the subtotals.

1 The difference includes the disparity between actual domestic fuel consumption and domestic fuel sales.

# 3.2 Air emissions

The consumption of energy for the provision of touristic goods and services is conjoined with the emission of greenhouse gases and air pollutants. Table 3.2-1 shows the domestic greenhouse gas emissions caused by the production of products that satisfy touristic demand. The emissions of the various greenhouse gases ( $CO_2$ ,  $CH_4$ ,  $N_2O$ , HFC, PFC, SF<sub>6</sub> und NF<sub>3</sub>) are for this purpose shown on an aggregated level and presented as a time series for the reporting years 2015 to 2019. In addition, the product breakdown known from the TSA tables was applied. The product groups which are relevant to tourism are listed individually in the product breakdown, and supplemented by the remaining goods and services in rows 13 and 14. The greenhouse gas emissions due to the production of non-tourism-related products subsume the greenhouse gas emissions from the production of all other products that are not related to tourism.

According to Air Emission Accounts provided by the Environmental-Economic Accounts, Germany's greenhouse gas emissions in the reporting year 2019 amounted to around 949 million tons (t), measured in  $CO_2$  equivalents.<sup>2</sup> Table 3.2-1 shows the results of the calculation of Germany's tourism-related greenhouse gas emissions, regardless of the economic sectors in which they were emitted, and for the reporting years 2015 to 2019. Overall, the greenhouse gas emissions for the production of tourism-related goods and services fell from 27.3 million tons of  $CO_2$  equivalents in the reporting year 2015, to 24.6 million tons of  $CO_2$  equivalents in 2019. This corresponds to approximately 2.6 % of the domestic greenhouse gas emissions.

Roughly 64% of touristic greenhouse gas emissions were caused in the production of such products, which have been internationally uniformly defined as touristic products. Among these, the provision of air passenger transport services accounted for about 32% of the total touristic greenhouse gas emissions, and road passenger transport services accounted for 12%. The production of other touristic products accounted for a further 3% and the production of remaining goods and services for 33%. The latter includes all other products that were demanded for touristic purposes in Germany but are not counted as part of the "core business" of tourism as differentiated in the TSA.

A calculation of air pollutant emissions, which includes the air pollutants ammonia (NH3), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), non-methane volatile organic compound (NMVOC), carbon monoxide (CO), and particulate matter (PM 10  $\mu$ m and PM 2.5  $\mu$ m), is part of the more comprehensive background report.<sup>3</sup>

<sup>2</sup> Federal Statistical Office of Germany (Destatis), 2021b.

<sup>3</sup> Federal Statistical Office of Germany (Destatis), 2021a.

# Sustainability and Tourism

# 3.2-1 Tourism-related greenhouse gas emissions by product group

| 5 5   | <i>,</i> 1 0                              |                       |           |          |          |  |  |  |  |  |
|---|---|-----------------------|-----------|----------|----------|--|--|--|--|--|
|   | 2015                                      | 2016                  | 2017      | 2018     | 2019     |  |  |  |  |  |
|   | 1,000 tons of CO <sub>2</sub> equivalents |                       |           |          |          |  |  |  |  |  |
|   | I) Internationally d                      | lefined touristic pro | ducts     |          |          |  |  |  |  |  |
| 1 – Accommodation services for visitors                           | 985                                       | 1 075                 | 1 138     | 1 020    | 1 123    |  |  |  |  |  |
| a) Conventional accommodation services                            | 977                                       | 1 067                 | 1 130     | 1 012    | 1 116    |  |  |  |  |  |
| b) Imputed accommodation services                                 | 8   | 8                     | 8         | 8        | 7        |  |  |  |  |  |
| 2 – Food and beverage serving services                            | 1 945                                     | 1 921                 | 1 855     | 1 601    | 1 668    |  |  |  |  |  |
| 3 – Railway passenger services                                    | 291                                       | 331                   | 296       | 264      | 265      |  |  |  |  |  |
| 4 – Road passenger transport services                             | 3 906                                     | 3 540                 | 3 343     | 3 027    | 2 849    |  |  |  |  |  |
| 5 – Water passenger transport services                            | 423                                       | 725                   | 572       | 424      | 368      |  |  |  |  |  |
| 6 – Air passenger transport services                              | 7 191                                     | 7 505                 | 8 125     | 8 227    | 7 873    |  |  |  |  |  |
| 7 – Transport equipment rental services                           | 22  | 22                    | 24        | 24       | 25       |  |  |  |  |  |
| 8 – Travel agencies and other reservation services                | 139                                       | 121                   | 129       | 120      | 129      |  |  |  |  |  |
| 9 – Sport, recreational and cultural services                     | 1 899                                     | 1 838                 | 1 756     | 1 627    | 1 500    |  |  |  |  |  |
|   | II) Other touristic products              |                       |           |          |          |  |  |  |  |  |
| 10 – Health services  | 122                                       | 126                   | 127       | 115      | 123      |  |  |  |  |  |
| 11 – Food   | 551                                       | 574                   | 566       | 512      | 474      |  |  |  |  |  |
| 12 – Fuel   | 100                                       | 101                   | 73        | 41       | 55       |  |  |  |  |  |
|   | III) All remaining goods and services     |                       |           |          |          |  |  |  |  |  |
| 13 – Remaining goods  | 3 724                                     | 3 868                 | 3 610     | 3 482    | 3 088    |  |  |  |  |  |
| 14 – Remaining services   | 6 035                                     | 5 987                 | 5 857     | 5 601    | 5 077    |  |  |  |  |  |
| Total tourism-related greenhouse gas emissions <sup>1</sup>       | 27 334                                    | 27 734                | 27 473    | 26 086   | 24 616   |  |  |  |  |  |
| Non-tourism-related greenhouse gas emissions <sup>1</sup>         | 794 200                                   | 795 987               | 777 411   | 748 225  | 697 821  |  |  |  |  |  |
| Greenhouse gas emissions of private households                    | 224 596                                   | 225 177               | 224 509   | 222 111  | 226 942  |  |  |  |  |  |
| Domestic greenhouse gas emissions (domestic concept) <sup>1</sup> | 1 046 130                                 | 1 048 898             | 1 029 392 | 996 421  | 949 379  |  |  |  |  |  |
| Greenhouse gas emissions of residents abroad <sup>1</sup>         | 66 092                                    | 60 993                | 67 101    | 71 882   | 68 213   |  |  |  |  |  |
| Greenhouse gas emissions of non-residents on domestic             |   |                       |           |          |          |  |  |  |  |  |
| territory <sup>1</sup>  | - 38 590                                  | - 40 246              | - 39 538  | - 39 627 | - 39 512 |  |  |  |  |  |

There may be deviations in the totals due to rounding in the subtotals.

1 With regards to air transport, only emissions from domestic flights are taken into account. Emissions from international flights over Germany are not included.

# 3.3 Raw material input in raw material equivalents

For the provision of touristic goods and services, the use of various raw materials is crucial. Table 3.3-1 shows the use of raw materials for the production of products that satisfy touristic demand in Germany measured in raw material equivalents. For this purpose, the raw material input is disclosed on an aggregate basis, i.e. as the sum of the various raw materials, and shown separately for the various touristic products for the reporting years 2015 to 2018.

In addition, Table 3.3-1 shows the total raw material input for the provision of products that satisfy touristic demand as well as of products not related to touristic demand. Finally, it also provides information on the total material input of the economy as a whole, which allows the touristic raw material input to be viewed in the context of the overall economic use of materials. With regard to the product classification, the breakdown known from the TSA tables was applied. Hence, the product groups which are relevant to tourism are listed individually and supplemented by the remaining goods and services in rows 13 and 14. The raw material input for the production of non-tourism-related products subsumes the use of raw materials in the production of all other products that are not related to tourism.

According to the calculations of the Environmental-Economic Accounting unit, Germany's total raw material input in the reporting year 2018 amounted to 3,014 million tons in raw material equivalents.<sup>4</sup> The raw material input (RMI) shows the quantities in raw material equivalents that were imported to Germany in the form of raw materials, semifinished and finished goods or extracted as raw materials from the domestic natural environment. At the same time, it shows the quantities of raw materials (measured in raw material equivalents) used to satisfy the consumption, investment and export demand. In the reporting year 2018, the demand for tourism-related goods and services in Germany was satisfied by the use of 100 million tons in raw material equivalents. As compared to the economy's total raw material input, this means that approximately 3.3% of Germany's raw material input was related to tourism.

Roughly 57 % of the touristic raw material input of 100 million tons in raw material equivalents were used for the production of products internationally defined as touristic products. Among these, about 26 % of the raw material input was used for the provision of food and beverage serving services, 19 % each for accommodation services for visitors and air passenger transport services, and 18 % for travel agencies and other reservation services. A further 7 % of the touristic raw material input was used for the provision of other touristic products and 36 % for all remaining goods and services. The latter includes all other products that were demanded for touristic purposes in Germany but are not counted as part of the "core business" of tourism as disclosed in the TSA.

<sup>4</sup> Federal Statistical Office of Germany (Destatis), 2021c. The data refer to the date of publication as of 10 September 2021.

# 3.3-1 Tourism-related raw material input by product group

|  | 2015  | 2016            | 2017    | 2018  |  |  |  |  |  |
|--|---|-----------------|---------|-------|--|--|--|--|--|
|  | in million tons of Raw Material Equivalents   |                 |         |       |  |  |  |  |  |
|  | I) Internationally defined touristic products |                 |         |       |  |  |  |  |  |
| 1 – Accommodation services for visitors            | 10  | 10              | 11      | 11    |  |  |  |  |  |
| a) Conventional accommodation services             | 10  | 10              | 11      | 11    |  |  |  |  |  |
| b) Imputed accommodation services                  | 0   | 0               | 0       | 0     |  |  |  |  |  |
| 2 – Food and beverage serving services             | 16  | 15              | 16      | 15    |  |  |  |  |  |
| 3 – Railway passenger services                     | 0   | 0               | 0       | 0     |  |  |  |  |  |
| 4 – Road passenger transport services              | 1   | 1               | 1       | 1     |  |  |  |  |  |
| 5 – Water passenger transport services             | 1   | 2               | 2       | 2     |  |  |  |  |  |
| 6 – Air passenger transport services               | 9   | 10              | 11      | 11    |  |  |  |  |  |
| 7 – Transport equipment rental services            | 0   | 0               | 0       | 0     |  |  |  |  |  |
| 8 – Travel agencies and other reservation services | 11  | 10              | 11      | 11    |  |  |  |  |  |
| 9 – Sport, recreational and cultural services      | 6   | 6               | 6       | 6     |  |  |  |  |  |
|  | II) Other touris                              | stic products   |         |       |  |  |  |  |  |
| 10 – Health services                               | 1   | 1               | 1       | 1     |  |  |  |  |  |
| 11 – Food  | 4   | 4               | 4       | 4     |  |  |  |  |  |
| 12 – Fuel  | 3   | 3               | 3       | 3     |  |  |  |  |  |
|  | III) All remaini                              | ng goods and se | ervices |       |  |  |  |  |  |
| 13 – Remaining goods                               | 18  | 19              | 18      | 19    |  |  |  |  |  |
| 14 – Remaining services                            | 17  | 17              | 17      | 17    |  |  |  |  |  |
| Total tourism-related raw material input           | 96  | 99              | 100     | 100   |  |  |  |  |  |
| Non-tourism-related raw material input             | 2 7 5 6                                       | 2 871           | 2 851   | 2 914 |  |  |  |  |  |
| Total Raw Material Input (RMI)                     | 2 852   | 2 970           | 2 951   | 3 014 |  |  |  |  |  |

# 3.4 Environmental protection expenditure

To limit negative externalities caused by tourism, expenditures to counteract them are indis-pensable. Tables 3.4-1 and 3.4-2 show the use of market-based environmental protection services by corporations in the tourism sector in Germany. For this purpose, the expenditures of the tourism sector are broken down by environmental domains based on the Classification of Environmental Protection Activities and Expenditures (CEPA 2000).

Table 3.4-1 presents the tourism-related use of market-based environmental protection ser-vices as a time series for the reporting years 2015 to 2018. The expenditures of all domestic economic sectors are shown on an aggregated level.

Environmental protection services in the CEPA classes 1 and 4 through 9 are exclusively purchased from government producers. Due to the absence of usable data sources for government expenditures for this project, tourism-related use of government-produced environmental pro-tection services which are destined for the market could not be calculated. Accordingly, the corresponding table cells are shown with a period "." (numerical value unknown or to be kept secret).

Table 3.4-1 indicates that corporations in the tourism sector spent roughly EUR 1,926 million on market-based environmental protection services in the reporting year 2018. Of this amount, EUR 1,390 million EUR were spent on water protection (CEPA 2), or waste water management, and another EUR 535 million on waste management (CEPA 3).

In addition, table 3.4-1 shows that the expenses by corporations in the tourism sector on environmental protection services increased by about 20% between 2015 and 2018. Expenditures on waste collection even grew by about 36% and expenditures on elimination of environmental pollution and other disposal increased by 44% during this period.

Table 3.4-2 presents the tourism-related use of market-based environmental protection services in the reporting year 2018 and distinguishes between the twelve different, touristic economic sectors. The subdivision of economic sectors is congruent with the one used for the TSA tables in chapter 2.

Table 3.4-2 shows that the accommodation and food and beverage service activities industry accounted for about 63 % of the tourism-related expenditure on the use of market-based environmental protection services in the reporting year 2018. Within the tourist industry, their share is around 85 %. Accordingly, in 2018, corporations in the accommodation sector spent EUR 606 million and corporations in the food and beverage service activities industry EUR 600 million on environmental protection activities. Additionally, the other tourist industries spent around EUR 215 million and other industries around EUR 504 million on tourism-related environmental protection activities. While a large part of the environmental protection expenditures of the tourism industries accounts for waste water disposal, i.e. 88 % of the environmental protection expenditures, the expenditures of the other industries predominate in the area of waste management (73 %).

#### 3.4-1 Tourism-related use of market-based environmental protection services by environmental domains

|  |              | 1     | 1     |       |
|--|--------------|-------|-------|-------|
|  | 2015         | 2016  | 2017  | 2018  |
|  | in million E | JR    |       |       |
| CEPA 1 - Protection of ambient air and climate                             |              |       |       |       |
| CEPA 2 - Waste water management  | 1 207        | 1 236 | 1 276 | 1 390 |
| CEPA 3 - Waste management  | 401          | 440   | 461   | 535   |
| Waste collection   | 190          | 195   | 228   | 258   |
| Waste treatment and disposal   | 175          | 210   | 192   | 225   |
| Elimination of environmental pollution and other disposal                  | 36           | 36    | 40    | 52    |
| CEPA 4 - Protection and remediation of soil, groundwater and surface water |              |       |       |       |
| CEPA 5 - Noise and vibration abatement                                     |              |       |       |       |
| CEPA 6 - Protection of biodiversity and landscapes                         |              |       |       |       |
| CEPA 7 - Protection against radiation                                      |              |       |       |       |
| CEPA 8 - Research and development for CEPA 1-7 and 9                       |              |       |       |       |
| CEPA 9 - Other environmental protection activities                         |              |       |       |       |
| Total  | 1 607        | 1 676 | 1 737 | 1 926 |

# Sustainability and Tourism

#### 3.4-2 Tourism-related use of market-based environmental protection services by environmental domains and economic sectors, 2018

|   | Accommoda-<br>tion | Real estate<br>activities | Food and<br>beverage<br>service<br>activities | Rail transport | Road rans-<br>port | Water<br>ransport | Air transport | Renting and<br>leasing of<br>cars and<br>light motor<br>vehicles | Travel<br>agencies and<br>tour operator<br>activities | Sport,<br>recreational<br>and cultural<br>services | Other<br>economic<br>services | Human<br>health<br>activities | Total of<br>tourist<br>industries | Other<br>industries | Total of<br>market-based<br>environmental<br>protection<br>expenditures |
|---|--------------------|---------------------------|---|----------------|--------------------|-------------------|---------------|--|---|--|-------------------------------|-------------------------------|-----------------------------------|---------------------|---|
|   | in million EU      | in million EUR            |   |                |                    |                   |               |  |   |  |                               |                               |                                   |                     |   |
| CEPA 1 - Protection of ambient air and climate                                  |                    |                           |   |                |                    |                   |               |  |   |  |                               |                               |                                   |                     |   |
| CEPA 2 - Waste water management   | 561                | 0                         | 541   | -              | 7                  | -                 | 1             | 2  | 1   | 115  | 2                             | 24                            | 1 254                             | 137                 | 1 390   |
| CEPA 3 - Waste management   | 45                 | 2                         | 59  | 0              | 6                  | 0                 | 1             | -  | 1   | 37   | 6                             | 11                            | 167                               | 368                 | 535   |
| Waste collection  | 7                  | 2                         | 13  | 0              | 0                  | 0                 | 1             | -  | 1   | 32   | 0                             | 0                             | 56                                | 202                 | 258   |
| Waste treatment and disposal  | 26                 | -                         | 29  | -              | 4                  | -                 | -             | -  | -   | 4  | 6                             | 7                             | 74                                | 151                 | 225   |
| Elimination of environmental pollution and<br>other disposal                    | 12                 | 0                         | 17  | -              | 2                  | -                 | _             | _  | _   | 2  | 0                             | 4                             | 37                                | 15                  | 52  |
| CEPA 4 - Protection and remediation of soil, ground-<br>water and surface water |                    |                           |   |                |                    |                   |               |  |   |  |                               |                               |                                   |                     |   |
| CEPA 5 - Noise and vibration abatement  |                    |                           |   |                |                    |                   |               |  |   |  |                               |                               |                                   |                     |   |
| CEPA 6 - Protection of biodiversity and landscapes                              |                    |                           |   |                |                    |                   |               |  |   |  |                               |                               |                                   |                     |   |
| CEPA 7 - Protection against radiation   |                    |                           |   |                |                    |                   |               |  |   |  |                               |                               |                                   |                     |   |
| CEPA 8 - Research and development for CEPA 1-7<br>and 9                         |                    |                           |   |                |                    |                   |               |  |   |  |                               |                               |                                   |                     |   |
| CEPA 9 - Other environmental protection activities                              |                    |                           |   |                |                    |                   |               |  |   |  |                               |                               |                                   |                     |   |
| Total   | 606                | 3                         | 600   | 0              | 13                 | 0                 | 1             | 2  | 2   | 152  | 8                             | 35                            | 1 421                             | 504                 | 1 926   |

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