Supplementary Information

Mapping Bioenergy Supply and Demand in Selected Least Developed Countries (LDCs): Exploratory Assessment of Modern Bioenergy’s Contribution to SDG 7

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Figure S1. LDCs analyzed in the present study.
Figure S2. GDP growth rate in the selected LDCs. Source: [1].

Figure S3. Population and urbanization pattern in the selected LDCs; Note: primary y-axis shows the urban (U) population (%) while second axis presents total (T) population in million; Source: [2].
Figure 4. Electricity access from 1990 to 2016 in the world, South Asia, SSA and selected DCs; Source: [2].

Table S1. Total Primary Energy Supply (TPES) in LDCS by fuel source (in ktoe).

| Items                        | Bangladesh | Lao-PDR | Nepal | Ethiopia | Malawi  | Zambia |
|------------------------------|------------|---------|-------|----------|---------|--------|
| By fuel source               |            |         |       |          |         |        |
| Coal                         | 1984       | 4.9     | 1801  | 37.8     | 791     | 8.0    | 98.68  | 2.4    | 470     | 3.9    |
| Oil product (petroleum)      | 5829       | 14.4    | 930   | 19.5     | 2298    | 17.3   | 3678   | 8.7    | 280.07  | 6.8    | 1452   | 12.0   |
| Natural gas                  | 23071      | 56.9    | 0.0   | 0.0      | 0.0     | 0.0    | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    |
| Biofuel and waste            | 9534       | 23.5    | 1619  | 34.0     | 9778    | 73.7   | 37215  | 87.7   | 3640    | 88.2   | 9106   | 75.4   |
| hydropower electricity       | 90         | 0.2     | 415   | 8.7      | 398     | 3.0    | 1114   | 2.6    | 104.82  | 2.5    | 1049   | 8.7    |
| Other (wind, solar, etc.)    | 16         | 0.04    | 0.0   | 0.0      | 0.0     | 1.0    | 84     | 0.2    | 0.1     | 0.0    | 0.0    |        |
| Total (ktoe)                 | 40524      | 4765    | 13266 | 42448    | 4125.97 | 12077  |        |        |        |        |        |        |

Source: [3][4][5] *Latest information is not available, but there is no significance change in the energy mix in Malawi [5].

Table S2. Land covered by agricultural and forest land (% of the country’s land area).

| Country       | Forest area (% of land area) | Agricultural land (% of land area) |
|---------------|-------------------------------|------------------------------------|
|               | 1995  | 2000  | 2005  | 2010  | 2015  | 2016  | 1995  | 2000  | 2005  | 2010  | 2015  | 2016  |
| Bangladesh    | 11.4  | 11.3  | 11.2  | 11.1  | 11    | 11    | 72    | 72.2  | 71.5  | 71    | 70.4  | 70.6  |
| Lao-PDR       | 74    | 71.6  | 73.1  | 77.2  | 81.3  | 82.1  | 7.4   | 7.8   | 8.6   | 9.6   | 10.3  | 10.3  |
| Nepal         | 30.5  | 27.2  | 25.4  | 25.4  | 25.4  | 29.3  | 29.3  | 29.3  | 28.8  | 28.7  | 28.7  |        |
| Ethiopia      | 14.4  | 13.7  | 13    | 12.3  | 12.5  | 12.5  | 30.5  | 30.7  | 33.6  | 35.7  | 36.3  |        |
| Malawi        | 39.6  | 37.8  | 36.1  | 34.3  | 33.4  | 33.2  | 45.4  | 50.2  | 54.9  | 60.3  | 61.4  |        |
| Zambia        | 69.9  | 68.8  | 67.7  | 66.5  | 65.4  | 65.2  | 28.9  | 30.3  | 30.6  | 31.5  | 32.1  | 32.1  |

Source: FAO-STAT [6].
Table S3. Targets and indicators for measuring SDG7.

| Targets by 2030                                                                 | Indicators                                                                 |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 7.1: Ensure universal access to affordable, reliable and modern energy services | 7.1.1: Access to electricity - measured as the share of people with electricity access at the household level |
| 7.2: Increase the share of renewable energy in the energy mix                     | 7.2.1: Renewable energy share in the total final energy consumption - measured as renewable energy as a share of final energy consumption |
| 7.3: Double the rate of improvement in energy efficiency                          | 7.3.1: Energy efficiency - it is energy intensity measured in terms of primary energy and GDP (kWh or MJ per 2011 int-US$) |
| 7.A: Facilitate access to clean energy research and technology                    | 7.A.1: Access and investments in clean energy - financial flows to developing countries to promote RE production |
| 7.B: Expand modern and sustainable energy in developing countries                 | 7.B.1: Expanding energy services for developing countries - investments in energy efficiency and foreign direct investment in sustainable energy infrastructures |

Source: UN [7].

Table S4. Access to electricity – Indicator 7.1.1 in the rural and urban population in LDCs, 2000–2016, selected years.

| Country  | Total % of total population | Urban % of total population | Rural % of total population |
|----------|-----------------------------|-----------------------------|-----------------------------|
|          | 2000 | 2010 | 2016 | 2000 | 2010 | 2016 | 2000 | 2010 | 2016 |
| Bangladesh | 32   | 55   | 76   | 81.2 | 90.1 | 94   | 20.5 | 42.5 | 68.9 |
| Lao-PDR   | 43   | 70   | 87   | 96   | 97   | 97   | 28.3 | 57.2 | 80.3 |
| Nepal     | 28   | 67   | 91   | 84   | 93   | 95   | 18.8 | 61.8 | 85.2 |
| Ethiopia  | 13   | 25   | 43   | 76.2 | 85   | 85.4 | 0.4  | 12.5 | 26.5 |
| Malawi    | 5    | 9    | 11   | 28.7 | 34.7 | 42   | 1    | 3.5  | 4    |
| Zambia    | 17   | 22   | 27   | 44.1 | 49.8 | 62   | 2.2  | 3.1  | 2.7  |

Source: UNCTAD [1].

Table S5. Status of SDG7 – Indicators: clean cooking (7.1.2), share of renewable energy (7.2.1) and primary energy intensity (7.3.1) in the LDCs (in 2016).

| Country | Access to clean cooking (% of population) | RE (% of TFEC) | Primary energy intensity (MJ per 2011 USD-PPP) |
|---------|-----------------------------------------|---------------|-----------------------------------------------|
| Bangladesh | 19                                      | 34            | 3.10                                         |
| Lao-PDR | 6                                       | 52            | 5.90                                         |
| Nepal | 29                                      | 79            | 8.10                                         |
| Ethiopia | 3                                       | 92            | 13.10                                        |
| Malawi | 2                                       | 79            | 4.20                                         |
| Zambia | 16                                      | 89            | 7.70                                         |

Source: World Bank [8].
Table S6. Trend in primary energy intensity in LDCs, 1990-2016, selected years.

| Country     | Primary energy intensity (MJ per 2011 USDPPP) |   |   |   |   |   |   |
|-------------|-----------------------------------------------|---|---|---|---|---|---|
|             | 1990                  | 1995          | 2000          | 2005          | 2010          | 2015          | 2016          |
| Bangladesh  | 3.90                  | 3.90          | 3.60          | 3.50          | 3.40          | 3.10          | 3.10          |
| Lao-PDR     | 8.20                  | 6.50          | 4.40          | 3.80          | 3.80          | 4.40          | 5.90          |
| Nepal       | 10.80                 | 9.70          | 9.30          | 8.90          | 8.00          | 7.40          | 8.10          |
| Ethiopia    | 30.60                 | 34.70         | 32.30         | 27.50         | 19.00         | 13.70         | 13.10         |
| Malawi      | 9.10                  | 8.00          | 6.60          | 6.40          | 4.80          | 4.20          | 4.20          |
| Zambia      | 12.10                 | 13.20         | 11.90         | 10.50         | 8.00          | 7.80          | 7.70          |

Source: World Bank [8].

Table S7. Projection of peak load (load capacity) and electricity generation in the LDCs.a,b

| Year     | Bangladesh | Lao-PDR | Nepal | Ethiopia | Malawi | Zambia |
|----------|------------|---------|-------|----------|--------|--------|
|          | MW         | GWh     | MW    | GWh      | MW     | GWh    |
| 2015     | 9 036      | 52 193  | 1 056 | 5 212    | 1 292  | 6 335  |
| 2016     | 9 479      | 57 276  | 1 349 | 6 789    | 1 468  | 6 912  |
| 2017     | 10 958     | 62 678  | 1 608 | 8 188    | 1 644  | 7 490  |
| 2020     | 13 746     | 79 533  | 2 723 | 14 378   | 2 638  | 14 372 |
| 2025     | 20 056     | 118 288 | 4 395 | 24 057   | 4 519  | 17 415 |
| 2030     | 29 264     | 175 926 | 7 542 | 34 355   | 14 372 | 73 709 |

Authors’ compilation based on the results of projection.a Refer to Section 3.2 (future projection of electricity generation) for data sources and method of the projection; b GWh represents the total electricity generation whereas capacity (MW) represents peak load.

Table S8a. Production of major crops by country in 2017.

| Crop        | Country  | Barley | Cassava | Jute | Maize | Millet | Potatoes | Rice, paddy | Seed cotton | Sugar cane | Sweet potatoes | Tobacco | Wheat | Total |
|-------------|----------|--------|---------|------|-------|--------|----------|-------------|-------------|------------|--------------|---------|-------|-------|
| Bangladesh  |          | 0.0    | 0.0     | 1.5  | 3.0   | 0.0    | 0.0      | 0.0         | 10.2        | 49.0       | 0.1          | 0.3     | 0.3   | 99.4 |
| Lao-PDR     |          | 0.0    | 2.3     | 0.0  | 1.2   | 0.0    | 0.0      | 0.0         | 0.0         | 0.0        | 0.0          | 0.0     | 0.0   | 9.4  |
| Nepal       |          | 0.0    | 0.0     | 2.3  | 0.3   | 2.7    | 5.2      | 0.0         | 0.0         | 3.2        | 0.0          | 0.0     | 0.0   | 15.6 |
| Ethiopia    |          | 0.0    | 2.0     | 0.0  | 8.1   | 1.1    | 0.9      | 0.0         | 0.0         | 0.0        | 0.0          | 0.0     | 0.0   | 20.4 |
| Malawi      |          | 0.0    | 5.0     | 0.0  | 3.5   | 0.0    | 1.2      | 0.1         | 0.0         | 0.0        | 0.0          | 0.0     | 0.0   | 18.4 |
| Zambia      |          | 0.0    | 1.0     | 0.0  | 3.6   | 0.0    | 0.0      | 0.0         | 0.0         | 0.0        | 0.0          | 0.0     | 0.0   | 9.7  |

*unmanufactured; Source: FAO-STAT [6].

Table S8b. Residue to grain ratio for major crops in the LDCs.

| Crop            | Type of residue   | Residue to product ratio | Sources |
|-----------------|-------------------|--------------------------|---------|
| Barley          | Straw             | 1.3                      | [9][10] |
| Cassava         | Stalk             | 0.88                     | [11][12]|
| Cotton          | Husk              | 1.1                      | [13]    |
| Jute            | Stalk             | 2                        | [16][17]|
| Maize           | Stalk + cobs      | 2.5                      | [18][14]|
| Millet          | Straw             | 1.2                      | [13]    |
| Potatoes        | Root and Stubble residues | 0.25                  | [19][20]|
| Rice, paddy     | Straw + husk      | 1.8                      | [21][22][18][23]|
| Sugar beet      | Residue           | 0.7                      | [15]    |
| Sugar cane      | Bagasse + leaves  | 0.4                      | [18][14]|
| Sweet potatoes  | Residues          | 0.25                     | [20]    |
| Tobacco, unmanufactured | Tobacco refuse  | 0.2                      | [24]    |
| Wheat           | Straw             | 1.6                      | [18][23]|

Sustainability 2017, 9, x FOR PEER REVIEW 5 of 10
Table S9a. Technical potential of agricultural residues for bioelectricity.

| Year | Gross agri-residues availability (Mt) | Biomass power potential (GW) |
|------|--------------------------------------|-----------------------------|
|      | Bangladesh  | Lao-PDR  | Nepal  | Ethiopia  | Malawi  | Zambia  | Bangladesh  | Lao-PDR  | Nepal  | Ethiopia  | Malawi  | Zambia  |
| 2002 | 75.9        | 4.9      | 14.9   | 12.7     | 7.8     | 4.0     | 9.0        | 0.6      | 1.8    | 1.5       | 0.9     | 0.5     |
| 2003 | 74.6        | 5.1      | 15.4   | 13.2     | 8.3     | 4.9     | 8.8        | 0.6      | 1.8    | 1.6       | 1.0     | 0.6     |
| 2004 | 73.3        | 5.3      | 16.0   | 13.7     | 8.8     | 5.8     | 8.7        | 0.6      | 1.9    | 1.6       | 1.1     | 0.7     |
| 2005 | 80.0        | 5.8      | 16.1   | 17.2     | 7.5     | 5.2     | 9.5        | 0.7      | 1.9    | 2.1       | 0.9     | 0.6     |
| 2006 | 81.6        | 6.2      | 16.0   | 17.9     | 12.0    | 6.5     | 9.7        | 0.7      | 1.9    | 2.1       | 1.4     | 0.8     |
| 2007 | 86.8        | 7.0      | 15.5   | 16.1     | 14.1    | 6.4     | 10.3       | 0.8      | 1.8    | 1.9       | 1.7     | 0.8     |
| 2008 | 94.5        | 8.6      | 16.9   | 17.3     | 13.1    | 6.0     | 11.2       | 1.0      | 2.0    | 2.1       | 1.6     | 0.7     |
| 2009 | 95.5        | 8.9      | 17.1   | 19.3     | 15.9    | 8.4     | 11.3       | 1.1      | 2.0    | 2.3       | 1.9     | 1.0     |
| 2010 | 99.8        | 8.9      | 16.5   | 22.0     | 15.4    | 10.6    | 11.8       | 1.1      | 2.0    | 2.6       | 1.8     | 1.3     |
| 2011 | 102.5       | 9.5      | 18.1   | 24.5     | 16.5    | 11.3    | 12.1       | 1.1      | 2.2    | 2.9       | 2.0     | 1.4     |
| 2012 | 102.9       | 10.5     | 19.8   | 26.1     | 18.0    | 11.9    | 12.2       | 1.2      | 2.4    | 3.1       | 2.1     | 1.4     |
| 2013 | 105.8       | 10.7     | 18.4   | 28.2     | 17.9    | 10.4    | 12.5       | 1.3      | 2.2    | 3.3       | 2.1     | 1.3     |
| 2014 | 107.8       | 13.0     | 19.6   | 31.0     | 18.0    | 12.1    | 12.7       | 1.5      | 2.3    | 3.7       | 2.1     | 1.4     |
| 2015 | 108.4       | 14.1     | 19.5   | 33.0     | 14.6    | 10.2    | 12.8       | 1.7      | 2.3    | 3.9       | 1.7     | 1.2     |
| 2016 | 106.3       | 14.4     | 20.1   | 32.6     | 13.5    | 11.0    | 12.6       | 1.7      | 2.4    | 3.8       | 1.6     | 1.3     |
| 2017 | 111.4       | 14.6     | 20.6   | 33.8     | 16.5    | 13.0    | 13.2       | 1.7      | 2.5    | 4.0       | 2.0     | 1.6     |
| 2018 | 116.5       | 14.8     | 21.1   | 35.2     | 18.1    | 13.4    | 13.8       | 1.8      | 2.5    | 4.2       | 2.2     | 1.6     |
| 2019 | 119.2       | 15.5     | 21.5   | 36.8     | 18.8    | 14.0    | 14.1       | 1.8      | 2.6    | 4.3       | 2.2     | 1.7     |
| 2020 | 121.9       | 16.2     | 21.8   | 38.4     | 19.4    | 14.6    | 14.4       | 1.9      | 2.6    | 4.5       | 2.3     | 1.8     |
| 2021 | 124.6       | 16.8     | 22.2   | 39.9     | 20.0    | 15.2    | 14.7       | 2.0      | 2.6    | 4.7       | 2.4     | 1.8     |
| 2022 | 127.3       | 17.5     | 22.5   | 41.5     | 20.6    | 15.8    | 15.0       | 2.1      | 2.7    | 4.9       | 2.5     | 1.9     |
| 2023 | 130.0       | 18.2     | 22.9   | 43.1     | 21.2    | 16.5    | 15.3       | 2.2      | 2.7    | 5.1       | 2.5     | 2.0     |
| 2024 | 132.7       | 18.9     | 23.3   | 44.7     | 21.8    | 17.1    | 15.7       | 2.2      | 2.8    | 5.3       | 2.6     | 2.1     |
| 2025 | 135.4       | 19.5     | 23.6   | 46.2     | 22.5    | 17.7    | 16.0       | 2.3      | 2.8    | 5.5       | 2.7     | 2.1     |
| 2026 | 138.1       | 20.2     | 24.0   | 47.8     | 23.1    | 18.3    | 16.3       | 2.4      | 2.9    | 5.6       | 2.7     | 2.2     |
| 2027 | 140.8       | 20.9     | 24.3   | 49.4     | 23.7    | 18.9    | 16.6       | 2.5      | 2.9    | 5.8       | 2.8     | 2.3     |
| 2028 | 143.5       | 21.6     | 24.7   | 50.9     | 24.3    | 19.5    | 16.9       | 2.6      | 2.9    | 6.0       | 2.9     | 2.3     |
| 2029 | 146.2       | 22.2     | 25.0   | 52.5     | 24.9    | 20.2    | 17.3       | 2.6      | 3.0    | 6.2       | 3.0     | 2.4     |
| 2030 | 148.9       | 22.9     | 25.4   | 54.1     | 25.5    | 20.8    | 17.6       | 2.7      | 3.0    | 6.4       | 3.0     | 2.5     |
### Table S9b. Economic potential of agricultural residues for bioelectricity.

| Year | Net agri-residues availability (Mt) | Biomass power potential (GW) |
|------|--------------------------------------|-----------------------------|
|      | Bangladesh | Laos | Nepal | Ethiopia | Malawi | Zambia | Bangladesh | Lao-PDR | Nepal | Ethiopia | Malawi | Zambia |
| 2002 | 15.2       | 1.0  | 3.0   | 2.5      | 1.6    | 0.8    | 1.8        | 0.1     | 0.4  | 0.3      | 0.2    | 0.1    |
| 2003 | 14.9       | 1.0  | 3.1   | 2.6      | 1.7    | 1.0    | 1.8        | 0.1     | 0.4  | 0.3      | 0.2    | 0.1    |
| 2004 | 14.7       | 1.1  | 3.2   | 2.7      | 1.8    | 1.2    | 1.7        | 0.1     | 0.4  | 0.3      | 0.2    | 0.1    |
| 2005 | 16.0       | 1.2  | 3.2   | 3.4      | 1.5    | 1.0    | 1.9        | 0.1     | 0.4  | 0.4      | 0.2    | 0.1    |
| 2006 | 16.3       | 1.2  | 3.2   | 3.6      | 2.4    | 1.3    | 1.9        | 0.1     | 0.4  | 0.4      | 0.3    | 0.2    |
| 2007 | 17.4       | 1.4  | 3.1   | 3.2      | 2.8    | 1.3    | 2.1        | 0.2     | 0.4  | 0.4      | 0.3    | 0.2    |
| 2008 | 18.9       | 1.7  | 3.4   | 3.5      | 2.6    | 1.2    | 2.2        | 0.2     | 0.4  | 0.4      | 0.3    | 0.1    |
| 2009 | 19.1       | 1.8  | 3.4   | 3.9      | 3.2    | 1.7    | 2.3        | 0.2     | 0.4  | 0.5      | 0.4    | 0.2    |
| 2010 | 20.0       | 1.8  | 3.3   | 4.4      | 3.1    | 2.1    | 2.4        | 0.2     | 0.4  | 0.5      | 0.4    | 0.3    |
| 2011 | 20.5       | 1.9  | 3.6   | 4.9      | 3.3    | 2.3    | 2.4        | 0.2     | 0.4  | 0.6      | 0.4    | 0.3    |
| 2012 | 20.6       | 2.1  | 4.0   | 5.2      | 3.6    | 2.3    | 2.4        | 0.2     | 0.5  | 0.6      | 0.4    | 0.3    |
| 2013 | 21.2       | 2.1  | 3.7   | 5.6      | 3.6    | 2.1    | 2.5        | 0.3     | 0.4  | 0.7      | 0.4    | 0.3    |
| 2014 | 21.6       | 2.6  | 3.9   | 6.2      | 3.6    | 2.4    | 2.5        | 0.3     | 0.5  | 0.7      | 0.4    | 0.3    |
| 2015 | 21.7       | 2.8  | 3.9   | 6.6      | 2.9    | 2.0    | 2.6        | 0.3     | 0.5  | 0.8      | 0.3    | 0.2    |
| 2016 | 21.3       | 2.9  | 4.0   | 6.5      | 2.7    | 2.2    | 2.5        | 0.3     | 0.5  | 0.8      | 0.3    | 0.3    |
| 2017 | 22.3       | 2.9  | 4.1   | 6.8      | 3.3    | 2.6    | 2.6        | 0.3     | 0.5  | 0.8      | 0.4    | 0.4    |
| 2018 | 23.3       | 3.0  | 4.2   | 7.0      | 3.6    | 2.7    | 2.8        | 0.4     | 0.5  | 0.8      | 0.4    | 0.3    |
| 2019 | 23.8       | 3.1  | 4.3   | 7.4      | 3.8    | 2.8    | 2.8        | 0.4     | 0.5  | 0.9      | 0.4    | 0.3    |
| 2020 | 24.4       | 3.2  | 4.4   | 7.7      | 3.9    | 2.9    | 2.9        | 0.4     | 0.5  | 0.9      | 0.5    | 0.4    |
| 2021 | 24.9       | 3.4  | 4.4   | 8.0      | 4.0    | 3.0    | 2.9        | 0.4     | 0.5  | 0.9      | 0.5    | 0.4    |
| 2022 | 25.5       | 3.5  | 4.5   | 8.3      | 4.1    | 3.2    | 3.0        | 0.4     | 0.5  | 1.0      | 0.5    | 0.4    |
| 2023 | 26.0       | 3.6  | 4.6   | 8.6      | 4.2    | 3.3    | 3.1        | 0.4     | 0.5  | 1.0      | 0.5    | 0.4    |
| 2024 | 26.5       | 3.8  | 4.7   | 8.9      | 4.4    | 3.4    | 3.1        | 0.4     | 0.6  | 1.1      | 0.5    | 0.4    |
| 2025 | 27.1       | 3.9  | 4.7   | 9.2      | 4.5    | 3.5    | 3.2        | 0.5     | 0.6  | 1.1      | 0.5    | 0.4    |
| 2026 | 27.6       | 4.0  | 4.8   | 9.6      | 4.6    | 3.7    | 3.3        | 0.5     | 0.6  | 1.1      | 0.5    | 0.4    |
| 2027 | 28.2       | 4.2  | 4.9   | 9.9      | 4.7    | 3.8    | 3.3        | 0.5     | 0.6  | 1.2      | 0.6    | 0.5    |
| 2028 | 28.7       | 4.3  | 4.9   | 10.2     | 4.9    | 3.9    | 3.4        | 0.5     | 0.6  | 1.2      | 0.6    | 0.5    |
| 2029 | 29.2       | 4.4  | 5.0   | 10.5     | 5.0    | 4.0    | 3.5        | 0.5     | 0.6  | 1.2      | 0.6    | 0.5    |
| 2030 | 29.8       | 4.6  | 5.1   | 10.8     | 5.1    | 4.2    | 3.5        | 0.5     | 0.6  | 1.3      | 0.6    | 0.5    |
### Table S9c. Technical and economic potential of agricultural residues for bioelectricity.

| Year | Bangladesh | Lao-PDR | Nepal | Ethiopia | Malawi | Zambia | Bangladesh | Lao-PDR | Nepal | Ethiopia | Malawi | Zambia |
|------|------------|---------|-------|----------|--------|--------|------------|---------|-------|----------|--------|--------|--------|
| 2002 | 62.2       | 4.0     | 12.1  | 10.4     | 6.3    | 3.1    | 12.4       | 0.8     | 2.4   | 2.1      | 1.3    | 0.6    |
| 2003 | 61.1       | 4.2     | 12.6  | 10.7     | 6.7    | 3.8    | 12.2       | 0.9     | 2.5   | 2.1      | 1.3    | 0.8    |
| 2004 | 60.0       | 4.3     | 13.0  | 11.1     | 7.1    | 4.6    | 12.0       | 0.9     | 2.6   | 2.2      | 1.4    | 0.9    |
| 2005 | 65.6       | 4.7     | 13.1  | 14.0     | 6.0    | 4.1    | 13.1       | 0.9     | 2.6   | 2.8      | 1.2    | 0.8    |
| 2006 | 67.0       | 5.1     | 13.1  | 14.6     | 9.7    | 5.1    | 13.4       | 1.0     | 2.6   | 2.9      | 1.9    | 1.0    |
| 2007 | 71.3       | 5.8     | 12.6  | 13.2     | 11.5   | 5.1    | 14.3       | 1.2     | 2.5   | 2.6      | 2.3    | 1.0    |
| 2008 | 77.7       | 7.1     | 13.7  | 14.1     | 10.6   | 4.8    | 15.5       | 1.4     | 2.7   | 2.8      | 2.1    | 1.0    |
| 2009 | 78.5       | 7.3     | 13.9  | 15.8     | 12.9   | 6.7    | 15.7       | 1.5     | 2.8   | 3.2      | 2.6    | 1.3    |
| 2010 | 82.1       | 7.3     | 13.4  | 17.9     | 12.5   | 8.4    | 16.4       | 1.5     | 2.7   | 3.6      | 2.5    | 1.7    |
| 2011 | 84.4       | 7.7     | 14.8  | 20.0     | 13.4   | 9.1    | 16.9       | 1.5     | 3.0   | 4.0      | 2.7    | 1.8    |
| 2012 | 84.7       | 8.6     | 16.1  | 21.4     | 14.7   | 9.5    | 16.9       | 1.7     | 3.2   | 4.3      | 2.9    | 1.9    |
| 2013 | 87.1       | 8.8     | 15.0  | 23.2     | 14.6   | 8.3    | 17.4       | 1.8     | 3.0   | 4.6      | 2.9    | 1.7    |
| 2014 | 88.8       | 10.6    | 16.0  | 25.5     | 14.6   | 9.6    | 17.8       | 2.1     | 3.2   | 5.1      | 2.9    | 1.9    |
| 2015 | 89.3       | 11.5    | 15.9  | 27.2     | 11.8   | 8.1    | 17.9       | 2.3     | 3.2   | 5.4      | 2.4    | 1.6    |
| 2016 | 87.5       | 11.7    | 16.3  | 26.8     | 10.9   | 8.7    | 17.5       | 2.3     | 3.3   | 5.4      | 2.2    | 1.7    |
| 2017 | 91.8       | 11.9    | 16.8  | 27.8     | 13.4   | 10.3   | 18.4       | 2.4     | 3.4   | 5.6      | 2.7    | 2.1    |
| 2018 | 96.0       | 12.1    | 17.2  | 29.0     | 14.8   | 10.7   | 19.2       | 2.4     | 3.4   | 5.8      | 3.0    | 2.1    |
| 2019 | 98.2       | 12.6    | 17.5  | 30.3     | 15.3   | 11.2   | 19.6       | 2.5     | 3.5   | 6.1      | 3.1    | 2.2    |
| 2020 | 100.5      | 13.2    | 17.8  | 31.6     | 15.8   | 11.7   | 20.1       | 2.6     | 3.6   | 6.3      | 3.2    | 2.3    |
| 2021 | 102.7      | 13.7    | 18.1  | 32.9     | 16.3   | 12.2   | 20.5       | 2.7     | 3.6   | 6.6      | 3.3    | 2.4    |
| 2022 | 105.0      | 14.3    | 18.3  | 34.2     | 16.8   | 12.7   | 21.0       | 2.9     | 3.7   | 6.8      | 3.4    | 2.5    |
| 2023 | 107.2      | 14.8    | 18.6  | 35.5     | 17.3   | 13.2   | 21.4       | 3.0     | 3.7   | 7.1      | 3.5    | 2.6    |
| 2024 | 109.5      | 15.4    | 18.9  | 36.8     | 17.8   | 13.6   | 21.9       | 3.1     | 3.8   | 7.4      | 3.6    | 2.7    |
| 2025 | 111.7      | 15.9    | 19.2  | 38.1     | 18.3   | 14.1   | 22.3       | 3.2     | 3.8   | 7.6      | 3.7    | 2.8    |
| 2026 | 113.9      | 16.5    | 19.5  | 39.4     | 18.8   | 14.6   | 22.8       | 3.3     | 3.9   | 7.9      | 3.8    | 2.9    |
| 2027 | 116.2      | 17.0    | 19.8  | 40.7     | 19.3   | 15.1   | 23.2       | 3.4     | 4.0   | 8.1      | 3.9    | 3.0    |
| 2028 | 118.4      | 17.5    | 20.1  | 42.0     | 19.8   | 15.6   | 23.7       | 3.5     | 4.0   | 8.4      | 4.0    | 3.1    |
| 2029 | 120.7      | 18.1    | 20.4  | 43.3     | 20.3   | 16.1   | 24.1       | 3.6     | 4.1   | 8.7      | 4.1    | 3.2    |
| 2030 | 122.9      | 18.6    | 20.7  | 44.6     | 20.8   | 16.6   | 24.6       | 3.7     | 4.1   | 8.9      | 4.2    | 3.3    |
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