



## ▶ Tuvalu

### The Employment - Environment - Climate Nexus

#### Employment and environmental sustainability factsheet

November 2022

## ▶ Key figures

**The Employment-Environment-Climate Nexus Factsheets are a series produced for countries in the Asia-Pacific region. This Factsheet provides key features of labour market and environmental sustainability performance in Tuvalu, as well as vulnerability to climate change and sectors with green jobs potential. Key figures from the brief are as followed:**

- ▶ Tuvalu has a population of 12 thousand people, and 64.8 per cent live in urban areas.
- ▶ Of the 4.1 thousand employed in the country, approximately 29 per cent work in agriculture, 10 per cent in industry and 61 per cent in services.
- ▶ There is no data for Tuvalu in the latest Environmental Performance Index (EPI), 2022. The EPI assesses countries on 40 different performance indicators and ranks them according to their national efforts towards environmental health, to enhance ecosystem vitality and mitigate climate change.
- ▶ Around 13.2 per cent of total territorial area in the country were terrestrial protected areas.
- ▶ Tuvalu ranks 34th of 35 countries in the Asia-Pacific region in the Notre Dame Global Adaptation Index, in terms of vulnerability components. This index considers vulnerability to climate change and related global challenges as well as resiliency and preparedness.

- ▶ Renewable energy as a share of total energy consumption was estimated at around 8.2 per cent in 2018. Renewable energy sources produced 1.5 GWh in 2020, following annual average growth of 28.6 per cent since 2000.
- ▶ Solar accounted for the highest share of total renewable energy generation in 2020, accounting for 100.0 per cent of total renewable energy generation in the country.

## ► Country overview

Tuvalu is a country of around 30 km<sup>2</sup> located in Pacific Islands (Figure 1).<sup>1</sup> With Gross National Income (GNI) of US\$ 6,760 per capita in 2021, Tuvalu is categorized as upper-middle income according to the World Bank income group classification.<sup>2</sup>

► Figure 1. Map of Tuvalu



Gross Domestic Product (GDP) was estimated to have grown 3.0 per cent in 2021.<sup>3</sup> This compares to 4.2 per annum over the last decade (2011-2021).

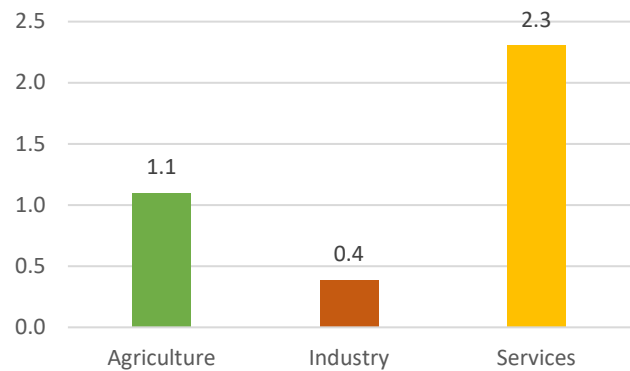
The population was estimated at 11,925 in 2021, representing annual average population growth of 1.2 per cent per annum over the last decade.<sup>4</sup> In 2021, a total of 64.8 lived in urban areas.<sup>5</sup>

## ► Labour market

The total labour force (aged 15+) was estimated at 4.4 thousand in 2016, corresponding to a labour force participation rate of 38.3 per cent.<sup>6</sup> Around per cent of the total labour force were women. Women had a labour force participation rate of 55.4 per cent, compared to 71.2 per cent for men.

Total employment (aged 15+) was estimated at 4.1 thousand in 2016, representing an employment-to-population ratio of 32.1 per cent.<sup>7</sup> By broad sector group, agriculture accounted for 29 per cent of total employment, industry a further 10 per cent and services, 61 per cent in 2016 (Figure 2).

► Figure 2. Composition of total employment by broad sector group, 2016 (thousands)

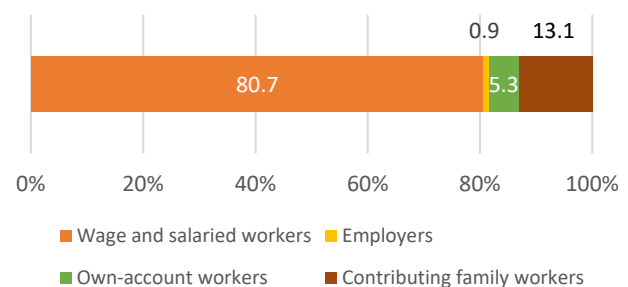


Source: International Labour Organization, ILOSTAT database. Data as of January 2021. Accessed via World Development Indicators Database [06 August 2022]

There were an estimated 0.4 thousand unemployed persons in the country in 2016, corresponding to a total unemployment rate of 8.5 per cent.<sup>8</sup> The unemployment rate for women was estimated at 16.2 per cent, compared to men at 4.6 per cent. Youth were estimated to exhibit an unemployment rate of around 20.6 per cent.

Having a job does not, however, guarantee quality employment. A total of 80.7 per cent of the total employed population were in wage and salaried employment in 2016.<sup>9</sup> Wage and salaried employment is associated with more higher degrees of job security, more regular incomes as well as greater access and eligibility to social protection as well as coverage by employment regulation, than those in self-employment. Accordingly, the remaining 19.3 per cent of total employment, who are classified as being self-employed, encompass employers, own-account workers and contributing family workers (Figure 3).<sup>10</sup>

► Figure 3. Composition of total employment by status in employment, 2016 (percentage)



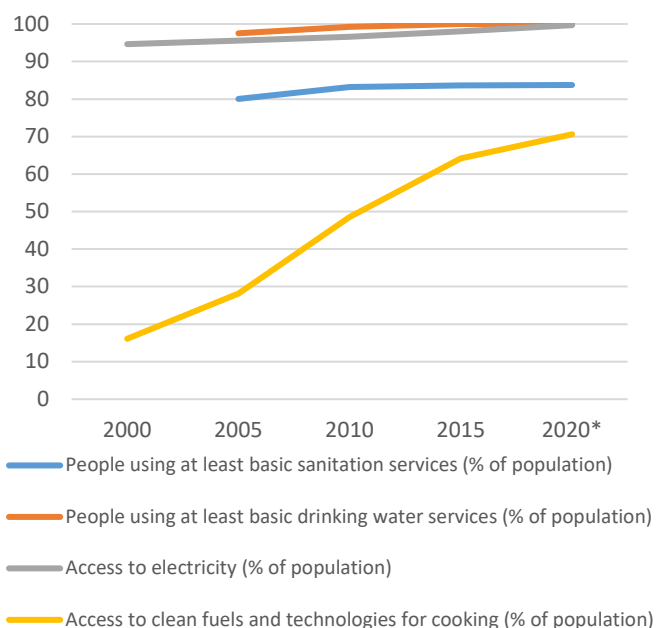
Source: International Labour Organization, ILOSTAT database. Modelled estimates. Data as of January 2021.

## ▶ Environment and vulnerability to climate change

There is no data for Tuvalu in the latest Environmental Performance Index (EPI), 2022.<sup>11</sup> The EPI assesses countries on 40 different performance indicators and ranks them according to their national efforts towards environmental health, to enhance ecosystem vitality and mitigate climate change. The EPI provides important information to help guide action to improve environmental health, ecosystem vitality, climate change and resilience to weather disasters. All of which have the potential to provide job creation, green economy growth and innovation in the country.

As shown in Figure 4, around 83.7 per cent of the population had access to at least basic sanitation services in 2020.<sup>12</sup> This represents a change from in 2000. Around 100.0 per cent of the population were using at least basic drinking water services (from per cent in 2000); 99.7 per cent had access to electricity (from 94.6 per cent in 2000); and 70.6 per cent had access to clean fuels and technologies for cooking (from 16.1 per cent in 2000).<sup>13</sup>

▶ **Figure 4. Access to selected basic services, 2000-2020\* (percentage)**



Notes: Latest available datapoint from 2018-2020

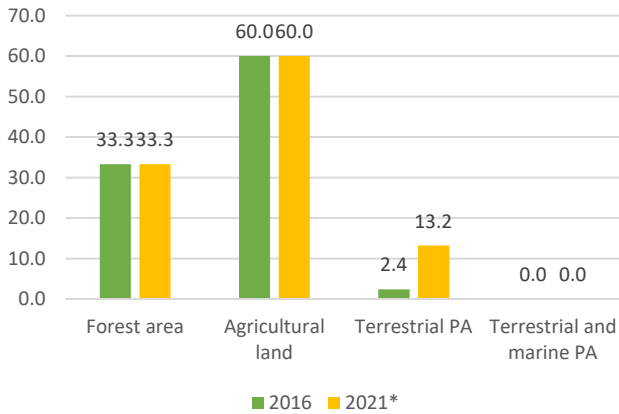
Sources: WHO UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (washdata.org); World Bank Global Electrification Database from Tracking SDG 7: The Energy Progress Report led jointly by the custodian agencies: the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the United Nations Statistics Division (UNSD), the World Bank and the World Health Organization (WHO); WHO Global Health Observatory; Accessed via World Development Indicators [06 August 2022].

Around 13.2 per cent of Tuvalu’s land area is forest area.<sup>14</sup> Forest area in this context refers to land under natural or planted stands of trees of at least 5 meters in situ, whether productive or not, and excludes tree stands in agricultural production systems (for example, in fruit plantations and agroforestry systems) and trees in urban parks and gardens. Of the total land area, around 0.0 per cent is agricultural land (compared to 56.7 per cent in 2001). Agricultural land in this context refers to the share of land area that is arable, under permanent crops, and under permanent pastures.<sup>15</sup>

Protected areas are a crucial means of environmental preservation and conservation. In Tuvalu, around 13.2 per cent of total land area were protected areas in 2021 (Figure 5), compared to 2.4 per cent in 2016.<sup>16</sup> Terrestrial protected areas in this context are totally or partially protected areas of at least 1,000 hectares that are designated by national authorities as scientific reserves with limited public access, national parks, natural monuments, nature reserves or wildlife sanctuaries, protected landscapes, and areas managed mainly for sustainable use.

Once marine protected areas are incorporated, around 0.0 per cent of total territorial area were territorial or marine protected areas.<sup>17</sup> Marine protected areas in this context refer to areas of intertidal or subtidal terrain--and overlying water and associated flora and fauna and historical and cultural features--that have been reserved by law or other effective means to protect part or all of the enclosed environment.

► **Figure 5. Forest area, agricultural land, terrestrial and marine protection areas, 2016 and 2021 (percentage)**



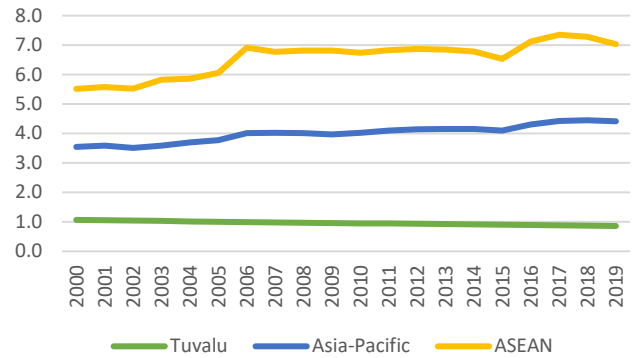
*Note: PA = protected area. Terrestrial protected areas (% of total land area); Terrestrial and marine protected areas (% of total territorial area); Forest area (% of land area); Agricultural land (% of land area). \*2018-2021 latest available datapoint.*

*Source: World Database on Protected Areas (WDPA) accessed via World Development Indicators.*

There will be greater prospects for employment opportunities if there is commitment to transition to a low carbon and resource-efficient economy, such as jobs in resource management and environmental services.

The carbon dioxide (CO<sub>2</sub>) emission levels for Tuvalu are estimated at around 10 kt in 2019.<sup>18</sup> This marks a change from 10 kt in 2000, representing annual average growth in CO<sub>2</sub> emissions of 0.0 per cent from 2000-2019. While total CO<sub>2</sub> emissions are largely related to the size of the economy, a per-capita metric serves as a relative measure for comparing countries (Figure 6). In 2019, the unweighted average across Asia-Pacific countries was estimated at 4.4 metric tonnes per capita. In Tuvalu it was estimated at 0.9 metric tonnes per capita for the same year.

► **Figure 6. CO<sub>2</sub> emissions, 2000-2019, Tuvalu, ASEAN and Asia-Pacific (metric tonnes per capita)**



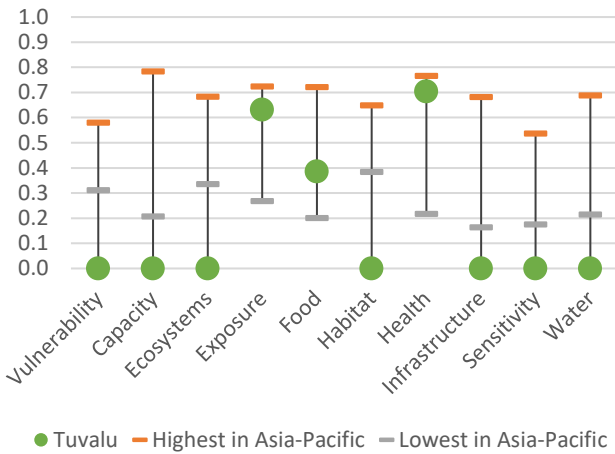
*Note: ASEAN and Asia-Pacific are unweighted averages. Source: Climate Watch. 2020. GHG Emissions. Washington, DC: World Resources Institute. Accessed via World Development Indicators [06 August 2022].*

The level of PM<sub>2.5</sub> (atmospheric particulate matter with a diameter of less than 2.5 micrometres) emissions is important measure of air quality, yet no data exists for Tuvalu.

The Notre Dame Global Adaptation Index considers vulnerability to climate change and related global challenges as well as resiliency and preparedness.<sup>19</sup> Looking only at the vulnerability components of the index, Tuvalu scores (where 0 is very vulnerable and 1 is least vulnerable), which, for reference, ranks Tuvalu 34th of 35 countries in the Asia-Pacific region with a score in the database.

Figure 7 provides other comparisons of how the country fares relative to other countries in the Asia-Pacific region with respect to different composite indicators of the vulnerability component of the index. For instance, it shows that for ecosystems – i.e. that which provides the natural capital upon which human society builds its economy and social system and include natural resources that are at the foundation of all almost all product value chains – Tuvalu has a score of , relative to highs (least vulnerable) in the region of 0.68 and lows of 0.33. Shifting geoclimates due to changed temperature and precipitation cause stress within ecosystems unable to respond as quickly as these shifts require.<sup>20</sup>

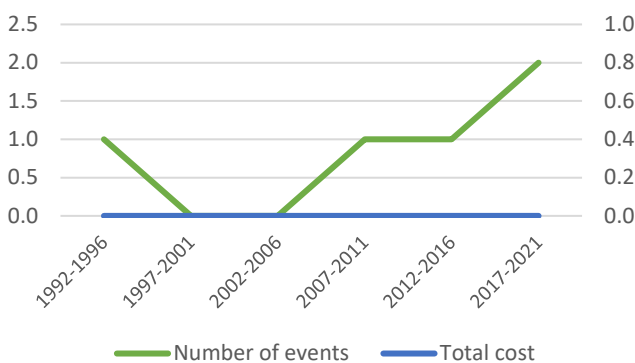
► **Figure 7. Notre Dame Global Adaptation Index, Vulnerability and composite indicators, 2020, Tuvalu, Asia-Pacific (index score)**



Note: ASEAN and Asia-Pacific are unweighted averages. Source: ND-GAIN Country Index. Available at: <https://gain.nd.edu> [06 August 2022]

Over the 2017-2021 period, there were a total of 2 natural disasters in Tuvalu (natural disasters in this context includes floods, droughts, epidemics, storms, landslides, earthquakes and wildfires).<sup>21</sup> This compares to 1 natural disaster over the 1992-1996 5-year period. There are substantial costs to these events, but no available estimates for Tuvalu.

► **Figure 8. Number of natural disasters (LHS) and total cost of natural disasters (RHS - US\$ million) per 5-year period, 1992-2021**

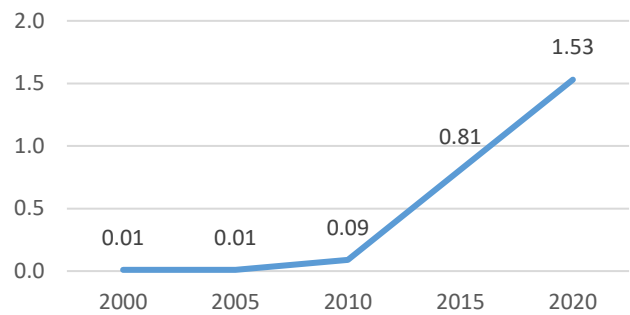


Source: ILO compilation using EM-DAT. Available at: <https://www.emdat.be> [06 August 2022]

## ► Sectors with green jobs potential

In 2018, renewable energy as a share of total energy consumption was estimated at around 8.2 per cent. This compares to 0.0 per cent in 2000.<sup>22</sup> Renewable energy sources produced 1.5 GWh in 2020 (Figure 9).<sup>23</sup> With total renewable energy sources producing 0.0 GWh in 2000, it represents annual average growth of 28.6 per cent between 2011-2020.

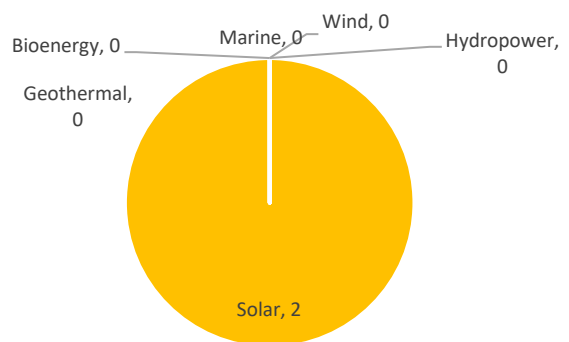
► **Figure 9. Total renewable energy generation (GWh), 2000-2020**



Source: ILO compilation using IRENA Renewable Energy Statistics 2022

Solar accounted for the highest share of total renewable energy generation in 2020, at 2 GWh, equivalent to 100.0 per cent of total renewable energy generation in the country (Figure 10).<sup>24</sup>

► **Figure 10. Renewable energy generation (GWh) by technology, 2020**



Source: ILO compilation using IRENA Renewable Energy Statistics 2022

According to estimates by the International Renewable Energy Agency (IRENA), there are no available estimates for jobs in renewable energy for Tuvalu.<sup>25</sup>

Better data collection relating to the green economy and the environmental sector would be valuable for policymakers in Tuvalu and Asia-Pacific countries. Better data on green and decent jobs is particularly needed to assess the impact of climate change and climate-related policies on social inclusion. Without better data, it will be difficult to determine what policy changes are needed to assure a just transition to environmental sustainability and to monitor progress going forward.

## References and technical information

- <sup>1</sup> Source: Food and Agriculture Organization, electronic files and web site. Accessed via World Development Indicators [06 August 2022]
- <sup>2</sup> Source: World Bank national accounts data, and OECD National Accounts data files. Accessed via World Development Indicators [06 August 2022]
- <sup>3</sup> Source: World Bank national accounts data, and OECD National Accounts data files. Accessed via World Development Indicators [06 August 2022]
- <sup>4</sup> Source: (1) United Nations Population Division. World Population Prospects: 2019 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Report (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme. Accessed via World Development Indicators [06 August 2022]
- <sup>5</sup> Source: United Nations Population Division. World Urbanization Prospects: 2018 Revision. Accessed via World Development Indicators [06 August 2022]
- <sup>6</sup> Source: International Labour Organization, ILOSTAT database. The data was retrieved on September 3, 2022.
- <sup>7</sup> Source: International Labour Organization, ILOSTAT database. The data was retrieved on September 3, 2022.
- <sup>8</sup> Source: International Labour Organization, ILOSTAT database. The data was retrieved on September 3, 2022.
- <sup>9</sup> Source: International Labour Organization, ILOSTAT database. The data was retrieved on September 3, 2022.
- <sup>10</sup> Source: International Labour Organization, ILOSTAT database. The data was retrieved on September 3, 2022.
- <sup>11</sup> The 2022 Environmental Performance Index (EPI) provides a data-driven summary of the state of sustainability around the world. Using 40 performance indicators across 11 issue categories, the EPI ranks 180 countries on climate change performance, environmental health, and ecosystem vitality. These indicators provide a gauge at a national scale of how close countries are to established environmental policy targets. The EPI offers a scorecard that highlights leaders and laggards in environmental performance and provides practical guidance for countries that aspire to move toward a sustainable future. Source: EPI Raw Data, available at: <https://epi.yale.edu> [06 August 2022]
- <sup>12</sup> Source: WHO UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (washdata.org). Accessed via World Development Indicators [06 August 2022].
- <sup>13</sup> Source: WHO UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (washdata.org). Accessed via World Development Indicators [06 August 2022]; World Bank Global Electrification Database from Tracking SDG 7: The Energy Progress Report led jointly by the custodian agencies: the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the United Nations Statistics Division (UNSD), the World Bank and the World Health Organization (WHO). Accessed via World Development Indicators [06 August 2022]; WHO Global Health Observatory; Accessed via World Development Indicators [06 August 2022].
- <sup>14</sup> Source: Food and Agriculture Organization, electronic files and web site. Accessed via World Development Indicators [06 August 2022].
- <sup>15</sup> Source: Food and Agriculture Organization, electronic files and web site. Accessed via World Development Indicators [06 August 2022].
- <sup>16</sup> Source: World Database on Protected Areas (WDPA) where the compilation and management is carried out by United Nations Environment World Conservation Monitoring Centre (UNEP-WCMC) in collaboration with governments, non-governmental organizations, academia and industry. The data is available online through the Protected Planet website. Accessed via World Development Indicators [06 August 2022].
- <sup>17</sup> Source: World Database on Protected Areas (WDPA) where the compilation and management is carried out by United Nations Environment World Conservation Monitoring Centre (UNEP-WCMC) in collaboration with governments, non-governmental organizations, academia and industry. The data is available online through the Protected Planet website. Accessed via World Development Indicators [06 August 2022].
- <sup>18</sup> Source: Climate Watch. 2020. GHG Emissions. Washington, DC: World Resources Institute. Accessed via World Development Indicators [06 August 2022].
- <sup>19</sup> The Notre Dame Global Adaptation Initiative (ND-GAIN) Country Index is a measurement tool that helps governments, businesses and communities examine risks exacerbated by climate change, such as over-crowding, food insecurity, inadequate infrastructure, and civil conflicts. The Country Index uses 20 years of data across 45 indicators to rank over 180 countries annually based on their level of vulnerability, and their readiness to successfully implement adaptation solutions. Available at: <https://gain.nd.edu> [06 August 2022]
- <sup>20</sup> ND-GAIN, Our Work. Ecosystems. Available at: <https://gain.nd.edu/our-work/country-index/methodology/sectors/#ecosystems> [06 August 2022]

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<sup>21</sup> EM-DAT contains essential core data on the occurrence and effects of over 22,000 mass disasters in the world from 1900 to the present day. The database is compiled from various sources, including UN agencies, non-governmental organisations, insurance companies, research institutes and press agencies. Available at: <https://www.emdat.be> [06 August 2022]

<sup>22</sup> Note: World Bank, Sustainable Energy for All (SE4ALL) database from the SE4ALL Global Tracking Framework led jointly by the World Bank, International Energy Agency, and the Energy Sector Management Assistance Program. Accessed via World Development Indicators [06 August 2022].

<sup>23</sup> IRENA (2022), Renewable Energy Statistics 2022, International Renewable Energy Agency (IRENA), Abu Dhabi. Available at: <https://irena.org/Statistics> [06 August 2022]

<sup>24</sup> IRENA (2022), Renewable Energy Statistics 2022, International Renewable Energy Agency (IRENA), Abu Dhabi. Available at: <https://irena.org/Statistics> [06 August 2022]

<sup>25</sup> IRENA jobs database 2021. Figures provided are the result of a comprehensive review of primary information sources by national entities such as ministries and statistical agencies, and secondary data sources such as regional and global studies. For more details refer to IRENA's report 'Renewable Energy and Jobs - Annual Review 2019'.

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