# Wales's Global Footprint Register

**SoNaRR2020**

## Remit

As set out in the Environment (Wales) Act, 'NRW must prepare and publish reports…containing its assessment of the state of natural resources in relation to Wales.' The remit of SoNaRR is then, not simply to cover natural resources in Wales, but in relation to Wales and therefore our use of global natural resources.

## Overview

If everyone on Earth used natural resources at the same rate as Wales, 2.5 planets would be needed. This over-consumption of natural resources is putting a strain on ecosystems in Wales and world-wide (Welsh Government, 2015).

The current levels of consumption in Wales are unsustainable and are resulting in:

- the depletion of natural resources faster than they can be replenished, and
- the planet's capacity to absorb our society's waste being exceeded (Welsh Government, 2015).

Wales is contributing to Earth's biocapacity being exceeded and consuming more than its fair share of the Earth's natural resources.

In order to achieve the well-being goal of 'A Globally Responsible Wales' the impact Wales is having overseas needs to first be better understood. This register brings together the available information on the global impact of Wales's unsustainable use of natural resources.

We are working to build a better understanding of Wales's global impact for the SoNaR report. We have compiled a current snapshot of the available information on Wales's global footprint within the two tables below.

The tables and figures below set out the information, organised by the Welsh Government list of consumption theme contributing to Wales's ecological footprint (Table 1, Figure 1) and the Welsh Government list of land types contributing to Wales's ecological footprint (Table 2, Figure 2).

Table 1 The indirect drivers of change and human activities by consumption occurring in Wales and the direct drivers of change and pressures they are causing in Wales and other countries.

| Indirect drivers of change | Activities driven by consumption in Wales | Direct drivers of change and pressures |
|---|---|---|
| Economic and technological | 1. Housing – fuel emissions from direct household energy use for heat, hot water, lighting and electrical appliances as well as the impact from household maintenance and from household construction. | 1.1 Accounts for 20% of the overall ecological footprint of Wales and resulting pressures.<br><br>1.2 Contributes to climate change which produces pressures such as changing weather patterns, ocean acidification, increased water temperature.<br><br>1.3 Contributes to over-exploitation which produces pressures on water demand and agricultural intensification.<br><br>1.4 Contributes to land use change which produces pressures such as insufficient management, competing land use, agricultural intensification.<br><br>1.5 Consumption of CO2 equivalent is 11.11t CO2e per capita (Oxfam, 2020).<br><br>1.6 Global boundary exceeded by 455% (Oxfam, 2020) resulting in environmental impacts. |
| Demographic and sociocultural | 2. Food – food and drink consumed by households and at restaurants and takeaways. | 2.1 Accounts for 28% of the overall ecological footprint of Wales<br><br>2.2 Contributes to land use change such as insufficient management, competing land use, agricultural intensification.<br><br>2.3 Contributes to pollution which produces pressures such as water pollution and land pollution.<br><br>2.4 Contributes to climate change which produces pressures such as changing weather patterns, ocean acidification, increased water temperature. |

| Indirect drivers of change | Activities driven by consumption in Wales | Direct drivers of change and pressures |
|---|---|---|
| Economic and technological | 3. Transport – fuel emissions from personal travel in public and private vehicles as well as the impact from maintaining vehicles, buying new vehicles and building the transport infrastructure. | 3.1 Accounts for 11% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>3.2 Contributes to pollution which produce pressures such as water pollution and land pollution.<br><br>3.3 Contributes to land use change which produces pressures such as built development and infrastructure.<br><br>3.4 Contributes to climate change which produces pressures such as changing weather patterns, ocean acidification, increased water temperature.<br><br>3.5 Average PM10 concentration is 10mg/m3 (Oxfam, 2020) |
| Demographic and sociocultural | 4. Private services – all private sector services ranging from entertainment to financial. | 4.1 Accounts for 11% of the overall ecological footprint of Wales (Welsh Government, 2015).<br>4.2 Contributes to land use change which produce pressures such as built development and infrastructure, competing land use, unmanaged access, sports and recreational activity.<br>4.3 Contributes to climate change which produces pressures such as changing weather patterns, ocean acidification, increased water temperature. |
| Economic and technological | 5. Consumer items – production of all products bought by households, from newspapers to appliances. | 5.1 Accounts for 8% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>5.2 Contributes to land use change which produces pressures such as built development and infrastructure, competing land use, agricultural intensification.<br><br>5.3 Contributes to climate change which produces pressures such as changing weather patterns, ocean acidification, increased water temperature. |

| Indirect drivers of change | Activities driven by consumption in Wales | Direct drivers of change and pressures |
|---|---|---|
| Institutions and governance | 6. Public services – all services provided by the public sector ranging from education and healthcare to sewage and waste disposal. | 6.1 Accounts for 8% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>6.2 Contributes to land use change which produces pressures such as built development and infrastructure, competing land use, unmanaged access, sports and recreational activity.<br><br>6.3 Contributes to climate change which produces pressures such as changing weather patterns, ocean acidification, increased water temperature. |
| Demographic and sociocultural | 7. Other – this includes other aspects of purchasing or expenditure included in national accounts, such as gross fixed capital formation or not-for-profit institutes serving households. | 7.1 Accounts for 14% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>7.2 Contributes to climate change which produces pressures such as changing weather patterns, ocean acidification, increased water temperature. |

Note: The human activities in this table derive from the Welsh Government list of consumption themes contributing to Wales's ecological footprint (Welsh Government, 2015).

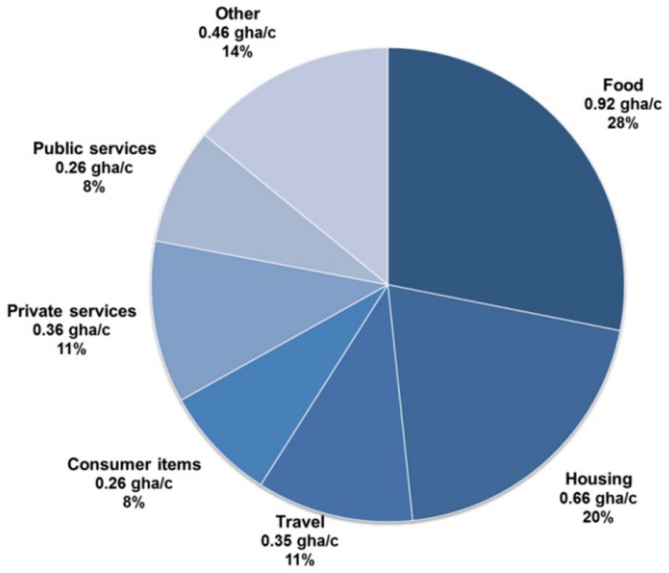


Figure 1 Ecological footprint of Wales by Welsh Government consumption theme (Welsh Government, 2015)

Table 2 The indirect drivers of change and human activities by land type occurring in Wales and the direct drivers of change and pressures they are causing in Wales and other countries.

| Indirect drivers of change | Human activities by land type | Direct drivers of change and pressures |
|---|---|---|
| Economic and technological | 1. Carbon land – land and sea required to sequester CO2 emissions, by photosynthesis | 1.1 Accounts for 63% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>1.2 Contributes to land use change which produces pressures such as built development and infrastructure, competing land use. |
| Demographic and sociocultural | 2. Cropland – land required to produce crops | 2.1 Accounts for 18% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>2.2 Contributes to pollution which produces pressures such as water pollution, land pollution.<br><br>2.3 Contributes to land use change which produces pressures such as insufficient management, competing land use, agricultural intensification.<br><br>2.4 Land use change – land converted to crop land was 0.6 global hectares per capita (Welsh Government, 2015).<br><br>2.5 Global boundary exceeded by 200% (Oxfam, 2020) |
| Demographic and sociocultural | 3. Grazing land – land required to raise animals and animal products | 3.1 Accounts for 6% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>3.2 Contributes to land use change which produces pressures such as insufficient management, competing land use, agricultural intensification.<br><br>3.3 Contributes to pollution which produce pressures such as water pollution, land pollution. |
| Economic and technological | 4. Built-up land – land required for housing, buildings and other infrastructure | 4.1 Accounts for 4% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>4.2 Contributes to land use change which produces pressures such as insufficient management, competing land use, agricultural intensification. |

| Indirect drivers of change | Human activities by land type | Direct drivers of change and pressures |
|---|---|---|
| Demographic and sociocultural | 5. Fishing grounds – sea area required to produce fish | 5.1 Accounts for 3% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>5.2 Contributes to over-exploitation which produces pressures such as unsustainable fisheries.<br><br>5.3 33% of marine fish stocks (quota) of UK interest harvested unsustainably (above Maximum Sustainable Yield) (Oxfam, 2020) |
| Economic and technological | 6. Forest – land required to sustain biodiversity | 6.1 Accounts for 6% of the overall ecological footprint of Wales (Welsh Government, 2015).<br><br>6.2 Contributes to land use change in Wales and other countries which produces pressures such as insufficient management, competing land use, agricultural intensification etc. |

Note: The human activities in this table derive from the Welsh Government list of land types contributing to Wales's ecological footprint.

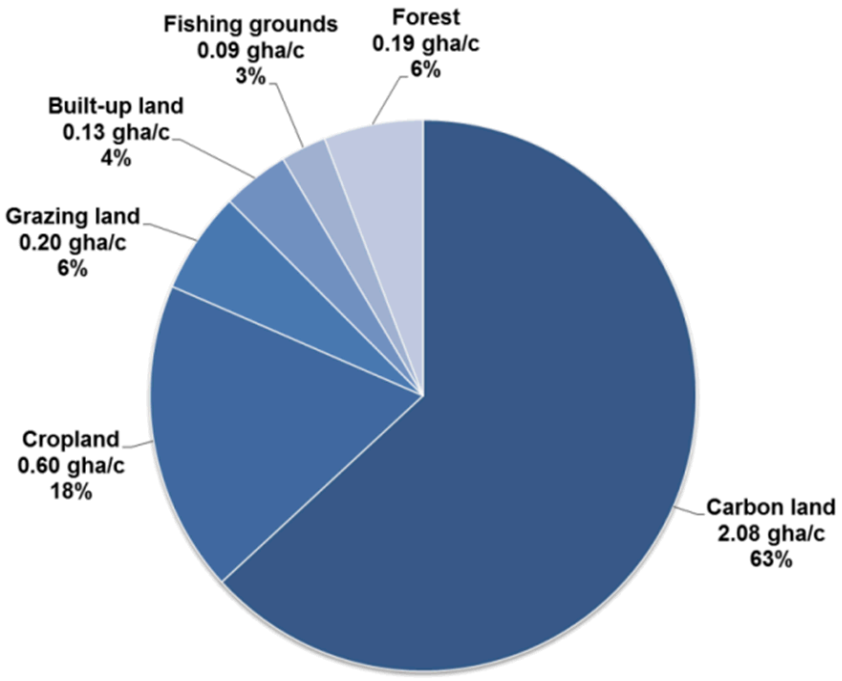


Figure 2 Wales's global footprint by land type (Welsh Government, 2015).

# Opportunities for Action

Wales needs to reduce its consumption by:

- improving the efficiency of production
- reducing the levels of consumption within Wales
- transforming the types of consumption within Wales
- reducing green house gas emissions released outside Wales that contribute to products consumed within Wales
- taking part in international policies to reduce emissions
- seeking to implement sustainable improvements in the global supply chains

# References

Oxfam 2020. Swaffield, L. Egan, D. THE WELSH DOUGHNUT 2020 A framework for environmental sustainability and social justice. Oxfam Cymru. Available from: https://policy-practice.oxfam.org/resources/the-welsh-doughnut-2020-a-framework-for-environmental-sustainability-and-social-620979/ [Accessed January 2021]

Welsh Government 2015. Ecological and Carbon Footprints of Wales Update to 2011. Available from: https://gov.wales/sites/default/files/publications/2019-04/ecological-and-carbon-footprint-of-wales-report.pdf [Accessed January 2021]