Resource efficiency and low carbon economy

Food consumption – animal based products

Indicator	EU indicator past trend	Selected objective to be met by 2020	Indicative outlook of the EU meeting the selected objective by 2020
Consumption of meat, dairy, fish and seafood		Reduce the overall impact of production and consumption in the food sector - 7th EAP	

Reducing the consumption of animal products and shifting to other sources of protein has the potential to reduce environmental impacts related to food. Consumption of meat, dairy, and fish and seafood products increased gradually between 1995 and 2008, but has stabilised since then. Levels of saturated fat and red meat consumption remain above dietary guidelines and result in high GHG and nitrogen emissions

The Seventh Environment Action Programme (7th EAP) aims to reduce the overall impacts of production and consumption in the food sector. Animal products have been found to cause high environmental impacts, primarily related to their production. For example, meat and dairy products contribute on average 24 % of the environmental impacts from total final consumption in the EU-27 (Weidema et al., 2008). Therefore, reducing the consumption of animal products and shifting to other sources of protein has the potential to reduce environmental impacts related to food production and consumption.

Consumption of meat, dairy, and fish and seafood products increased gradually between 1995 and 2008 but has stabilised since then. The composition of meat consumption has also changed, with less beef and more poultry being consumed. However, levels of saturated fat and red meat consumption remain high, resulting in health and environmental impacts. The increase in seafood consumption has positive health implications but, depending on the fish species being consumed, can challenge other 7th EAP objectives regarding healthy marine ecosystems.

For further information on the scoreboard methodology please see Box I.1 in the EEA Environmental indicator report 2016

Setting the Scene

The 7th EAP calls for changes in consumption patterns and lifestyles to reduce the overall environmental impact of production and consumption, in particular in the food, housing and mobility sectors (EU, 2013). Meat and dairy products contribute around 6 % of the economic value but 25 % of the environmental impacts caused by total final consumption in the EU (Weidema et al., 2008). The food sector contributes strongly to climate change, eutrophication, land take and a host of other environmental problems (Bailey et al., 2014). This briefing presents trends in the consumption of animal-based food products (meat, dairy, fish and seafood), as a reduction in the demand for these products and a shift to other sources of protein has the potential to reduce the EU's environmental footprint while also delivering health benefits (EuroHealthNet, 2013). For the housing and mobility sectors, please see the Household energy consumption briefing (AIRS_PO2.8, 2016)[1] and the Transport greenhouse gas emissions briefing (AIRS_PO2.9, 2016).[2]

Policy targets and progress

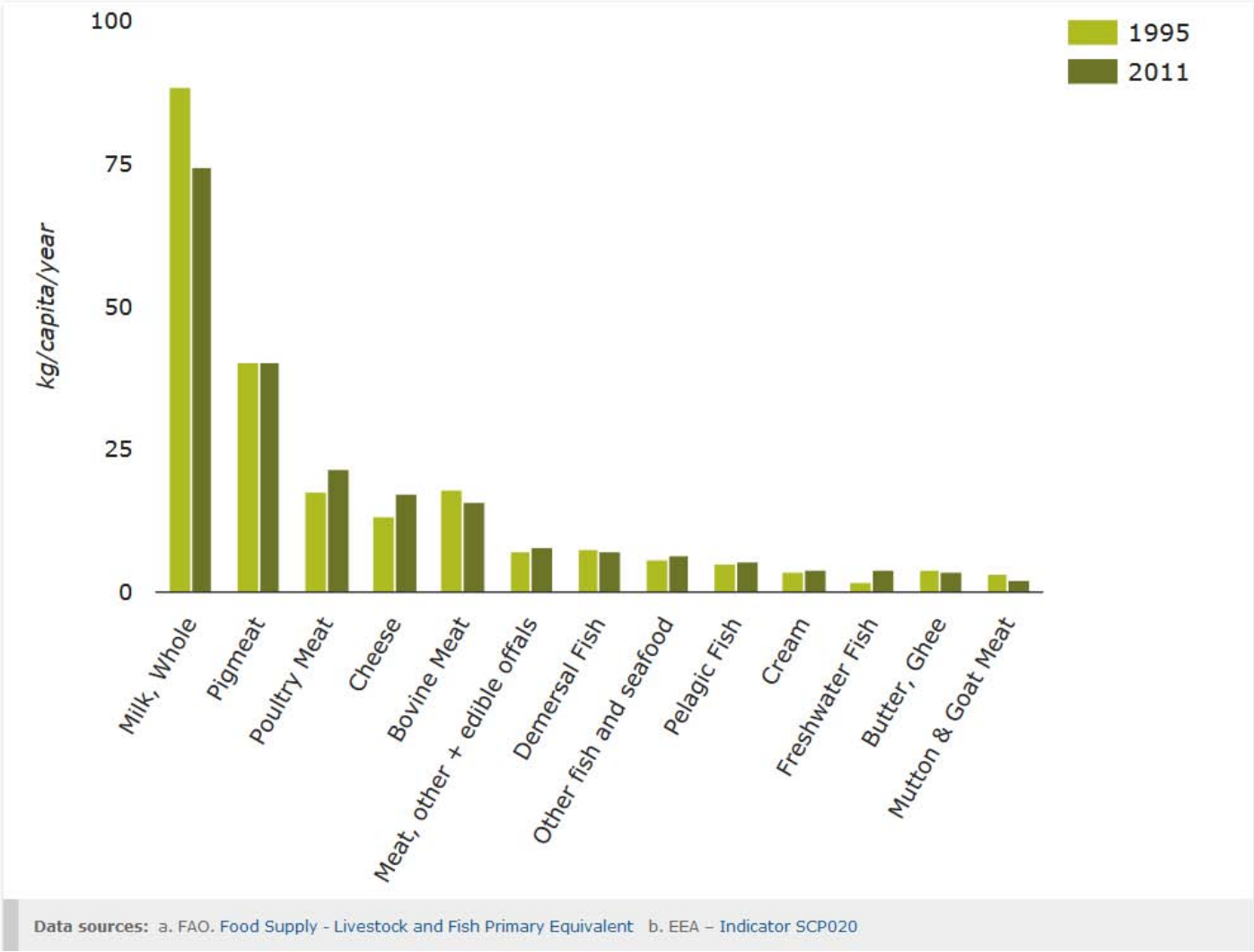
The food system is a major driver of environmental change, with implications for energy and water security. Although the EU has no explicit food policy, the food system cuts across a wide range of policy areas including agriculture, fisheries, biodiversity and health. The 7th EAP and the Roadmap to a Resource Efficient Europe (EC, 2011) share the objectives of reducing the impact of food production and consumption and reducing resource inputs by tackling food waste in particular.

Different food products have very different environmental footprints. Diets characterised by a high intake of animal products result in consumption of saturated fat and red meat in quantities that exceed dietary recommendations. Their production requires large areas of land and results in high greenhouse gas and nitrogen emissions. Therefore, a healthier diet can result in lower environmental impacts.

Intensively farmed beef has a carbon footprint seven times that of poultry. Land use and eutrophication loading are six times and four times higher, respectively, per kilogram. The environmental footprint of pork lies somewhere between the two for most impact categories (Weidema et al., 2008). Animal welfare issues related to intensive methods of poultry rearing are also a consideration when evaluating impact. In addition, while grazing animals can contribute positively to the biodiversity of agricultural land, overgrazing contributes to the lack of improvement in the conservation status of habitats associated with agricultural ecosystems; see EU protected habitats briefing (AIRS_PO1.8, 2016).[3]

Absolute and indexed meat, dairy and seafood consumption are shown in Figures 1 and 2. Average per capita consumption of meat (all types), dairy, and fish and seafood products generally increased in the EU-28 up until 2008 but have stabilised since then.

Figure 1. Average per capita consumption of meat, fish, seafood and dairy products, EU



Data sources: a. FAO. Food Supply - Livestock and Fish Primary Equivalent b. EEA – Indicator SCP020

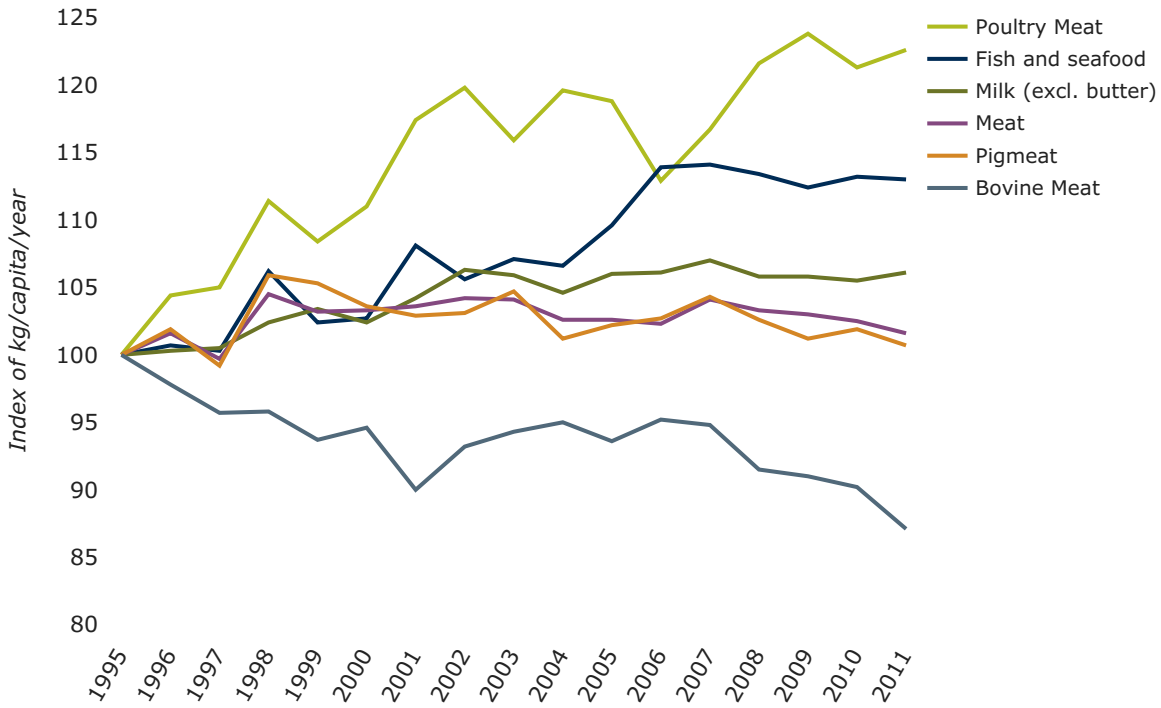
Bovine meat consumption has reduced steadily over the monitoring period while poultry consumption has risen. The average citizen in the EU-28 ate 2.3 kg less beef in 2011 than in 1995 (a 13 % decrease), but 4.0 kg more poultry (a 23 % increase), with pork consumption remaining relatively stable (Figure 1). This shift will have led to a reduction in environmental impacts but this may have been somewhat offset by a 3.8 kg per capita increase in cheese consumption. The shift from beef to poultry is also in line with health guidelines in guarding against cardiovascular disease (EuroHealthNet, 2013).

There is no explicit policy objective of reducing meat and dairy consumption for environmental reasons (Bailey et al., 2014). It may well be that European dietary changes have been brought about by increasing awareness of healthier diets, although price changes may also have had an effect. Beef prices, for example, reached record highs in 2013 (EC, 2014). Subsequently, the European Commission noted a rebound in meat and beef consumption in 2014 and projected a

further 2 % increase in 2015 continuing into 2016 (EC, 2015a).

Looking towards 2020, the 2013 Common Agricultural Policy (CAP) reform is more neutral with respect to particular agricultural products than earlier CAPs. However, the recently adopted EUR 500 million aid package for farmers is aimed specifically at supporting cattle and pig farmers (EC, 2015b). A positive development is the increasing focus at both EU and Member State levels on reducing food waste, through actions in the Circular Economy Package (EC, 2015c) and Member States' waste prevention strategies.

Figure 2. Developments in per capita consumption of meat, fish and dairy products, EU (indexed)



Data sources: a. FAO. Food Supply - Livestock and Fish Primary Equivalent b. FAO. Food Supply - Crops Primary Equivalent c. FAO. Annual Population d. EEA – Indicator SCP020

Europeans ate on average about 2.7 kg more fish and seafood each in 2011 than in 1995. About 1.8 kg of this increase was consumption of freshwater fish, a 95 % increase. The remaining 0.9 kg of increased fish and seafood consumption comprised crustaceans (e.g. prawns, mussels), cephalopods (e.g. squid) and pelagic (bottom-dwelling) fish.

Imports of the majority of fish and crustacean products, mostly processed fish, to the EU increased by 44 % between 2000 and 2010, to nearly 5 million tonnes. Aquaculture in Europe accounts for about 20 % of fish production. As aquaculture production in the EU-28 has been

steady since 1995, increasing consumption has been met by imports (EEA, 2014).

The increase in the consumption of seafood during this period is also in line with healthy eating advice. However, again it is difficult to assess the environmental implications of this trend. About one third of fish stocks in the North-East Atlantic and half of the assessed commercial fish stocks in the Mediterranean Sea are being fished beyond safe biological limits; for further information on the status of commercial fish stocks please see the Marine fish stocks briefing (AIRS_PO1.5).[4] According to the 7th EAP, the Marine Strategy Framework Directive (EU, 2008) target to achieve 'good environmental status' by 2020 is coming under severe pressure, due in part to continued overfishing. The 7th EAP includes a target to urgently increase efforts to ensure that healthy fish stocks are achieved. This may be compromised by the increasing consumption of fish, depending on the species consumed.

Country level information

At the country level, the proportions of various food groups in consumption, and trends in these, vary greatly. Absolute levels of meat consumption per capita across the EU-28 also differ, ranging from 53 kg/year in Bulgaria to 106 kg/year in Austria in 2011. The differences between countries have reduced, however, since 1995.

Outlook beyond 2020

As a major greenhouse gas emitter, the food sector may need to undergo significant changes if the EU is to meet its 2050 target for an 80 – 95 % reduction in greenhouse gases. Current policies aimed at reducing the impact of food are mostly focused on the production side, e.g. reducing inputs and better manure and slurry management. On the consumption side, the policy focus is largely limited to labelling schemes and reducing food waste. Given the health relevance and implications of meat, dairy, fish and seafood consumption for the population, potential environmental and health co-benefits, as well as conflicts and trade-offs, should be explored when considering options to reduce environmental pressures related to food consumption. However, it seems doubtful that the necessary gains needed by 2050 in reducing greenhouse gas emissions can be achieved without tackling meat and dairy consumption (Weidema et al., 2008; Bailey et al., 2014).

About the indicator

The indicator shows consumption of selected meat, dairy, fish and seafood products in the EU-28, between 1995 and 2011. The data were extracted from the Food and Agriculture Organization of the United Nations (FAO) statistics database. This indicator is defined as the supply of these products to the final consumer. The indicator is presented both in absolute quantities per capita per year (Figure 1) and in indexed form (Figure 2). The amount of food actually consumed may be lower than the quantity shown in the indicator because of wasted edible food by households and other final consumers.

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