

**National Assembly for Wales**  
Research paper

# Food Security

June 2013

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**National Assembly for Wales**  
Research paper

## Food Security

June 2013

Hannah Rose and Kate Hibbert

This research paper updates the Research Service's previous Food Security paper (2011). It gives an overview of the key drivers for food security over the next 40 years, food security in Wales and the UK, and the Welsh Government's policies relating to food security, including the food strategy for 2010-2020.

The Research Service acknowledges the parliamentary fellowships provided to Miss Rose and Miss Hibbert by the Natural Environment Research Council, which enabled this paper to be completed.

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## Summary

This paper provides an overview of the key drivers for change in food security worldwide over the next 40 years, current food security in Wales and the UK, and 'Food for Wales, Food from Wales', the Welsh Government's food strategy for 2010-2020.

The 2008 food price spike drove an additional 115 million people to hunger and brought food security to the attention of policy-makers worldwide. Professor John Beddington, former UK Government Chief Scientific Adviser, warned in 2009 that we were entering a 'Perfect Storm' of food, water and energy shortages. A Foresight report on '*The Future of Food and Farming*', released in February 2011, also warned that food prices are likely to rise significantly over the next 40 years. The release of the report coincided with rising global food prices and by the end of February 2011, global food prices were higher than at their peak in 2008. Global food prices have dropped since the 2011 spike but have not returned to pre-2007 levels and food price inflation remains a concern in many developing countries.

The Foresight report identified six key drivers of change in food security. The global population is predicted to increase to 8-10 billion by 2050, increasing demand for food and pressure on resources such as water, energy and land. As income increases, the structure of diets changes - more calories and more resource-intensive foods such as meat and milk are consumed. Changes in the ethics of consumers, such as an increased concern for animal welfare, will shape consumer demand, policy and the way we produce food. The increasing demand for food will be met with increasing competition for water, energy and land which may limit food production. Climate change may also limit food production, for example through extreme weather events reducing yields. Finally, national and international policy such as trade restrictions will affect global food security. The combined effect of these drivers presents challenges for policy makers such as how the need to produce enough food to feed the world should be balanced with the need to protect the environment and mitigate climate change. Food security is intimately linked both to sustainable development and climate change.

The Welsh food system is highly integrated with the UK and European food systems. In addition, global food security depends on there being enough food (and sufficient access to that food) to feed everyone. Therefore Welsh food security should be considered in a global context as well as in European, UK and national contexts.



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# Food Security

## 1. Introduction

The volatility of global food security was brought to the attention of policy makers<sup>1</sup> when rising food prices in 2007 and 2008 led to violent protests worldwide<sup>2</sup> and drove an additional 115 million people to hunger.<sup>3</sup> The price of food increased on average 83 per cent between February 2005 and February 2008 due to a combination of factors including increasing global demand for food, rising energy prices, increased use of land for biofuel production, a weak US Dollar, poor wheat harvests in 2006 and 2007, and export restrictions.<sup>4</sup>

Food security is achieved when there is sufficient food **available**, and sufficient **access** to that food, to provide everyone with a **balanced** diet.<sup>5</sup> It is argued that it was not lack of food that drove millions to hunger during the 2008 food crisis but the lack of access to food<sup>6</sup> - at that time an estimated 850 million people worldwide were malnourished and 2 billion people were obese.<sup>7</sup>

In March 2009, Professor John Beddington, then UK Government Chief Scientific Adviser, warned that the world was entering a 'Perfect Storm' of food, water and energy shortages triggered by a growing population and the success in alleviating poverty in some developing countries.<sup>8</sup> A reduction in poverty increases demand for food as calorie intake increases and the structure of diets changes.<sup>9</sup> The Foresight report on '*The Future of Food and Farming*', released in February 2011, further warned that:

there is a strong likelihood that food prices will rise significantly in the next 40 years...there is broad agreement that the long term trend over the past century of low food prices is at an end. This has major implications for achieving food security in the future.<sup>10</sup>

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<sup>1</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>2</sup> Adam, D., *Food price rises threaten global security - UN*, *The Guardian Online*, 9 April 2008, [accessed 1 May 2013]

<sup>3</sup> Food and Agriculture Organisation of the United Nations, *The State of Agricultural Commodity Markets*, 2009 [accessed 2 May 2013]

<sup>4</sup> World Bank press release, *Rising Food Prices Threaten Poverty Reduction*, 9 April 2008 [accessed 2 May 2013]

<sup>5</sup> Defra, *Ensuring the UK's food security in a changing world*, July 2008 [accessed 2 May 2013]

<sup>6</sup> Defra, *The 2007/08 Agricultural Price Spikes: Causes and Implications*, 5 January 2010 [accessed 2 May 2013]

<sup>7</sup> Defra, *Ensuring the UK's food security in a changing world*, July 2008 [accessed 2 May 2013]

<sup>8</sup> Sample, I., *World faces 'perfect storm' of problems by 2030, chief scientist to warn*, *The Guardian Online*, 18 March 2009 [accessed 2 May 2013]

<sup>9</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>10</sup> *ibid*

By the end of February 2011 the UN Food and Agriculture Organisation's (FAO's)<sup>11</sup> Food Price Index was the highest since records began in 1990 and real food prices were 12.4 per cent higher than during the 2008 food crisis.<sup>12</sup> The increase in food prices between June 2010 and February 2011 drove an estimated 44 million people in low- and middle-income countries to extreme poverty.<sup>13</sup> As of May 2013, the FAO price index was nearly ten per cent below the peak of February 2011, but remains nearly 30 per cent higher than in 2007.<sup>14</sup> Progress on the Millennium Development Goal target to halve the proportion of people who suffer from hunger between 1990 and 2015 has slowed or stalled in many regions.<sup>15</sup> 850 million people are now facing starvation worldwide.<sup>16</sup>

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<sup>11</sup> The Food and Agriculture Organisation of the United Nations leads international efforts to reduce hunger and provides a neutral forum for nations to debate policy and negotiate agreements. The organisation also provides information and statistics such as international food prices.

<sup>12</sup> Food and Agriculture Organisation of the United Nations, *FAO Food Price Index*, 3 March 2011 [accessed 2 May 2013]  
Real food price index June 2008 = 184.7, February 2011 = 207.6

<sup>13</sup> The World Bank, *Food Price Watch*, February 2011 [accessed 2 May 2013]

<sup>14</sup> Food and Agriculture Organisation of the United Nations, *FAO Food Price Index*, 3 March 2011 [accessed 10 June 2013]  
Food price index, 2007 = 158.7, 2011 = 227.6, May 2013 = 215.2,

<sup>15</sup> United Nations, *Millennium Development Goals Report 2012*, 2 July 2012 [accessed 30 April 2013]

<sup>16</sup> *ibid*

## 2. Key drivers for change in food security

The 2011 Foresight report on the '*Future of Food and Farming*' involved over 400 experts and stakeholders and identified six key drivers for change in food security over the next 40 years:<sup>17</sup>

### 2.1. Population growth

Global population is predicted to increase to 8-10 billion by 2050,<sup>18</sup> increasing pressures on food supplies as well as essential commodities for food production such as energy, water and land.<sup>19, 20</sup> By 2050 an increase in food production of 70 per cent on top of 2005-2007 levels may be required to feed the growing population.<sup>21</sup> The majority of population growth is expected to occur in developing countries, meaning that not only is an increase in food production required, but an increase in food supply in the right parts of the world.<sup>22</sup> However, average availability of cultivated land in low-income countries can be less than half that of high-income countries.<sup>23</sup>

### 2.2. Changes in per capita demand

As income increases, starchy foods become less important in the diet and a higher proportion of calories is obtained from fats, protein and sugar.<sup>24</sup> Global calorie intake has increased around 15 per cent over the last 40 years.<sup>25</sup> Global meat consumption in 2007 was six times that of 1950<sup>26</sup> and global meat and dairy production is expected to approximately double by 2050 compared with 1990/1991.<sup>27</sup> This is significant as some food types are more resource intensive than others. The livestock sector is responsible for 8 per cent of global human water use<sup>28</sup> and between 3kg and 10kg of animal feed is required to produce 1kg of meat.<sup>29</sup> In 2002 around a third of grain produced was used as livestock feed.<sup>30</sup>

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<sup>17</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>18</sup> Defra, *UK Food Security Assessment*, August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>19</sup> *ibid*

<sup>20</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>21</sup> Defra, *UK Food Security Assessment: our Approach*, August 2009 [accessed 2 May 2013]

<sup>22</sup> Environment, Food and Rural Affairs Committee, *Securing food supplies up to 2050: the challenges faced by the UK - Fourth Report of Session 2008-09 Volume I*, 21 July 2009 [accessed 2 May 2013]

<sup>23</sup> FAO, *The state of the world's land and water resources for food and agriculture*, 2011 [accessed 30 April 2013]

<sup>24</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>25</sup> *ibid*

<sup>26</sup> Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010 [accessed 2 May 2013]

<sup>27</sup> Food and Agriculture Organisation of the United Nations, *Livestock's Long Shadow*, 2006 [accessed 2 May 2013]

<sup>28</sup> *ibid*

<sup>29</sup> Soil Association, *Feeding the animals that feed us*, 2010 [accessed 2 May 2013]

<sup>30</sup> Food and Agriculture Organisation of the United Nations, *Livestock's Long Shadow*, 2006 [accessed 2 May 2013]

### 2.3. *Changes in the ethics and values of consumers*

Changes in the ethics and values of consumers influence policy and affect patterns of consumption, ultimately affecting the governance of food systems. For example, feelings about the use of technologies such as genetic modification and cloning, and the value placed on animal welfare, production methods (e.g. organic) or fair trade.<sup>31</sup>

### 2.4. *Competition for resources*

The cost of energy and the demand for energy are significant determinants of food prices.<sup>32</sup> Global energy demand is predicted to double between 2008 and 2050 and energy prices are predicted to increase and become more volatile, impacting on the financial viability of fishing, the production and price of nitrogen fertilisers, and the cost of freight and transportation.<sup>33,34</sup>

The pressure on land and water is also likely to increase, particularly in the face of conflicting issues such as the need to increase food production while reducing carbon emissions and protecting biodiversity.<sup>35</sup> Agriculture uses around 70 per cent of water extracted from rivers and aquifers and agricultural demand for water may increase by 50 per cent by 2050.<sup>36</sup> Although about half of the land suitable for crop production worldwide is cultivated,<sup>37</sup> the majority of the world's most productive land is already in use<sup>38</sup> and some agricultural land is being diverted from food to fuel production. In 2000 enough grain to feed an estimated 350 million people was used to produce bioethanol in the United States.<sup>39</sup> In the future it is likely that increases in productivity per hectare will be required to meet future demand rather than increases in the amount of land cultivated.<sup>40</sup>

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<sup>31</sup> Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010 [accessed 2 May 2013]

<sup>32</sup> Chatham House, *Food Futures: Rethinking UK Strategy*, January 2009 [accessed 2 May 2013]

<sup>33</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>34</sup> Rural Development Sub-Committee, *Production and Promotion of Welsh Food*, 21 July 2009 [accessed 2 May 2013]

<sup>35</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>36</sup> *ibid*

<sup>37</sup> *ibid*

<sup>38</sup> Chatham House, *Food Futures: Rethinking UK Strategy*, January 2009 [accessed 2 May 2013]

<sup>39</sup> Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010 [accessed 2 May 2013]

<sup>40</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

## 2.5. *Climate change*

Climate change may affect water availability, soil composition, crop yields and livestock productivity.<sup>41</sup> Extreme weather events eg flooding may become more frequent, with 500,000 hectares of UK agricultural land at risk of frequent flooding by 2080 (compared to 200,000 ha presently).<sup>42</sup> The ability to adapt to these changes will ultimately determine the impact of climate change on the food system.<sup>43, 44</sup>

The food system itself contributes to climate change through its emissions and therefore unsustainable increases in food production, while increasing short-term food security, can jeopardise future food security.<sup>45</sup> In 2004 13.5 per cent of global greenhouse gas (GHG) emissions and 31 per cent of EU GHG emissions were attributed to the food supply chain.<sup>46, 47</sup>

## 2.6. *National and international governance of the global food system*

Defra reports that international trade makes a significant contribution to global food security, increasing the diversity in sources of food supply, contributing to lower food prices, potentially stimulating food production, contributing to economic growth through efficient allocation of resources and mitigating 'geographic specific' risks.<sup>48</sup> The Foresight report states that several factors will have implications for food security, including; production subsidies, trade restrictions, market interventions and the degree to which governments act collectively or individually in response to future challenges.<sup>49</sup>

According to Defra, tariffs on EU Common Agriculture Policy (CAP) goods (eg beef and sugar) imported from outside the EU may deny poorer countries access to the EU market, and export subsidies on CAP goods exported from the EU may undermine production in poorer countries.<sup>50</sup> Defra states that:

These ineffective [CAP] subsidies exacerbate food security concerns by hiding important market signals, distorting the decisions that producers make and undermining the capacity of countries to produce and trade agricultural goods.<sup>51</sup>

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<sup>41</sup> *ibid*

<sup>42</sup> UK Government, *UK climate change risk assessment: Government report*, 2012 [accessed 2 May 2013]

<sup>43</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>44</sup> Morgan, E. R. and Wall, R., (2009) *Climate change and parasitic disease: farmer mitigation?*, *Trends in Parasitology*, 25, p308-313

<sup>45</sup> Environment, Food and Rural Affairs Committee, *Securing food supplies up to 2050: the challenges faced by the UK - Fourth Report of Session 2008-09 Volume I*, 21 July 2009 [accessed 2 May 2013]

<sup>46</sup> Defra, *UK Food Security Assessment*, August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>47</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>48</sup> Defra, *The 2007/08 Agricultural Price Spikes: Causes and Implications*, 5 January 2010 [accessed 2 May 2013]

<sup>49</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>50</sup> Defra, *Ensuring the UK's food security in a changing world*, July 2008 [accessed 2 May 2013]

<sup>51</sup> Defra, *The 2007/08 Agricultural Price Spikes: Causes and Implications*, 5 January 2010 [accessed 2 May 2013]

The Committee on Agriculture and Rural Development of the European Parliament has stated that:

As a result of growing concerns about food security in the European Union and the world, globalisation and rising food prices, Europe and its regions need a new, strong CAP that will foster balanced and sustainable development and will also be market-oriented and improve competitiveness on the international market.<sup>52</sup>

CAP reforms are currently being negotiated, with a political agreement expected in June 2013. Both the Committee on Development of the European Parliament and the UN Food Rights Rapporteur have called for monitoring of the development implications of the CAP.<sup>53, 54</sup>

Reforms of the Common Fisheries Policy (CFP) aim to bring fish stocks back to sustainable levels, ensuring security in long-term supply.<sup>55</sup> The European Commission published proposals for reform in 2011 which included proposals such as the adoption of a 'maximum sustainable yield' as a principle of stock management by 2020 and the phasing out of discards from 2014.<sup>56</sup> CFP reforms are currently being negotiated, with hope that a political agreement will be reached by June 2013.

Defra concluded that the increase in biofuel production leading up to the 2007/2008 price spikes was primarily driven by policy.<sup>57</sup> In a review of the 2007/2008 price spikes, Defra called for improvements to biofuel and bio-energy policy:

To ensure that biofuel consumption is only supported if it secures cost effective net greenhouse gas savings, and to ensure that biofuel mandates are sufficiently flexible so that any future demand rationing affects biofuels as well as the food and feed sectors.<sup>58</sup>

The *UK Bioenergy Strategy*<sup>59</sup> now commits the UK Government to investigate whether temporarily flexing or relaxing biofuels mandates at times of agricultural price pressures would be beneficial.<sup>60</sup> This could allow agricultural markets to work more efficiently and reduce the size of a price spike. Demand for biofuels is likely to increase as oil prices remain high.<sup>61</sup>

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<sup>52</sup> European Parliament, Committee on Agriculture and Rural Development, *The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future*, May 2011 [accessed 21 May 2013]

<sup>53</sup> European Parliament, Committee on Development, *Opinion on the proposal for a regulation of the European Parliament and of the Council on the financing, management and monitoring of the common agricultural policy*, 2012 [accessed 16 May 2013]

<sup>54</sup> UN, Special procedures of the human rights council, *The common agricultural policy towards 2020: The role of the EU in supporting the realization of the right to food*, 2011 [accessed 16 May 2013]

<sup>55</sup> European Commission, *Reforming the Common Fisheries Policy (CFP): Building a brighter future for fish and fishermen* [accessed 30 April 2013]

<sup>56</sup> *ibid*

<sup>57</sup> Defra, *The 2007/08 Agricultural Price Spikes: Causes and Implications*, 5 January 2010 [accessed 2 May 2013]

<sup>58</sup> *ibid*

<sup>59</sup> UK Government, *UK bioenergy strategy*, 2012 [accessed 17 May 2013]

<sup>60</sup> Defra, *Can biofuels policy work for food security?*, 27 June 2012 [accessed 30 April 2013]

<sup>61</sup> OECD-FAO, *Agricultural Outlook 2012-2021*, 11 July 2012 [accessed 30 April 2013],

According to the Foresight report, the globalisation of markets has enabled the supply of food from a diverse range of sources, contributing to the resilience and price stability of the food system. As a result, high-income countries are reported to expect cheap, safe and varied food year-round. However, lower-income countries are reported to have become economically dependent on these markets.<sup>62</sup>

In response to rising food prices the G20 group of nations decided to set up the Agricultural Market Information System (AMIS) in 2011. The function of AMIS is to forecast the short-term market outlook for key grain crops, with the intention of increasing market transparency and reducing market volatility.<sup>63</sup>

### *2.7. Challenges for the future of food security<sup>64</sup>*

Based on the key drivers for change, Foresight identified five key challenges for the future of food security:

1. Balancing future demand and supply sustainably to ensure that food supplies are affordable.
2. Ensuring that there is adequate stability in food supplies and protecting the most vulnerable from the volatility that does occur.
3. Achieving global access to food and ending hunger. This recognises that producing enough food in the world so that everyone can potentially be fed is not necessarily the same thing as ensuring food security for all.
4. Managing the contribution of the food system to climate change mitigation.
5. Maintaining biodiversity and ecosystem services while feeding the world.

The report recommended that when designing policy, the combined effect of drivers for change and uncertainty in predictions should be considered. Policy should be robust to these uncertainties and should be updated regularly.

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<sup>62</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

<sup>63</sup> Foresight, *One year review – Global Food and Farming Futures*, 2012 [accessed 2 May 2013]

<sup>64</sup> Foresight, *The Future of Food and Farming: Final project report*, 2011 [accessed 2 May 2013]

### 3. Food security in Wales and the UK

In its 2009 assessment, Defra concluded that the **UK enjoys a high level of food security**.<sup>65</sup> The Welsh food system is highly integrated with UK and European food systems in social, policy and commercial terms.<sup>66</sup> In addition, global food security depends on there being enough food (and sufficient access to that food) to feed everyone.<sup>67</sup> Therefore, Welsh food security should be considered in a global context as well as in the European, UK and national contexts.

#### 3.1. Resilience<sup>68</sup>

##### 3.1.1. Global trade

In 2012 the UK imported £35.9 billion and exported £17.6 billion of food and drink.<sup>69</sup> **Wales imported £353.6 million and exported £172.0 million** of food and drink in 2012.<sup>70</sup> As net importers of food, the UK and Wales are vulnerable to rises in food prices.<sup>71</sup> Food is predominantly sourced domestically and from other stable EU Member States,<sup>72</sup> though the UK imported food from 168 countries in 2012.<sup>73</sup> This diversity of food sources can **increase UK food security** by providing some resilience against interruptions and failures in supply.<sup>74</sup>

The UK also **contributes to global food security** through its input to the global food supply.<sup>75</sup> The UK is responsible for:

- 40.6 per cent of total sheep and goat meat produced in the EU in 2012 – twice that of the second highest producer, Spain.<sup>76</sup> Globally, the UK is the third largest exporter of sheep meat.<sup>77</sup>
- 13 per cent of total fisheries production in the EU in 2010 - the third highest after Spain and Denmark.<sup>78</sup>
- 2.1 per cent of the global wheat production and 4.1 per cent of the global barley production in 2011.<sup>79</sup>

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<sup>65</sup> Defra, [UK Food Security Assessment](#), August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>66</sup> Welsh Government, [Food for Wales, Food from Wales 2010-2020](#), December 2010 [accessed 2 May 2013]

<sup>67</sup> Defra, [Ensuring the UK's food security in a changing world](#), July 2008 [accessed 2 May 2013]

<sup>68</sup> Resilience is the ability of the supply system to provide an uninterrupted supply of sufficient food (volume, range and quality) to meet the needs of the consumer. Chatham House, [Food Futures: Rethinking UK Strategy](#), January 2009 [accessed 2 May 2013]

<sup>69</sup> HM Revenue and Customs, [Regional trade statistics](#), [accessed 2 May 2013]

<sup>70</sup> *ibid*

<sup>71</sup> Food and Agriculture Organisation of the United Nations, [The State of Agricultural Commodity Markets 2009](#) [accessed 2 May 2013]

<sup>72</sup> Defra, [UK Food Security Assessment](#), August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>73</sup> Defra, [Food Statistics Pocketbook 2012](#), [accessed 2 May 2013]

<sup>74</sup> *ibid*

<sup>75</sup> *ibid*

<sup>76</sup> English Beef and Lamb Executive (EBLEX), [Cattle and sheep market update, April 2013](#), [accessed 15 May 2013]

<sup>77</sup> English Beef and Lamb Executive (EBLEX), [Country Report, United Kingdom – Sheep Meat](#), [accessed 15 May 2013]

<sup>78</sup> Eurostat, [Pocketbooks: Agriculture and fishery statistics, main results 2009-10, 2012 edition](#), [accessed 15 May 2013]

<sup>79</sup> FAOSTAT, [Production statistics](#), [accessed 15 May 2013]



### 3.1.2. Self-sufficiency

Defra estimated that the UK was **59 per cent self-sufficient for all food** and 72 per cent self-sufficient for food that can be produced in the UK in 2009.<sup>80</sup> This is the percentage of food consumed in the UK that domestic food production is capable of providing. In addition to the diverse range of sources of imported food which contribute to resilience against disruptions in domestic food supply, this potential for self-sufficiency in the UK may contribute to resilience against major interruptions to the global food supply<sup>81</sup> - in June 2010 the UK held enough cereal stocks to feed the population for 68 days.<sup>82</sup>

However, Defra states that self-sufficiency at the UK scale, or even the EU scale, would not capture all risks in the food supply chain and therefore would contribute little to food security.<sup>83</sup> A number of publications report that the UK is 'critically dependant' on a small number of non-EU sources for commodities essential to food production such as 82 per cent of its soya animal feed, 32 per cent of fertilisers (particularly phosphate fertilisers),<sup>84</sup> energy, machinery, and some food such as fruit.<sup>85</sup> Therefore, self-sufficiency in food would not protect the UK from change in any of these supplies.<sup>86</sup>

### 3.1.3. Energy efficiency

According to Defra the UK food system is becoming **increasingly energy efficient**, eg by reducing fertiliser use,<sup>87</sup> which **contributes to its resilience** against disruptions in energy supplies and price increases.<sup>88</sup>

## 3.2. Access

Following a downward trend in food prices since the late 1970s, prices have generally been increasing since June 2007.<sup>89</sup> In June 2008 food inflation increased twice as much as general inflation (9.7 per cent and 3.8 per cent respectively) compared with June 2007.<sup>90</sup> This meant that a family that usually spent £100 per week on food in 2007 would have to spend over £600 more during 2008 for the same food.<sup>91</sup> Food prices in the UK have risen faster than the rest of the EU - between 2007 and 2012, food prices rose 32 per cent in the UK compared to only

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<sup>80</sup> Defra, [Food Statistics Pocketbook 2010](#), [accessed 2 May 2013]

<sup>81</sup> Defra, [UK Food Security Assessment](#), August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>82</sup> Environment, Food and Rural Affairs Committee, [Securing food supplies up to 2050: the challenges faced by the UK - Fourth Report of Session 2008-09 Volume I](#), 21 July 2009 [accessed 2 May 2013]

<sup>83</sup> Defra, [UK Food Security Assessment](#), August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>84</sup> Chatham House, [Food Futures: Rethinking UK Strategy](#), January 2009 [accessed 2 May 2013]

<sup>85</sup> Defra, [Ensuring the UK's food security in a changing world](#), July 2008 [accessed 2 May 2013]

<sup>86</sup> *ibid*

<sup>87</sup> International Fertilizer Industry Association, [IFADATA Search \(consumption, UK, N+K+P, 1990-2008\)](#), [Accessed 2 May 2013]

<sup>88</sup> Defra, [UK Food Security Assessment](#), August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>89</sup> Defra, [UK Food Security Assessment](#), August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>90</sup> Defra, [Ensuring the UK's food security in a changing world](#), July 2008 [accessed 2 May 2013]

<sup>91</sup> Chatham House, [Food Futures: Rethinking UK Strategy](#), January 2009 [accessed 2 May 2013]

13 per cent in France and Germany.<sup>92</sup> Furthermore, food prices continue to rise faster than general inflation: with food inflation at 3.7 per cent in February 2013, well above general inflation at 2.8 per cent.<sup>93</sup>

In 2006 average weekly household expenditure on food and non-alcoholic drink in Wales was £42.30 (10 per cent of total expenditure).<sup>94</sup> This rose to £52.60 in 2009-2011 (13.2 per cent of total expenditure, the highest for any UK region or nation).<sup>95</sup> UK average expenditure on food in 2006 was £46.60 (10 per cent of total expenditure)<sup>96</sup> and for 2009-2011 was £53.40 (11.3 per cent of total expenditure).<sup>97</sup> In contrast, household expenditure on food in poor households in developing countries may be as high as 60 per cent.<sup>98</sup>

While the diversity of sources of food in the UK and Wales increases resilience against interruptions in supply, consumer access to food is largely dependent on the retail sector. The largest four food and drink retailers – Tesco, Sainsbury's, Asda and Morrisons – commanded 62 per cent of the market share of food and non-alcoholic drinks in 2010.<sup>99</sup> Welsh farmers sell an estimated 75-80 per cent of their produce through supermarkets. This means that farmers are highly dependent on supermarkets to sell their produce and as a result the supermarkets may have the power to negotiate lower prices for produce.<sup>100</sup>

The *Groceries Code Adjudicator Bill* received Royal Assent in April 2013.<sup>101</sup> The subsequent *Groceries Code Adjudicator Act* will require supermarkets to abide by the *Groceries Supply Code of Practice*.<sup>102</sup> The Code aims to ensure that supermarkets treat their suppliers fairly, and will be overseen by the Groceries Code Adjudicator. If a retailer is found to have breached the Code, then the Adjudicator will have powers to act, including imposing fines in serious cases.

The majority of food within the UK is transported by road and many retailers operate on a just-in-time basis whereby goods are delivered as and when required to reduce waste. Therefore food supplies in supermarkets may be vulnerable to temporary disruptions in transport such as fuel shortages and severe weather disruptions. However, severe disruptions such as the 2007 floods have not

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<sup>92</sup> Defra, *Food Statistics Pocketbook 2012*, [accessed 2 May 2013]

<sup>93</sup> Defra, *March 2013 farming and food brief*, 2013 [accessed 30 April 2013]

<sup>94</sup> Office for National Statistics, *Family Spending and Family Expenditure Surveys 1997-2007*, 21 January 2009 [accessed 2 May 2013]

<sup>95</sup> Office for National Statistics, *Living costs and food survey*, 2012 [accessed 30 April 2013]

<sup>96</sup> Office for National Statistics, *Family Spending and Family Expenditure Surveys 1997-2007*, 21 January 2009 [accessed 2 May 2013]

<sup>97</sup> Office for National Statistics, *Family spending 2012*, [accessed 30 April 2013]

<sup>98</sup> Defra, *Ensuring the UK's food security in a changing world*, July 2008 [accessed 2 May 2013]

<sup>99</sup> Defra, *Food Statistics Pocketbook 2012*, [accessed 2 May 2013]

<sup>100</sup> Welsh Affairs Committee, *Globalisation and its impact on Wales: Second Report of Session 2008-09 Volume I (HC-184-I)*, 12 February 2009 [accessed 2 May 2013]

<sup>101</sup> UK Government, *Groceries Code Adjudicator Act*, April 2013 [accessed 22 May 2013]

<sup>102</sup> UK Government, *Groceries supply code of practice*, 2010 [accessed 23 May 2013]

significantly impacted on food availability in the past,<sup>103</sup> though work is currently underway to assess the full impacts of the severe spring snow in 2013 on the red meat sector in Wales.<sup>104</sup>

### 3.3. Sustainability

The pressure a country exerts on global resources can be measured as its ecological footprint - the area of land required to produce food, energy and raw materials, and absorb pollution and waste. Food and related activities such as cooking account for over 20 per cent of Wales' ecological footprint, equivalent to over 1 global hectare (gha) per person in 2003.<sup>105</sup> However, the land available per person has been decreasing since the 1960s when records began, and in 2003 only 0.79 gha of agricultural land was available per person.<sup>106</sup>

Carbon dioxide emissions from the UK food and drink manufacturing process were reduced by 16 per cent between 1990 and 2009 and acid rain precursor emissions (eg ammonia) were cut by 76 per cent.<sup>107</sup> In 2006 farming and fishing were responsible for around a third of UK food supply chain GHG emissions, mostly from the digestion process of ruminant animals (eg cows and sheep) and the oxidisation of nitrogen fertilisers. A quarter of UK food supply chain GHG emissions were due to the production of food for import and export.<sup>108</sup>

Energy consumption in the UK food chain fell by 30 per cent between 1996 and 2009. Net trade and household energy use accounted for half of energy used in the UK food chain in 2007.<sup>109</sup> Between 1997 and 2007 energy use decreased by 10 per cent in food manufacturing and 22 per cent in agriculture.<sup>110</sup> Fertiliser use, responsible for two thirds of food supply chain energy consumption<sup>111</sup> has almost halved in the UK since 1990.<sup>112</sup> Energy used for transport, however, is more variable and appears to be increasing since 2002.<sup>113</sup>

Recycling rates are increasing in Wales and in 2011-2012 49.2 per cent of household waste was recycled or composted.<sup>114</sup> Food waste, which occurs at all stages of the food supply chain, has a greater environmental impact than packaging waste, largely due to methane emissions from the composting

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<sup>103</sup> Defra, [UK Food Security Assessment](#), August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>104</sup> Welsh Government, Alun Davies, Addressing the impact of recent sever weather, Cabinet written statement, 23 April 2013 [accessed 21 May 2013]

<sup>105</sup> Stockholm Environment Institute, [Wales' Ecological Footprint - Scenarios to 2020](#), 2008 [accessed 2 May 2013]

<sup>106</sup> Chatham House, [Food Futures: Rethinking UK Strategy](#), January 2009 [accessed 2 May 2013]

<sup>107</sup> Defra, [Food Statistics Pocketbook 2010](#), [accessed 2 May 2013]

<sup>108</sup> *ibid*

<sup>109</sup> *ibid*

<sup>110</sup> Defra, [UK Food Security Assessment](#), August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>111</sup> *ibid*

<sup>112</sup> International Fertilizer Industry Association, [IFADATA Search \(consumption, UK, N+K+P, 1990-2008\)](#), [accessed 2 May 2013]

<sup>113</sup> Defra, [UK Food Security Assessment](#), August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>114</sup> StatsWales, [Household recycling/composting rates](#), [accessed 30 April 2013]

process.<sup>115</sup> In the UK, more than 50 per cent of food is wasted<sup>116</sup> and around a third of food and 70 per cent of packaging is wasted by the consumer alone.<sup>117, 118</sup> 60-80 per cent of this food waste could have been eaten at some point.<sup>119</sup> In terms of carbon emissions saved, eliminating food waste in the UK is estimated to be equivalent to removing one in four cars off the road.<sup>120</sup> Reducing food waste by one sixth could reduce each person's ecological footprint in Wales by 7.2 per cent.<sup>121</sup>

### 3.4. Food production

Around **half of all food consumed in the UK is produced in the UK** - in 2011, 82 per cent of meat and meat products, 83 per cent of dairy products (including eggs), and 62 per cent of cereals were domestically sourced, while 77 per cent of fresh fruit and vegetables were imported.<sup>122</sup>

Wales consumed 75 per cent of the milk it produced<sup>123</sup> and 4 per cent of the red meat it produced.<sup>124</sup>

Wales was responsible for around 6 per cent of UK agricultural output in 2010.<sup>125</sup> 2010 Welsh Agricultural Output (excluding store animals) totalled £1,241 million. Beef, lamb and dairy accounted for almost three quarters of this.<sup>126</sup> Red meat accounted for 42 per cent of 2010 Welsh Agricultural Output (WAO). Milk and milk products accounted for 30 per cent of 2010 WAO, and cereal accounted for just 1 per cent of 2010 WAO.<sup>127</sup> Wales was responsible for 24 per cent of UK sheep meat production<sup>128</sup> 4.9 per cent of UK beef and veal production in 2010<sup>129</sup> and 11 per cent of UK milk production in 2009.<sup>130</sup>

Agriculture in England and Wales is estimated to be between **75-91 per cent efficient** (where 100 per cent is the potential output for fully efficient firms). However, UK agriculture has shown **lower productivity and growth** (indicative of competitiveness) than many other countries including the United States, Belgium, Italy, France, the Netherlands, Spain and Denmark.<sup>131</sup> In 2009, UK agricultural

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<sup>115</sup> Defra, *Food Statistics Pocketbook 2010*, [accessed 2 May 2013]

<sup>116</sup> Chatham House, *Food Futures: Rethinking UK Strategy*, January 2009 [accessed 2 May 2013]

<sup>117</sup> United Nations Environment Programme, *The Environmental Food Crisis*, February 2009 [2 May 2013]

<sup>118</sup> Defra, *Food Statistics Pocketbook 2010*, [accessed 2 May 2013]

<sup>119</sup> Waste and Resources Action Programme, *Household food and drink waste in the UK: Final Report*, November 2009 [accessed 2 May 2013]

<sup>120</sup> *ibid*

<sup>121</sup> Stockholm Environment Institute, *Wales' Ecological Footprint - Scenarios to 2020*, 2008 [accessed 2 May 2013]

<sup>122</sup> Defra, *Food Statistics Pocketbook 2012*, [accessed 2 May 2013]

<sup>123</sup> Welsh Government, *Farming, Food and Countryside: Building a Secure Future*, May 2009 [accessed 30 April 2013]

<sup>124</sup> Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010 [accessed 2 May 2013]

<sup>125</sup> Hybu Cig Cymru, *Little book of meat facts 2012*, [accessed 23 May 2013]

<sup>126</sup> Welsh Government, *Aggregate agricultural output and income, 2012* [accessed 23 May 2013]

<sup>127</sup> Welsh Government, *Aggregate agricultural output and income, 2012* [accessed 23 May 2013]

<sup>128</sup> Hybu Cig Cymru, *Little book of meat facts 2012*, [accessed 23 May 2013]

<sup>129</sup> *ibid*

<sup>130</sup> Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010 [accessed 2 May 2013]

<sup>131</sup> Defra, *Additions to Update Productivity of UK Agriculture: Causes and Constraints*, July 2003 [accessed 2 May 2013]

output was 2 per cent lower than in 1990.<sup>132</sup> Since 2004-2005 Welsh red meat and milk production has decreased.<sup>133</sup> Fish landings decreased in the EU and the UK between 2000 and 2010.<sup>134</sup> In contrast, fishing vessels registered in Welsh ports landed nearly 28,000 tonnes of fish and shellfish worth over £30 million in 2009 - four times the tonnage and almost three times the value of that landed in 2007.<sup>135</sup> In 2008 Wales was responsible for 2 per cent of UK fish landings.<sup>136</sup> Over 90 per cent of the catch is currently exported.<sup>137</sup>

A number of sources have proposed ways in which UK food production and productivity could be increased. For example:

- **Increasing the area of land used for production** - Agricultural land accounts for 78 per cent of the area of the UK. Defra estimated that just **over a third of this area is 'potential land' and could be put into production if needed** (eg if global and European food trade were disrupted).<sup>138</sup> The area of land used for arable and rough grazing decreased by 14 per cent and 17 per cent respectively between 1999 and 2009. However during this period the area of permanent grassland increased by 7 per cent and total agricultural land area changed little in Wales (1.5 per cent decrease).<sup>139</sup>
- **Alternative farming methods** - for example a report funded by the Soil Association suggests that a switch from conventional to organic production in the beef and lamb sector may increase productivity by over 50 per cent while reducing greenhouse gas emissions and pollution. However, organic farming may reduce yields in other farming sectors. For example pig and poultry production could decrease by around 75 per cent.<sup>140</sup>

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<sup>132</sup> Defra, *Food Statistics Pocketbook 2010*, [accessed 2 May 2013]

<sup>133</sup> Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010 [accessed 2 May 2013]

<sup>134</sup> Eurostat, *Catches in all fishing regions*, [accessed 30 April 2013]

<sup>135</sup> Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010 [accessed 2 May 2013]

<sup>136</sup> Calculated from 2008 liveweight landing figures in: Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010, and Eurostat, *Catches in all fishing regions*, [accessed 2 May 2013]

<sup>137</sup> Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010 [accessed 2 May 2013]

<sup>138</sup> Defra, *UK Food Security Assessment*, August 2009 (updated January 2010) [accessed 2 May 2013]

<sup>139</sup> Welsh Government, *Farming Facts and Figures 2010*, 2010 [accessed 2 May 2013]

<sup>140</sup> Soil Association Press Release, *Organic 'mainstream agriculture in waiting'*, 24 June 2009 [accessed 30 April 2013]

- **Genetic Modification** – Defra states that:

We recognise that GM technology could deliver benefits providing it is used safely and responsibly, in particular as one of a range of tools to address the longer term challenges of global food security, climate change, and the need for more sustainable agricultural production.<sup>141</sup>

However, a number of organisations have concerns about GM crops including Friends of the Earth<sup>142</sup> and Greenpeace.<sup>143</sup> The Welsh Government has adopted a restrictive stance on GM organisms, though this does not constitute a ban on the growth of GM crops as this is not permitted within EU law.<sup>144</sup> This is similar to the policy of the Scottish Government.<sup>145</sup>

- **Reducing waste** – Chatham House reports that reducing waste could increase the productivity of the food sector and reduce the need to increase production.<sup>146</sup> Wales is committed to waste reduction and resource efficiency through the *Towards Zero Waste* strategy.<sup>147</sup>

Investing in research is also an important method for increasing food production and productivity, with benefits both for the UK and worldwide - the FAO states that:

Investing in agriculture is one of the most effective strategies for reducing poverty and hunger and promoting sustainability<sup>148</sup>

On a global level, the UK Government is investing in agricultural research including a £400m investment through the Department for International Development.<sup>149</sup> The UK also jointly leads an EU Joint Programming Initiative on Agricultural Food Security and Climate Change (FACCE-JPI) which aims to align national research programmes.<sup>150</sup>

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<sup>141</sup> Defra, *Defra Policies: Genetic modification*, Webpage [accessed 30 April 2013]

<sup>142</sup> Friends of the Earth, *Genetically Modified Crops and Food*, January 2003 [accessed 2 May 2013]

<sup>143</sup> Greenpeace, *Say No to Genetic Engineering*, Webpage [accessed 2 May 2013]

<sup>144</sup> Welsh Government, *Genetically Modified Organisms*, Webpage [accessed 2 May 2013]

<sup>145</sup> Scottish Government, *Scottish Government policy on genetic modification*, Webpage [accessed 2 May 2013]

<sup>146</sup> Chatham House, *Food Futures: Rethinking UK Strategy*, January 2009 [accessed 2 May 2013]

<sup>147</sup> Welsh Government, *Towards Zero Waste*, [accessed 10 June 2013]

<sup>148</sup> FAO, *The state of food and agriculture 2012*, [accessed 17 May 2013]

<sup>149</sup> Environment, Food and Rural Affairs Committee, *Securing food supplies up to 2050: Government Response to the Committee's Fourth Report of Session 2008–09*, 19 October 2009 [accessed 3 May 2013]

<sup>150</sup> FACCE-JPI, *What is FACCE-JPI?*, Webpage [accessed 30 April 2013]

In Wales, the Welsh Government has invested £30 million through Farming Connect which encourages sustainable development of farm businesses in Wales,<sup>151</sup> and provides funding for a number of research projects at Aberystwyth University such as research into the reduction of methane emissions from livestock.<sup>152</sup> The Welsh Government also provides on-going support for several Knowledge Transfer Partnerships which encourage productive partnerships between industry and academia. The success of this scheme has led to the announcement of the enhanced Knowledge Transfer Partnership Programme in Wales with provision until 2015.<sup>153</sup>

However, a number of sources have also identified factors that could reduce productivity or limit the ability to increase productivity in the UK. For example:

- **Historic exploitation of fish stocks** – The UN Food and Agriculture Organisation (FAO) reports that past overexploitation has limited the opportunity to further increase the amount of wild fish caught<sup>154</sup> - the Marine Conservation Society estimated that eight out of 47 fish stocks around the British Isles are in a healthy state.<sup>155</sup>
- **Animal and crop diseases and pests** – for example potato cyst nematodes (worms) are estimated to cost the UK potato industry £50m per year<sup>156</sup> and three of the most problematic diseases in sheep in the UK are estimated to cost the UK sheep industry in excess of £116m per year.<sup>157</sup> Bovine TB is a considerable cost to the agricultural industry in Wales, with TB infected farms shown to be less productive<sup>158</sup> and over 9,000 infected cattle slaughtered in 2012.<sup>159</sup>
- **Lack of labour/skills** – there has been a decline in employment in agriculture<sup>160</sup> and an increase in the average age of Welsh farmers.<sup>161</sup> The National Farmers' Union Cymru states that this may severely limit the ability to produce food in Wales.<sup>162</sup>

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<sup>151</sup> Welsh Government, [New £30m range of Farming Connect services](#), 10 July 2008 [accessed 2 May 2013]

<sup>152</sup> Aberystwyth University, [Methane Study](#), 20 December 2010 [accessed 2 May 2013]

<sup>153</sup> Welsh Government, Edwina Hart, [Announcement of an enhanced knowledge transfer partnership programme in Wales](#), Cabinet (Written) Statement, 31 January 2012, [accessed 2 May 2013]

<sup>154</sup> Food and Agriculture Organisation of the United Nations, [The status of fishery resources](#), Webpage [accessed 2 May 2013]

<sup>155</sup> Environment, Food and Rural Affairs Committee, [Securing food supplies up to 2050: the challenges faced by the UK - Fourth Report of Session 2008-09 Volume I](#), 21 July 2009 [accessed 2 May 2013]

<sup>156</sup> Parliamentary Office for Science and Technology, [Crop Protection: Postnote number 336](#), June 2009 [accessed 2 May 2013]

<sup>157</sup> Nieuwhof, G. J. and Bishop, S. C., (2005) [Costs of the major endemic diseases of sheep in Great Britain and the potential benefits of reduction in disease impact](#), *Animal Science*, 81 (1) p23-29

<sup>158</sup> Defra, [Science and research projects, Investigate the longer-term effects on farm businesses of a bTB breakdown](#), 2008 [accessed 15 May 2013]

<sup>159</sup> Defra, [Incidence of TB in cattle in Great Britain – dataset for Wales, 2013](#) [accessed 15 May 2013]

<sup>160</sup> Welsh Government, [Food for Wales, Food from Wales 2010-2020](#), December 2010 [accessed 2 May 2013]

<sup>161</sup> Defra, [EC Farm Structure Survey Focus on: Holders in the UK](#), October 2005 [accessed 2 May 2013]

<sup>162</sup> RoP, [p14](#), 15 January 2009, Rural Development Sub-Committee [accessed 2 May 2013]

- **Climate change** -climate projections for Wales predict an overall warming of 0-2°C in winter and 0.4-2.5°C in summer by the 2020s. It is also expected to be 11-23 per cent drier in the summer but up to 17 per cent wetter during the winter.<sup>163</sup> The Welsh Government reports that this may present opportunities such as longer growing seasons; however waterlogged fields and heat stress in livestock may become more of a problem.<sup>164</sup> Research suggests that diseases and pests may also become more of a problem,<sup>165</sup> for example incidence of bluetongue is predicted to rise by 17 per cent in Northern Europe in the next few decades.<sup>166</sup>

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<sup>163</sup> Welsh Government, [What does climate change mean for Wales? Gwlad Issue 89](#), page 16-17, October 2009 [accessed 2 May 2013]

<sup>164</sup> *ibid*

<sup>165</sup> Morgan, E. R. and Wall, R., (2009) [Climate change and parasitic disease: farmer mitigation?](#), *Trends in Parasitology*, 25, p308-313

<sup>166</sup> Guis, H. et al., (2011) [Modelling the effects of past and future climate on the risk of bluetongue emergence in Europe](#), *Interface*, vol. 9, p339-350



## 4. Food policy in Wales

Under the *One Wales* programme for government the previous Welsh Government developed a 10 year strategy for food, *Food for Wales, Food from Wales 2010-2020*. This remains the main document informing Welsh Government Policy on food strategy.

The strategy states that:

This document presents an ambitious Strategy for the development of the food sector over the next ten years. The inherent complexities, resource pressures and uncertainties in the food system restrict this document to a series of strategic visions, rather than detailed initiatives, action plans or proposals. This Strategy is designed as a working process involving a continuous reappraisal that will be continually updated, and will be utilised to guide, and work in conjunction with, existing and future strategic action plans for the food sector and the food system more generally.<sup>167</sup>

The strategy, developed in collaboration with the Food and Drink Advisory Partnership (FDAP), aims to improve the Welsh food industry's **Sustainability, Resilience, Competitiveness and Profitability**.

According to the strategy, any interventions in the food system will be planned and agreed between the industry and Government, and will be guided by the four aims of the strategy.

There is an overarching theme in the strategy of **Building Connections and Capacities**.

The central idea is to build greater diversity into the food sector to create new and more sustainable relationships (or connections) between rural and urban areas, between food producers and consumers and between policy sectors. The connections that exist now will also be strengthened.<sup>168</sup>

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<sup>167</sup> Welsh Government, [Food for Wales, Food from Wales 2010-2020](#), December 2010 [accessed 2 May 2013]

<sup>168</sup> *ibid*

The strategy and its aims will be delivered through **five key strategic drivers:**

**i. Market Development**

- Improve marketing to develop domestic and export markets
- Develop a strong Welsh brand which conveys reliability, quality, sustainability and high welfare standards
- Improve the development of, and access to, local and regional markets
- Support and promote entrepreneurial initiative

**ii. Food Culture**

- Empower consumers to make informed choices
- Increase sustainability of the provision of food
- Link food culture and marketing e.g.
- ‘Wales the True Taste Awards’.

**iii. Sustainability and well-being**

- Develop ecologically efficient production and supply chains
- Reduce the impact of food waste
- Encourage healthy eating and low-carbon diets
- Encourage the development of community farms, local sourcing of produce, and purchase of fair-trade produce
- Invest in Research and Development

**iv. Supply Chain Efficiency**

- Support entrepreneurship
- Develop skills throughout the food supply chain
- Invest in food chain Research and Development
- Promote efficient knowledge sharing e.g. between research institutions and industry
- Support innovation and niche product development
- Supporting collaborative partnership. <sup>169</sup>

**v. Integration**

- Making the Food Strategy work across all levels of Government;
- Contributing to changing in the regulatory frameworks; and
- Employ “Soft” approaches (non-legislative) to change

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<sup>169</sup> Welsh Government, *Food for Wales, Food from Wales 2010-2020*, December 2010 [accessed 2 May 2013]

In its 2011 *Programme for Government*, the Welsh Government stated that it would publish a delivery plan to support the *Food for Wales, Food from Wales* strategy published by the previous Welsh Government. It also stated that it would review this strategy ‘to ensure that it remains fit for purpose’. Furthermore, it said that it would monitor and evaluate the delivery plan under the food strategy to ensure that its actions were on track.<sup>170</sup>

In the 2013 update to its *Programme for Government*, the Welsh Government stated that in the summer of 2013 it would publish:

A more focused set of strategic priorities for the Food Strategy in growing the food and drink industry<sup>171</sup>

This document was intended to replace the originally planned ‘delivery plan’ for the Food Strategy. The Welsh Government also re-established its Internal Food Group ‘to evidence progress and activity against the cross government aspirations and key drivers of the Food Strategy’.<sup>172</sup>

The Welsh Government has since published its Sector’s Delivery Plan which sets out priorities for key sectors in the Welsh economy. It includes a short-term priority for the food and farming sector to:

Develop a set of Key Performance Indicators and publish these as part of a Delivery Plan with targets, data, and business approach to provide direction for the food and farming sector.<sup>173</sup>

No date has yet been set for this publication.

In addition, there are a number of other policies and pieces of legislation which have an impact on food security in Wales. These include: Welsh Government proposals for an Environment Bill and the development of a new approach to managing natural resources; current reform of the CAP and the shaping of the next Rural Development plan; the Welsh Fisheries Strategy; Towards Zero Waste; the Food Waste Treatment Programme; the Local Sourcing Action plan; and the sector specific Food, Manufacture, Service and Retail Sector Plan action plan.

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<sup>170</sup> Welsh Government, *Programme for Government*, 2011 [accessed 15 May 2013]

<sup>171</sup> Welsh Government, *Programme for Government, 2013 Update*, 2012 [accessed 10 June 2013]

<sup>172</sup> Welsh Government, *Programme for Government 2012 Update*, [accessed 10 June 2013]

<sup>173</sup> Welsh Government, *Sectors Delivery Plan*, 2013 [accessed 30 April 2013]

## 5. Further Information

- Welsh Government's Food Strategy [\*Food for Wales, Food from Wales\*](#)
- Defra [UK Food Security Assessment](#)
- Foresight report on [The Future of Food and Farming](#)
- Chatham House report on [Food Futures: Rethinking UK Strategy](#)
- Food and Agriculture Organisation webpage on [Global Food Prices](#)