



Llywodraeth Cymru  
Welsh Government

# **Cyflwyniad ar Brosiect Peryglon daearyddol a dadansoddiad diweddaraf ar gyfer y sector Pysgodfeydd**

Bord Gron Brexit

## **Presentation on Geographical Vulnerabilities Project and updated analysis for Fisheries sector**

Brexit Roundtable

Ann Humble

**Dydd Iau 17 Ionawr / Thursday 17 January**

# Presentation

# Cyflwyniad

## Introduction

Two years of work:

Scenarios

Modelling approach

Farming

    Including spatial modelling

Indirect Environmental Impacts

Other Rural Economy issues

## Cyflwyniad

Dwy flynedd o waith:

Senarios

Dull modelu

Ffermio

    Gan gynnwys modelu gofodol

Effeithiau anuniongyrchol ar yr amgylchedd

Materion eraill yr economi wledig

# The Scenarios

## Three basic Scenarios:

1. **EU deal**— EU based free trade agreement
2. **No deal**—World Trade organisation (WTO) rules and tariffs
3. **Multilateral free trade**— free trade agreements (FTAs)

## Possible fourth

4. **No deal**— WTO rules, no tariffs on food imports, tariffs on export to EU

# Y Senarios

## Tri senario sylfaenol:

1. **Cytundeb â'r UE** – cytundeb masnach rydd â'r UE
2. **Dim cytundeb** – rheolau a thariffau Sefydliad Masnach y Byd (WTO)
3. **Masnach rydd amlochrog** – cytundebau masnach rydd (FTAs)

## Pedwerydd senario posibl

4. **Dim cytundeb** – rheolau Sefydliad Masnach y Byd, dim tariffau ar fewnforion bwyd, tariffau wrth allforio i'r UE

# Project outline

# Amlinelliad o'r prosiect

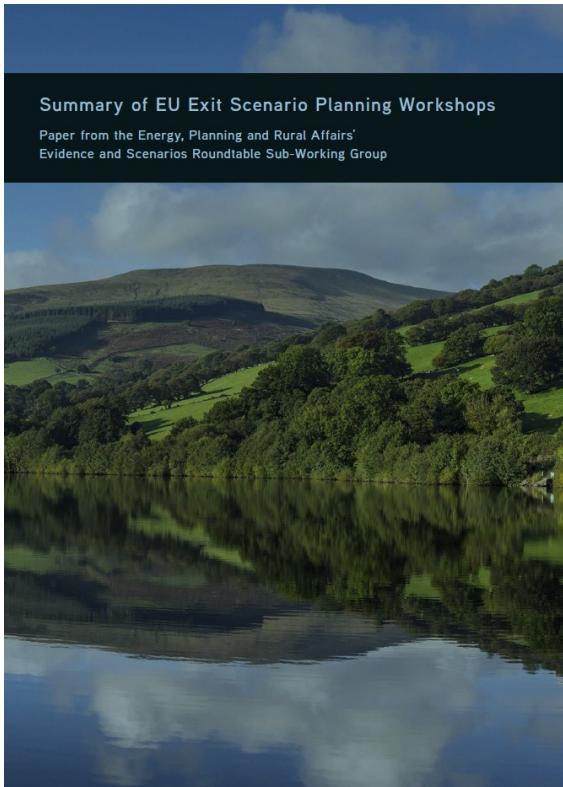
Goblygiadau fesul sector

Scenario Implications, sector by sector



Beth fydd effaith y newidiadau posib hyn ar Gymru?

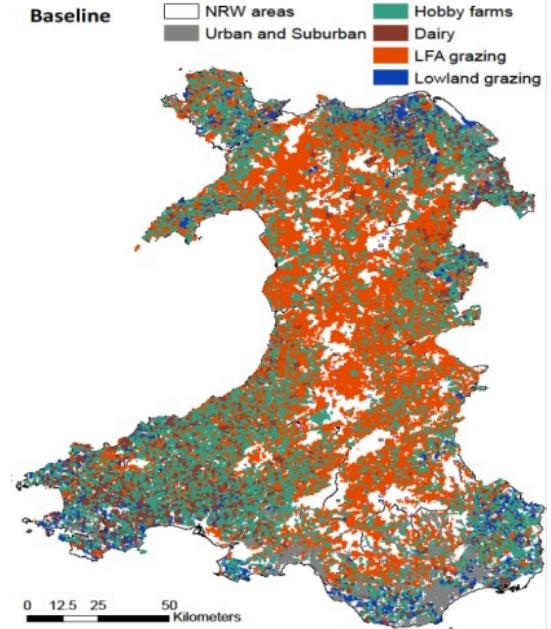
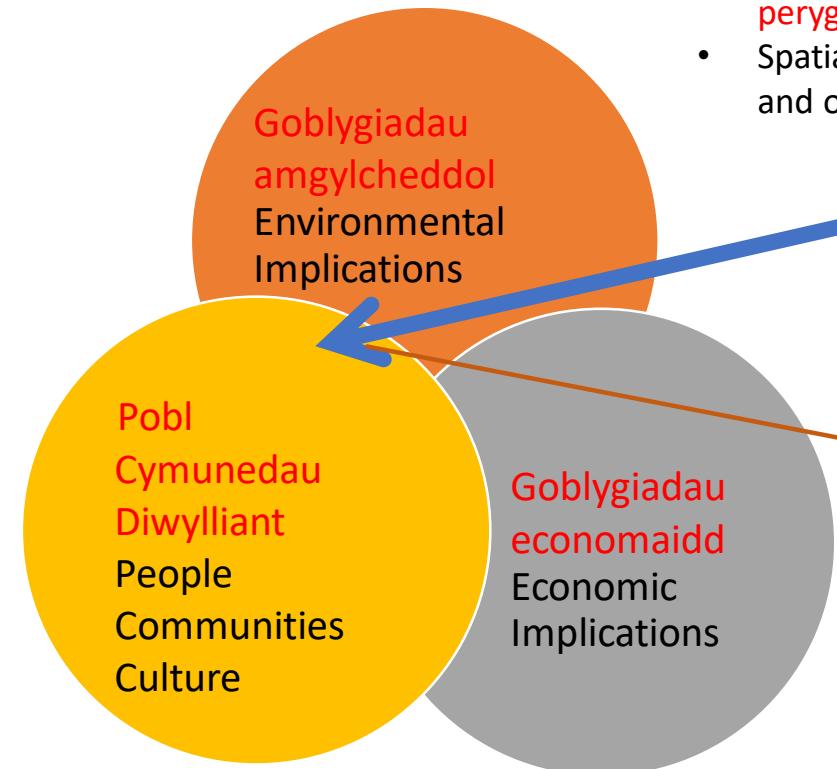
What will potential changes to these sectors mean for Wales?

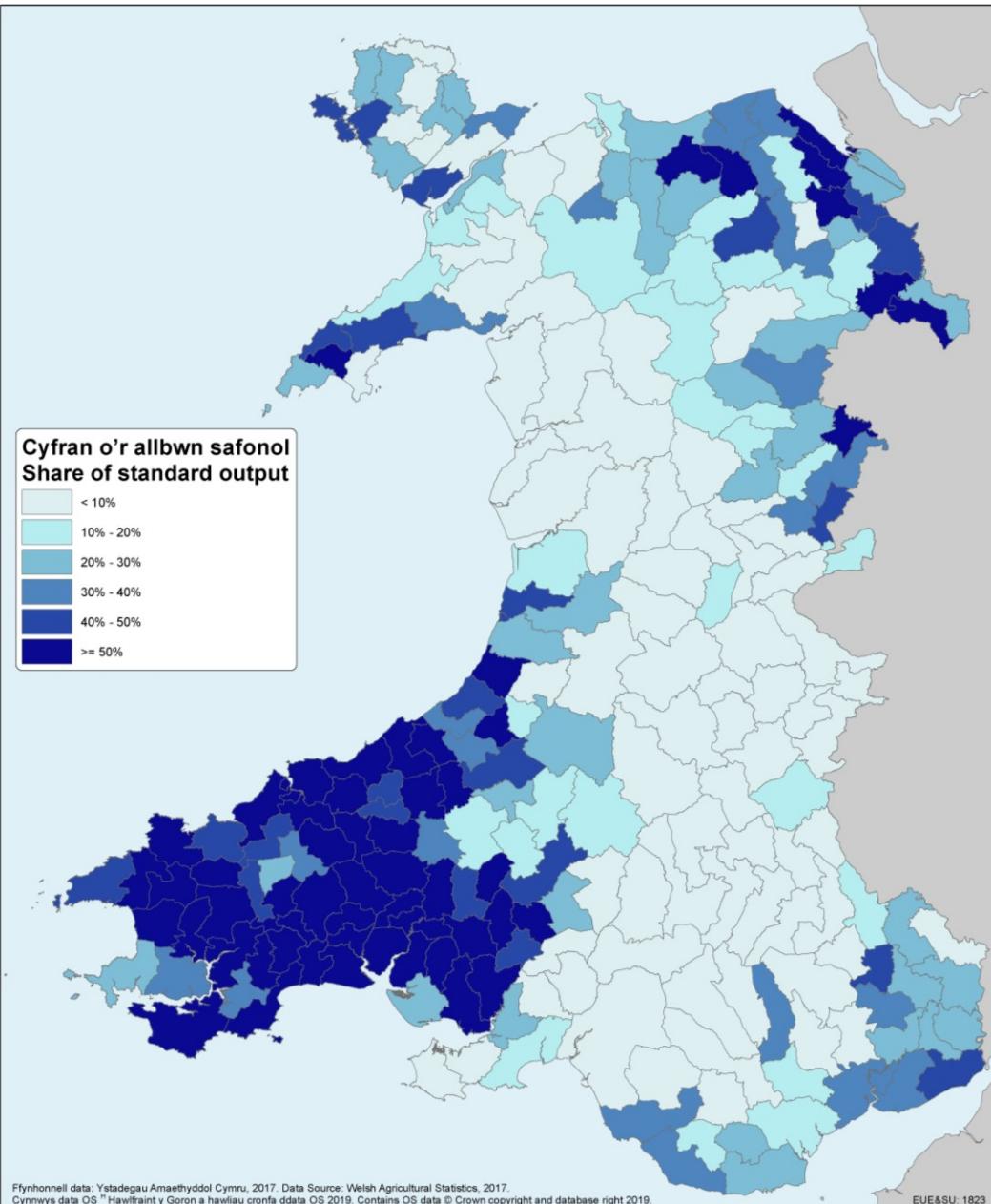


Summary of EU Exit Scenario Planning Workshops

Paper from the Energy, Planning and Rural Affairs' Evidence and Scenarios Roundtable Sub-Working Group

- Dealltwriaeth ofodol o'r effeithiau niferus – y peryglon a'r cyfleoedd
- Spatial understanding of multiple impacts - risks and opportunities





# Dairy

## EU Deal

Some growth  
2% year on year, following current trend

## No Deal

WTO tariffs favour home production with import substitution, lower export to EU  
Increase by 30% by 2030

## MFTA

Exposed to global commodity prices, limited growth  
Liquid milk market continues to grow 2% per annum

# Llaeth

## Cytundeb â'r UE

Rhywfaint o dwf  
2% o flwyddyn i flwyddyn, yn dilyn tueddiadau'r presennol

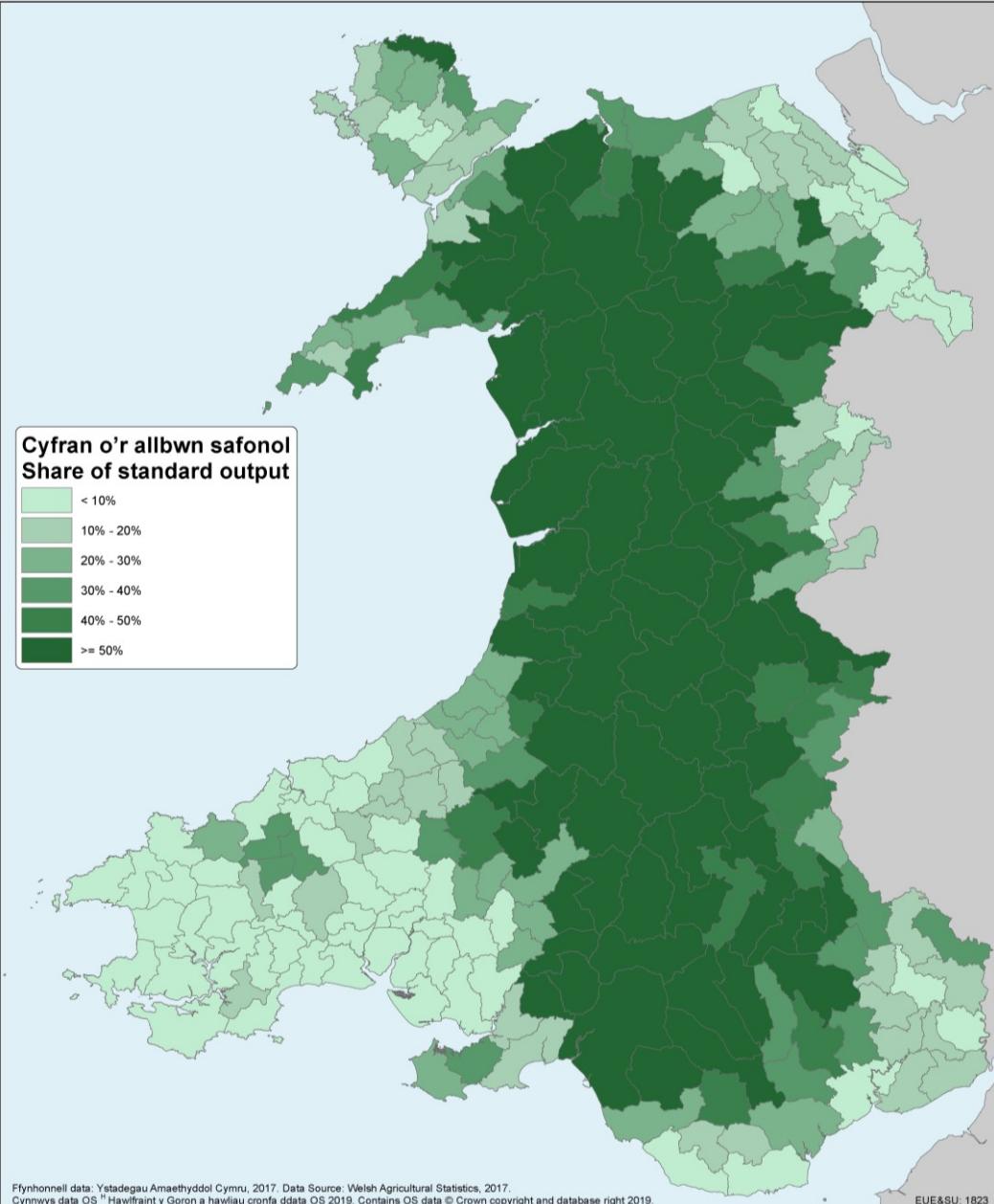
## Dim Cytundeb

Mae tariffau'r WTO yn ffafrio cynhyrchwyr cartref gan ddisodli mewnforion, llai o allforion i'r UE.  
30% o gynnydd erbyn 2030

## Masnach rydd amlochrog

Agored i brisiau nwyddau bydeang, twf cyfyngedig

Y farchnad llaeth gwlyb i barhau i dyfu 2% bob blwyddyn



# Lamb

## EU Deal

3% reduction in sheep numbers,  
(20% in SDA)

## No Deal

Loss of EU market, lower lamb  
price. 30% reduction in Welsh  
flock

Lowland sheep change to  
dairy/beef

## MFTA

Greater access to UK markets,  
reduces lamb price  
30% reduction in Welsh flock

# Cig oen

## Cytundeb â'r UE

3% yn llai o ddefaid, (20% mewn  
Ardal dan Anfantais Fawr)

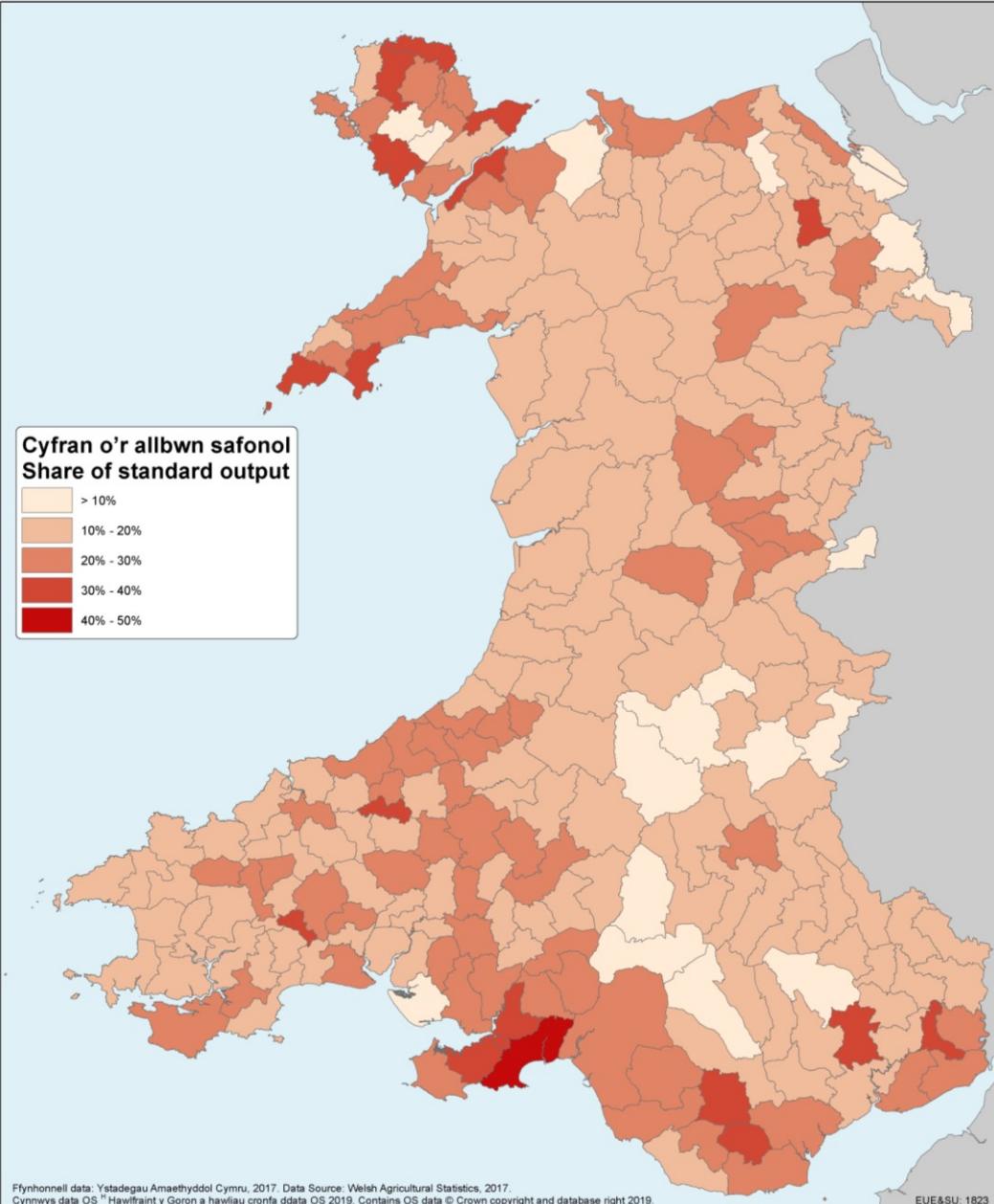
## Dim Cytundeb

Colli marchnad yr UE, prisiau is  
am wyn. 30% o ostyngiad yn y  
ddiadell Gymreig

Ffermwyr defaid yr iseldir yn  
newid i ffermio llaeth/eidion

## Masnach rydd amlochrog

Mwy o fynediad i farchnadoedd y  
DU, lleihau pris wyn  
30% yn llai o ddiadelloedd yng  
Nghymru



# Beef

# Cig eidion

## EU Deal

Beef carousel continues, some increase in costs, small increase in Welsh herd to 2025, less sucklers, more dairy beef

## No Deal

Favours home production, beef increases in price. Increase in production of 30% by 2025

## MFTA

Greater access to UK markets, reduces beef price  
23% reduction in Welsh herd by 2025

## Cytundeb â'r UE

Carwsél cig eidion yn parhau, rhywfaint o gynnydd mewn costau, cynnydd bach yn y fuches Gymreig hyd 2025, llai o wartheg sugno, mwy o wartheg llaeth

## Dim cytundeb

Ffafrio cynhyrchwyr cartref, cynnydd ym mhrisiau eidion. 30% yn fwy o gynhyrchiad erbyn 2025

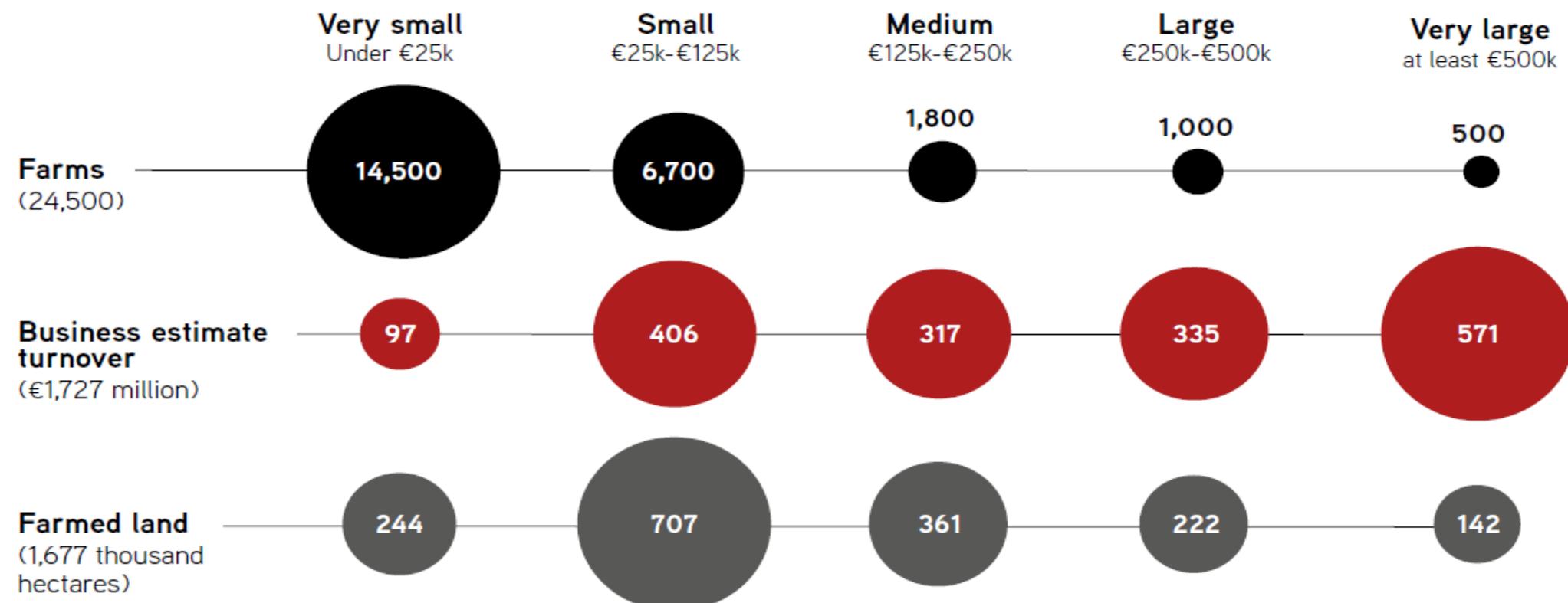
## Masnach rydd amlochrog

Mwy o fynediad i farchnadoedd y DU, lleihau pris eidion. 23% yn llai o'r fuches Gymreig erbyn 2025

# Structure of Welsh Farming

## Number of farms, business turnover and farmed land - by economic size of farm, Wales 2016

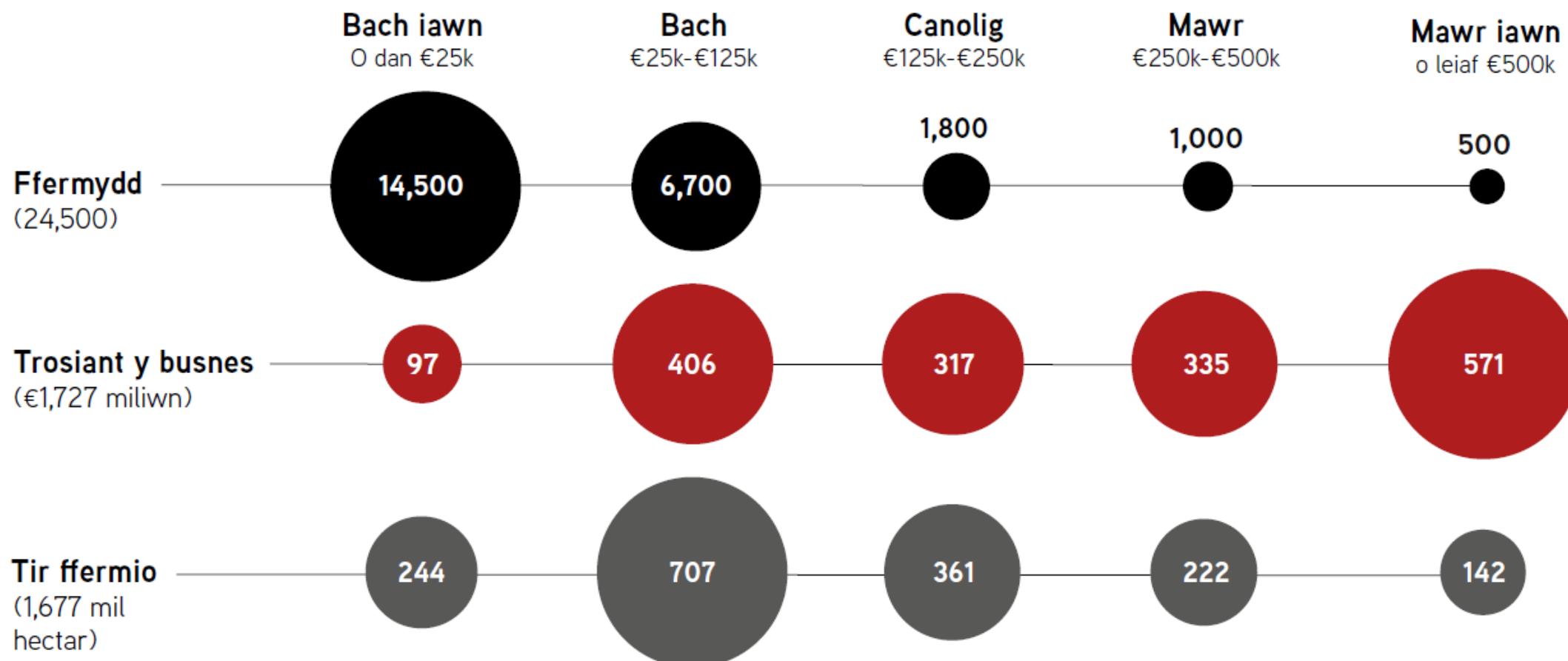
The size groups used in this chart show farm businesses with an estimated turnover (standard output)



# Strwythur ffermydd Cymru

## Nifer y ffermydd, trostant busnesau a thir ffermio – yn ôl maint economaidd y fferm, Cymru 2016

Mae'r grwpiau maint a ddefnyddir yn y siart hon yn dangos busnesau fferm â throsiant bras (allbwn safonol)



# Modelling method

How may different trading arrangements affect Welsh farming sectors?

- Field scale resolution
- Farm-scale land use change decisions
  - Whole farms change and assume characteristics of the new farm type, following rule based decision tree
  - Changes stop when animal numbers meet hypotheses for the trade scenario

Livestock Sectors Relative to Baseline Overall Directions of Change			
	EU Deal	No Deal	MFTA
Dairy	↑	↑	↓
Beef	↓	↑	↓
Sheep	↓	↓	↓

- Field to catchment scale environmental impacts modelled
- Some scenarios “release land”

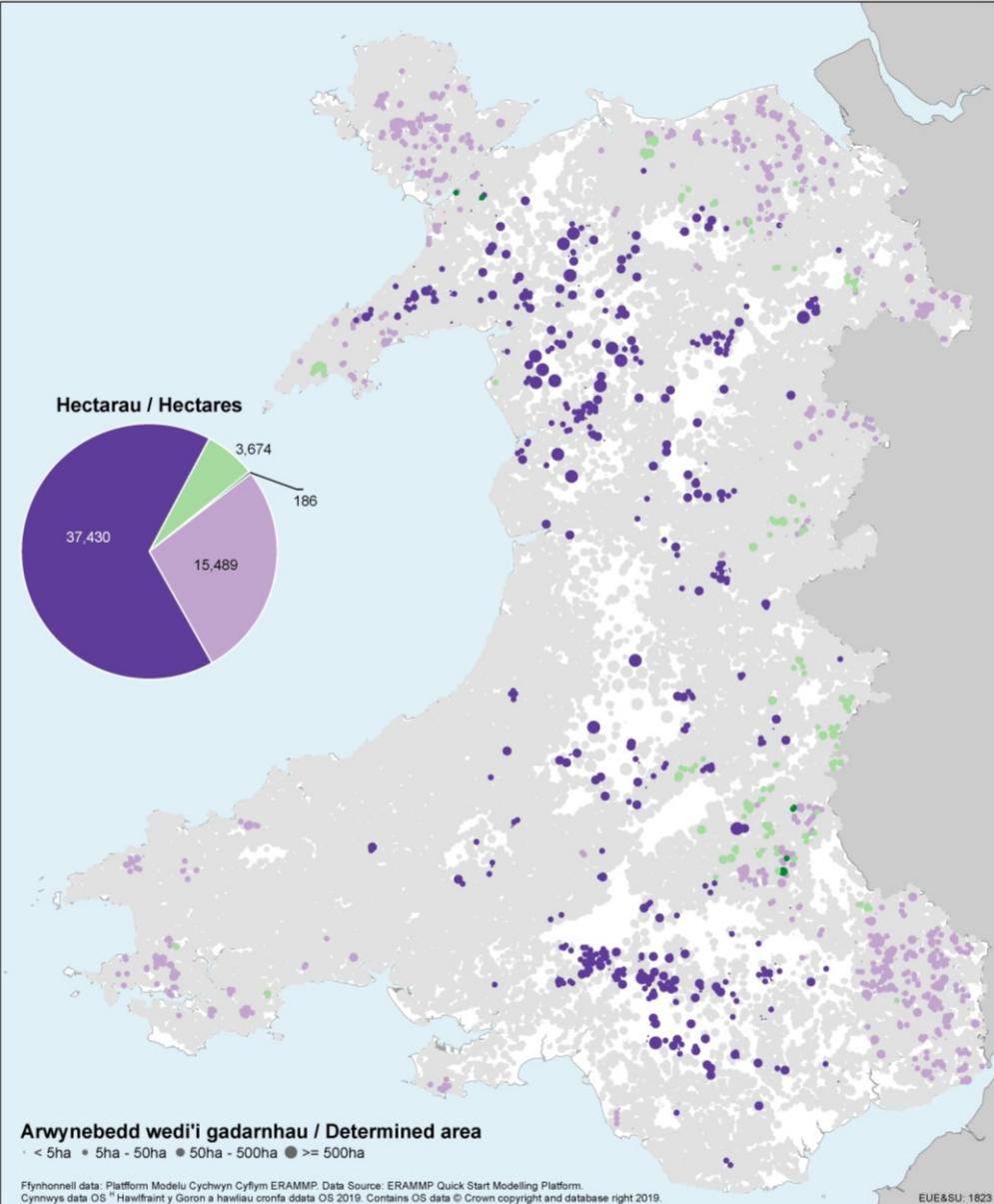
# Dull modelu

Sut allai'r trefniadau masnachu gwahanol effeithio ar sectorau ffermio Cymru?

- Ateb fferm gyfan
- Penderfyniadau newid defnydd tir fferm gyfan
  - Mae ffermydd cyfan yn newid ac yn arddel nodweddion math newydd o fferm, yn dilyn y goeden benerfynu ar sail rheolau
  - Dim mwy o newidiadau pan fydd niferoedd yr anifeiliaid yn bodloni'r rhagdybiaethau ar gyfer y senario masnach

Livestock Sectors Relative to Baseline Overall Directions of Change			
	EU Deal	No Deal	MFTA
Dairy	↑	↑	↓
Beef	↓	↑	↓
Sheep	↓	↓	↓

- Modelu effeithiau amgylcheddol caeau a dalgylchoedd cyfan
- Rhai senarios yn “rhyddhau tir”



# Land Use Change mapping

# Mapio newidiadau defnydd tir

- EU deal results in least change, closest to Business as Usual
- Cytundeb â'r UE yn arwain at y newid lleiaif, a'r tebycaf at fusnes fel arfer

Note, all the modelling:

- assumes existing levels of farm support
- excludes part time farms, common land, forestry

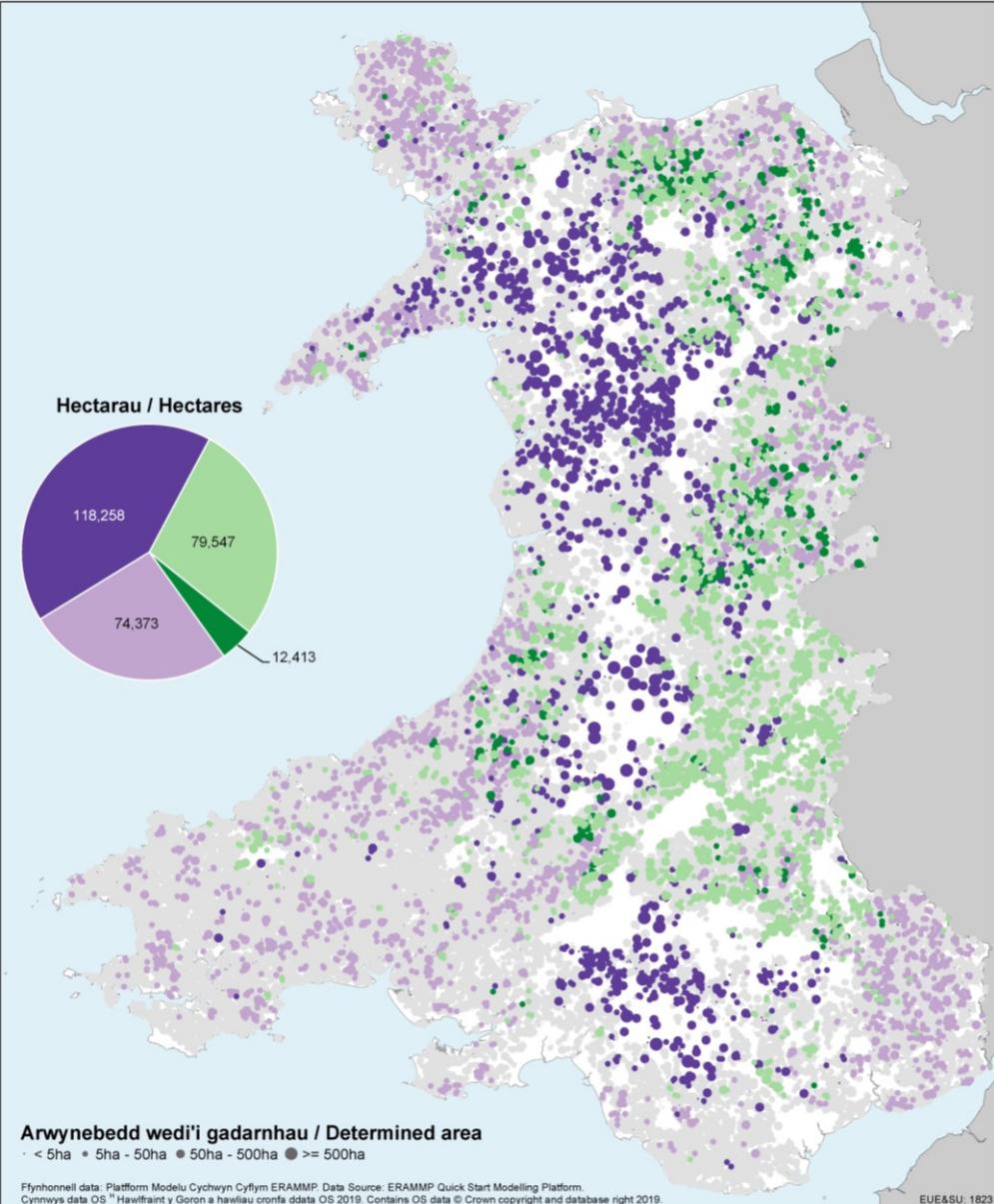
- Modelling suggests land converts from SDA specialist sheep to beef
- Modelling suggests land converts from SDA specialists to dairy
- Modelling suggests land converts from mixed grazers to dairy
- Modelling suggests land converts from SDA sheep to other land use
- Land included in model simulation

Noder, mae pob model:

- yn cymryd y bydd y lefelau cymorth fferm cyfredol yn parhau
- yn eithrio ffermydd rhan-amser, tir comin, coedwigaeth

- Modellu yn awgrymu bod y tir yn newid o Ardal dan Anfantais Fawr defaid arbenigol i eiddion
- Modellu yn awgrymu bod tir yn newid o Ardal dan Anfantais Fawr arbenigol i gynnrychllaeth
- Modellu yn awgrymu bod tir yn newid o borwyr cymysg i laeth
- Modellu yn awgrymu bod tir yn newid o Ardal dan Anfantais defaid i ddefnydd tir arall
- Tir wedi'i gynnwys yn yr efelychiad o'r model





# Land Use Change Mapio newidiadau defnydd tir

## Much more change in a “No Deal” scenario

- SDA sheep to “other” shows land with limited option to change
- These farms will need to consider a different business model and/or other income streams

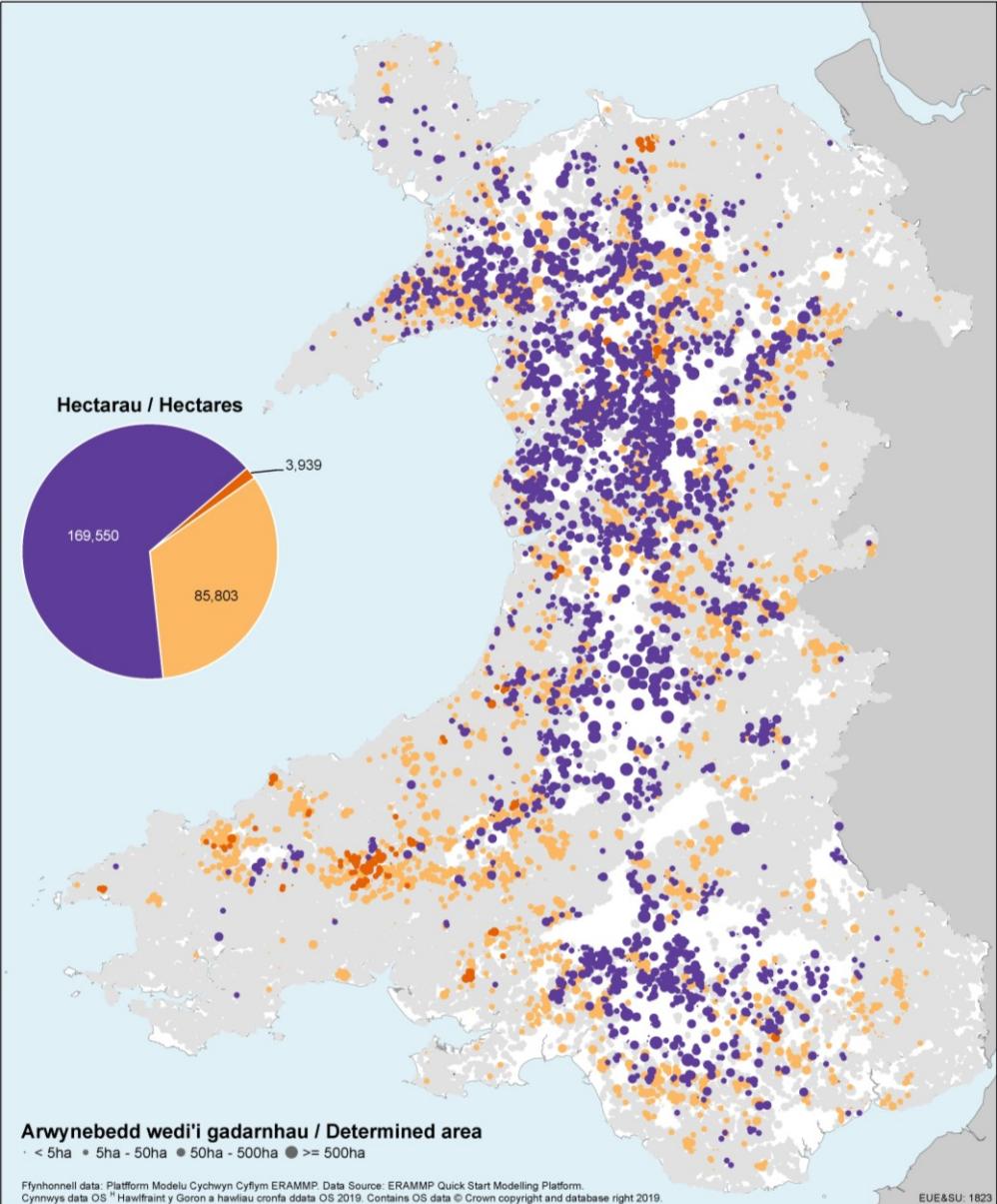
## Llawer mwy o newidiadau mewn senario “Dim Cytundeb”

- Defaid SDA i “eraill” yn dangos tir â dewisiadau cyfyng i newid
- Bydd angen i'r ffermydd hyn ystyried model busnes gwahanol a/neu ffrydiau incwm eraill

- Modelling suggests land converts from SDA specialist sheep to beef
- Modelling suggests land converts from SDA specialists to dairy
- Modelling suggests land converts from mixed grazers to dairy
- Modelling suggests land converts from SDA sheep to other land use
- Land Included in model simulation

- Modell yn awgrymu bod y tir yn newid o Ardal dan Arfaintais Ffurw defnydd arbenigol i eidiol
- Modell yn awgrymu bod tir yn newid o Ardal dan Arfaintais Ffurw arbenigol i gynnrych llaweth
- Modell yn awgrymu bod tir yn newid o bowrw cymyng i laweth
- Modell yn awgrymu bod tir yn newid o Ardal dan Arfaintais defnydd i ddefnyddi tir arall
- Tir wedi' gynnwys yn yr efebychiad o'r model





# Land use change mapping

## More change in a MFTA scenario

- UK agriculture exposed to global commodity prices
- No protection from import tariffs
- Many farms will need to consider different business models
- High levels of farm support needed if large scale land use change is to be avoided

- Modelling suggests land converts from SDA sheep to other land use
- Modelling suggests land converts from dairy to other land use
- Modelling suggests land converts from mixed grazers to other land use
- Land included in model simulation

# Mapio newidiadau defnydd tir

## Mwy o newid mewn senario masnach rydd amlochrog

- Amaethyddiaeth y DU yn agored i brisiau nwyddau byd-eang
- Dim diogelwch rhag dariffau mewnforion
- Bydd llawer o ffermydd yn gorfol ystyried modelau busnes gwahanol
- Angen lefelau uchel o gymorth fferm er mwyn osgoi newid mawr o ran defnydd tir fferm gyfan

Modelu yn awgrymu bod y tir yn newid o Ardal dan Anfantais Mawr i ddefnydd tir arall  
 Modelu yn awgrymu bod tir yn newid o wartheg godro i ddefnydd tir arall  
 Mae modelu yn awgrymu bod tir yn newid o borwyr cymysg i ddefnydd tir arall  
 Tir wedi'i gynnwys yn yr eifelychiad o'r model



# Environmental impacts

# Effeithiau amgylcheddol

- Air quality
- Agricultural diffuse pollution
- GHG emissions

Further work on:

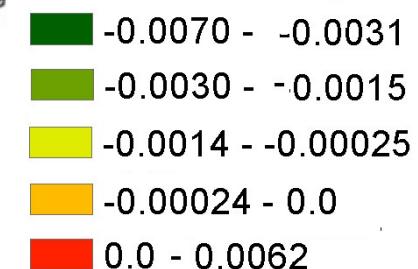
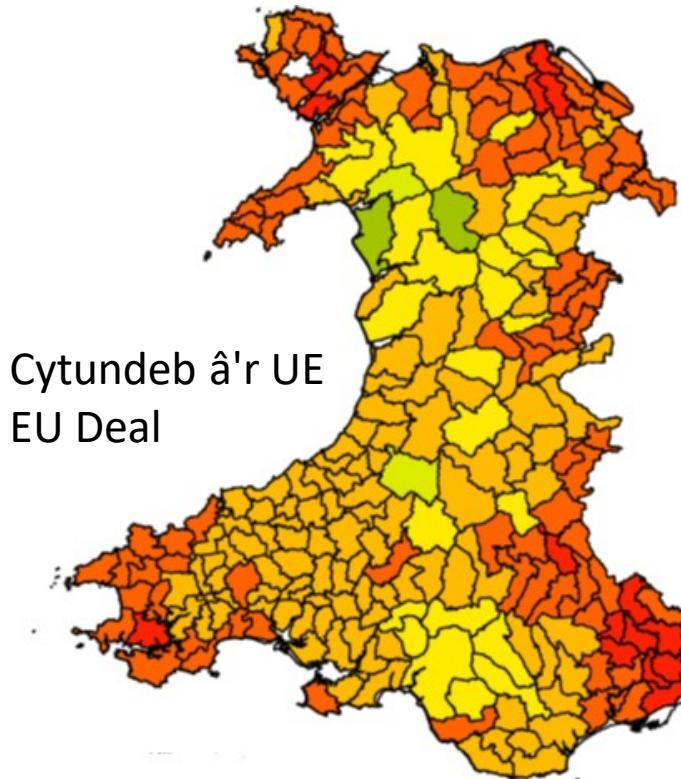
- Biodiversity
- Human health
- Forest production
- Recreation
- Effects measured: field to catchment scale

- Ansawdd aer
- Llygredd amaethyddol gwasgaredig
- Allyriadau nwyon tŷ gwydr

Rhagor o waith ar faterion:

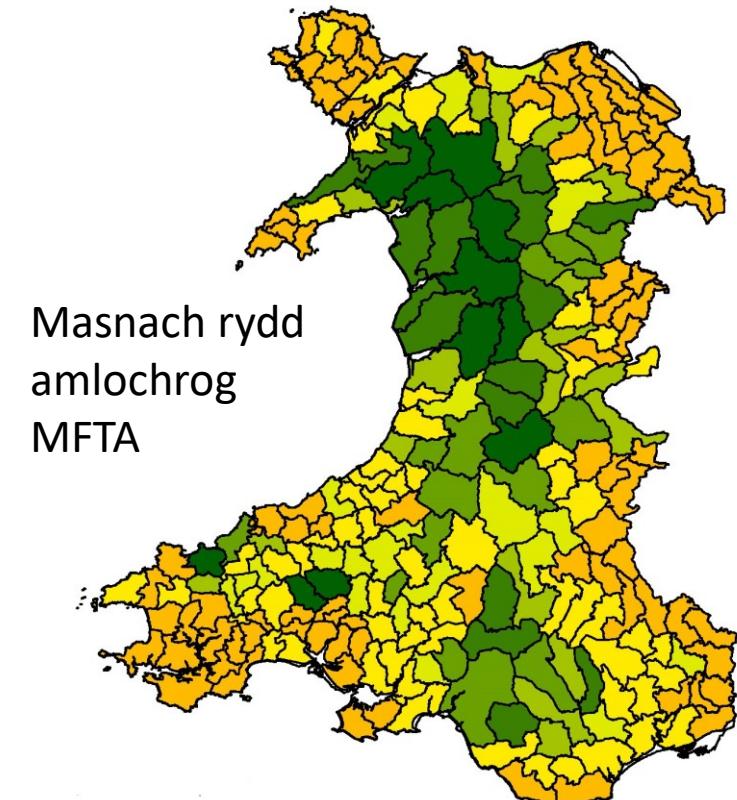
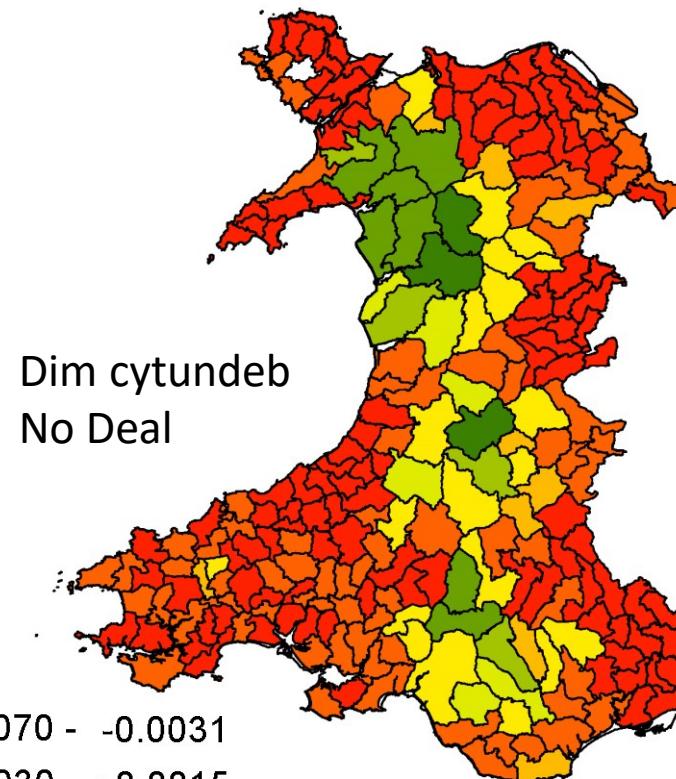
- Bioamrywiaeth
- Iechyd pobl
- Cynhyrchu coedwigaeth
- Hamdden
- Mesur effeithiau: graddfa caeau i dalgylch

## Agricultural N to water, change from baseline



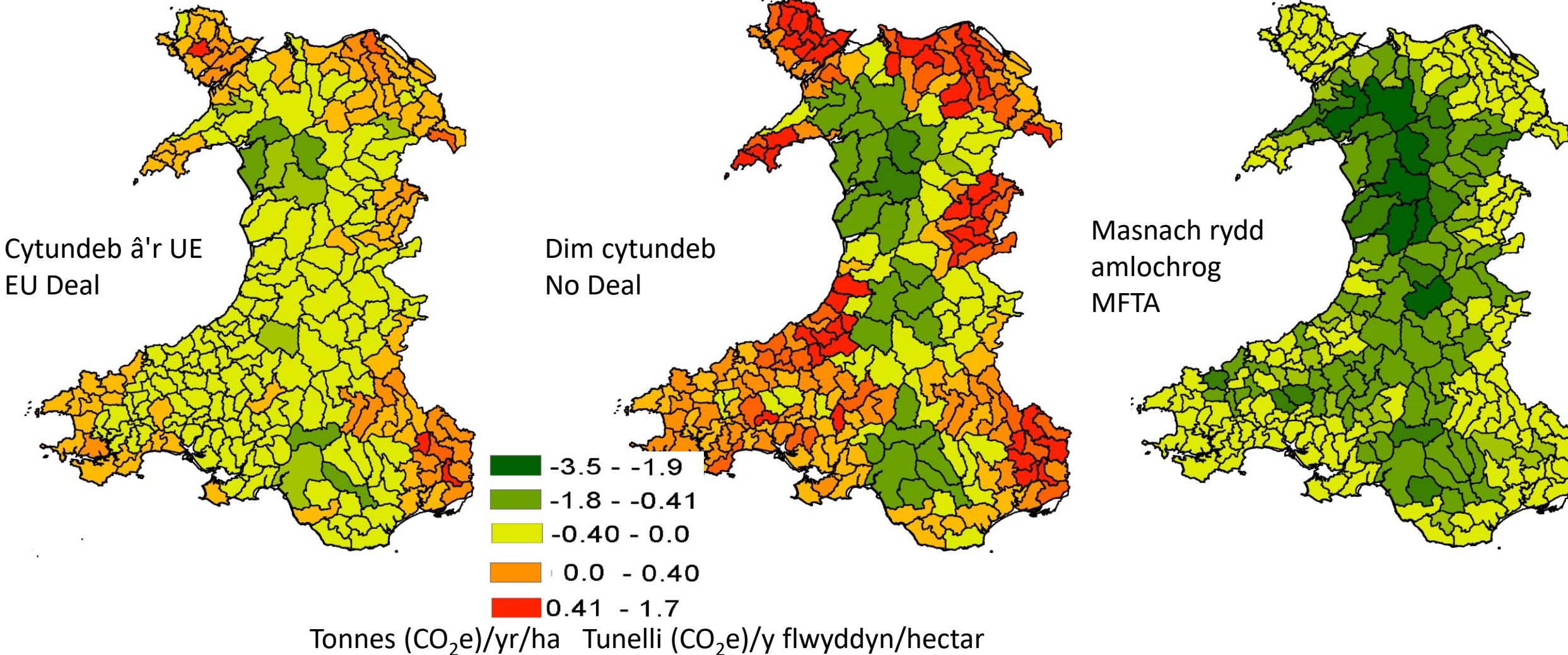
Tonnes NO<sub>3</sub>N/ha/yr Tunelli NO<sub>3</sub>N/hectar/y flwyddyn

## Nitrogen amaethyddol i'r dŵr, newid o'r llinell sylfaen



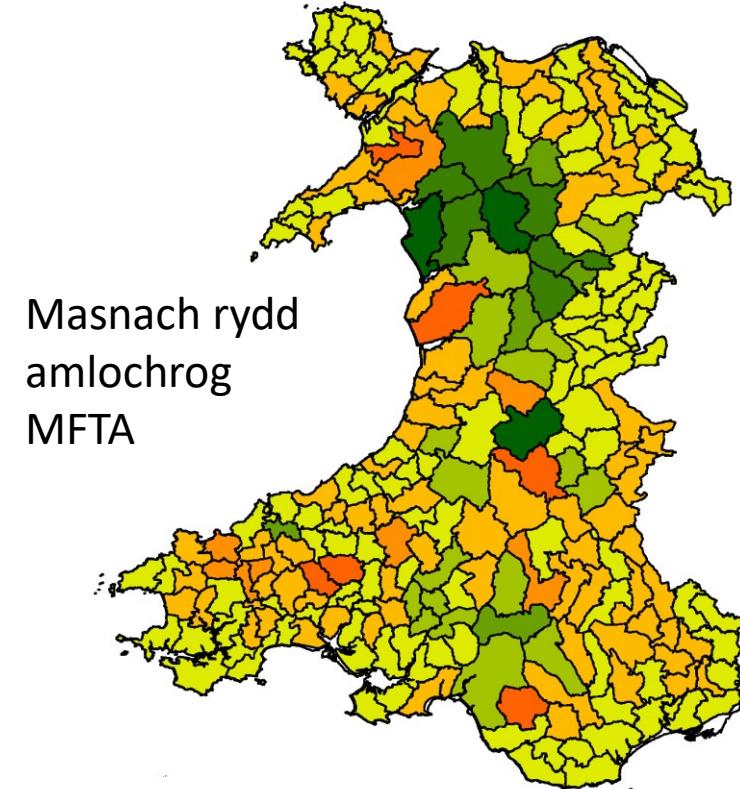
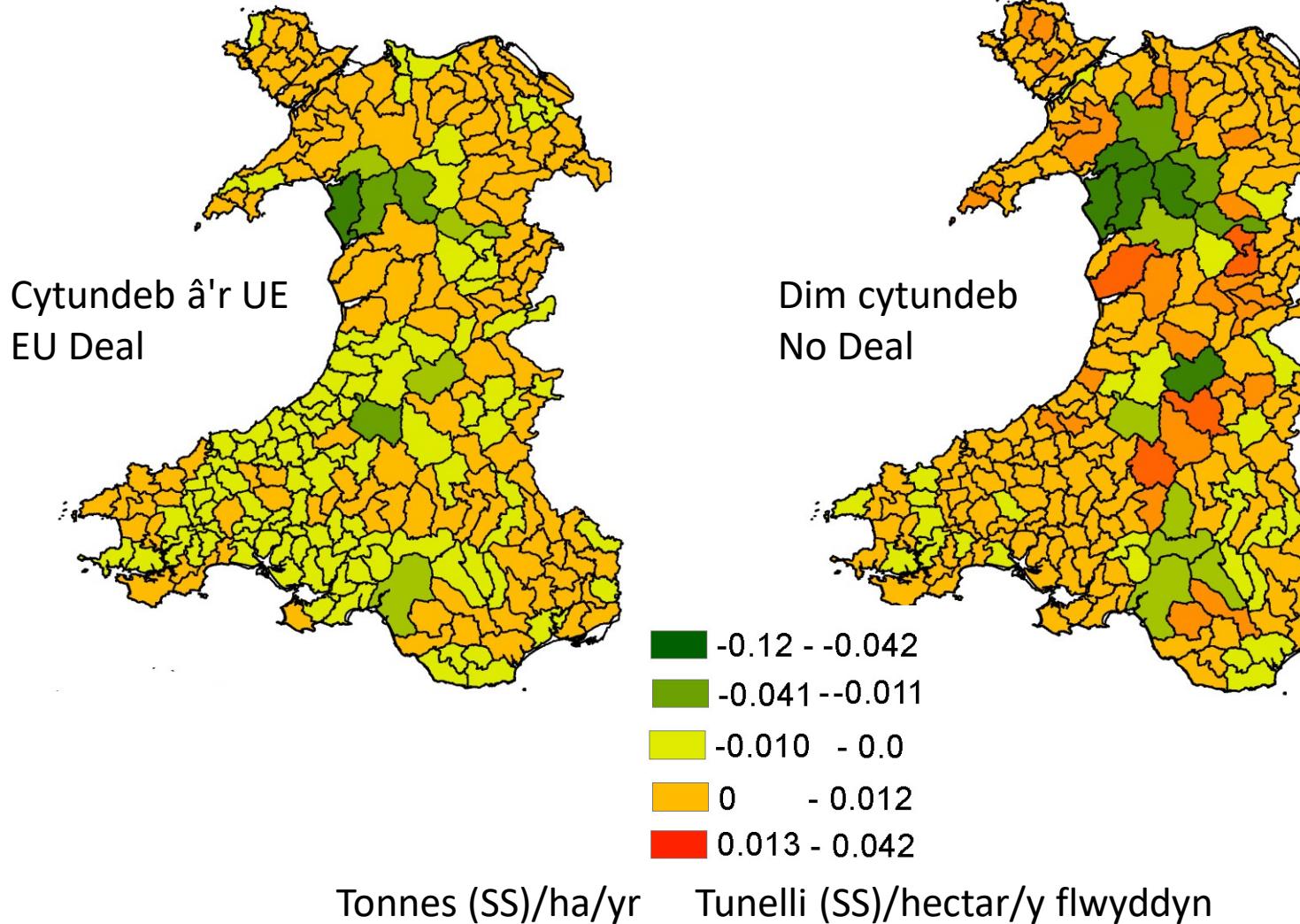
## Agriculture GHG emissions, change from baseline

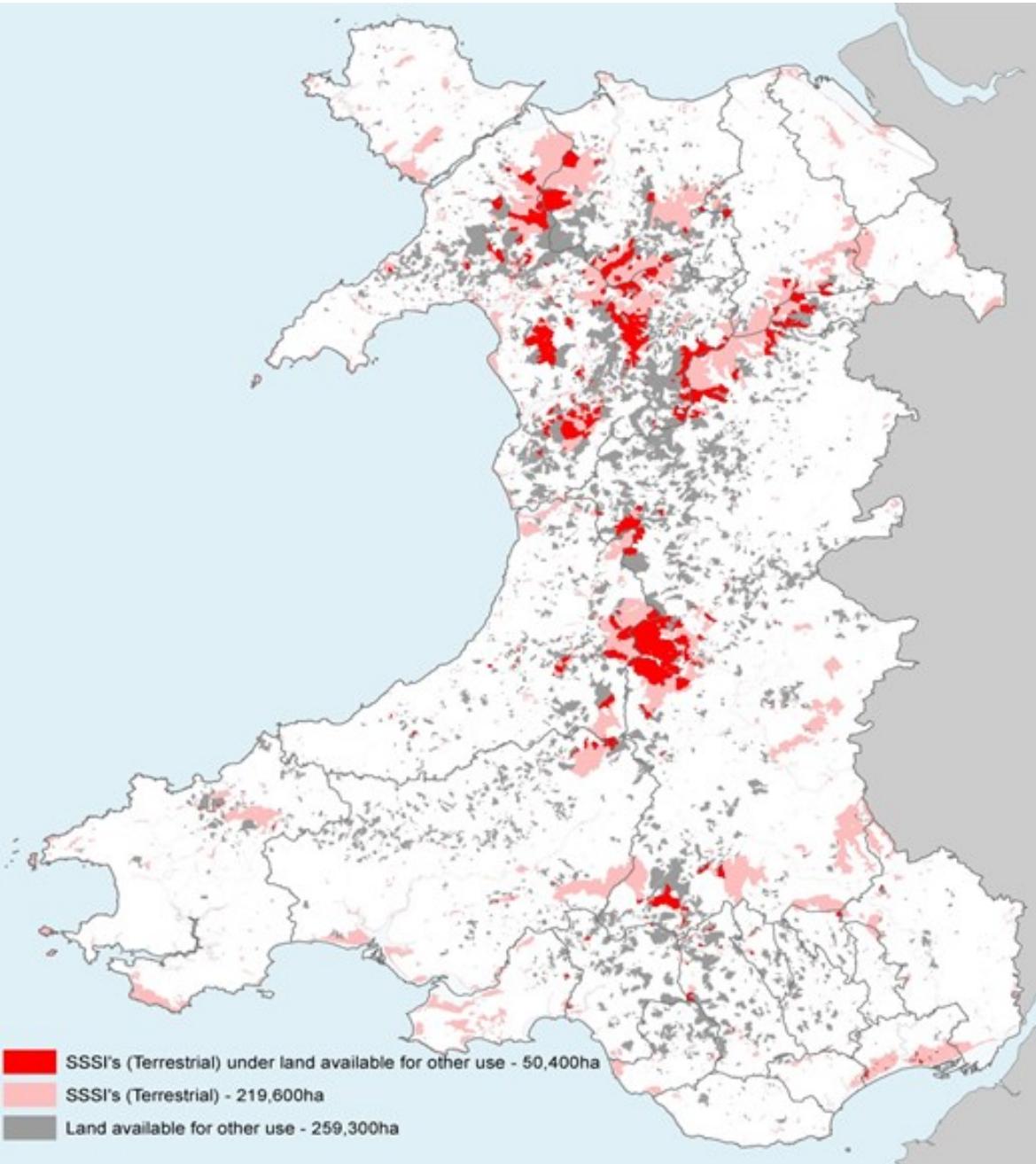
## Allyriadau nwyon tŷ gwydr amaethyddiaeth – newid o'r llinell sylfaen



# Sediment load to water, change from baseline

# Gwaddodion i ddŵr, newid o'r llinell sylfaen





## Senarios SoDdGA a Masnach Rydd Amlochrog

### SSSI's and MFTA scenario

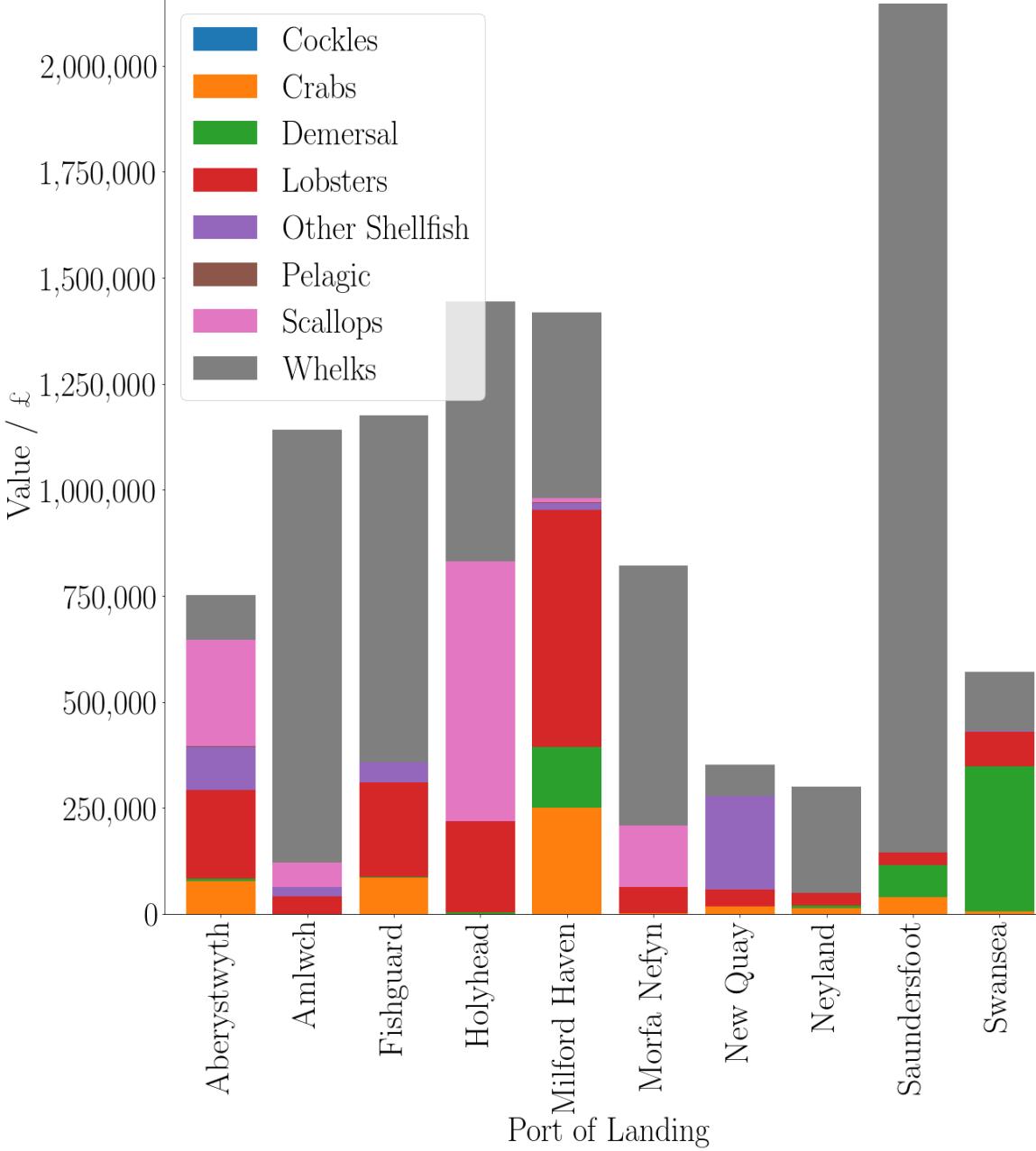
Modelu yn cynnwys cymorth cyfredol

Modelu yn eithrio ffermydd rhan-amser, Tir Comin, NRW a Choedwigaeth

Modelling includes existing support

Modelling excludes part time farms, Common Land, NRW and Forestry

### Value of Catch Landed by Welsh Boats in Welsh Ports

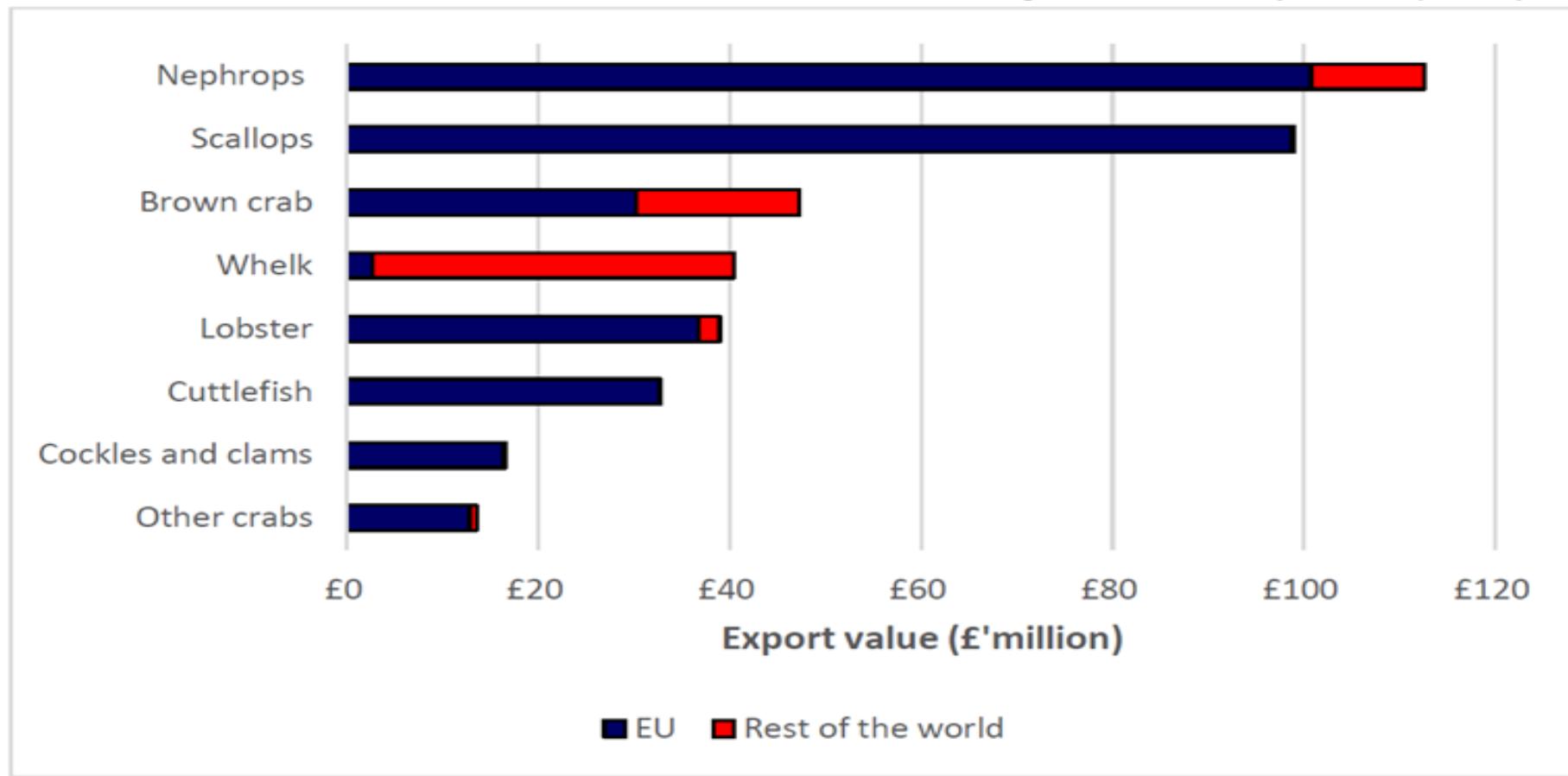


Glanfeydd cychod Cymru  
Welsh Fleet Landings

# Allforion prif rywogaethau pysgod y DU

## UK Exports of major fish species

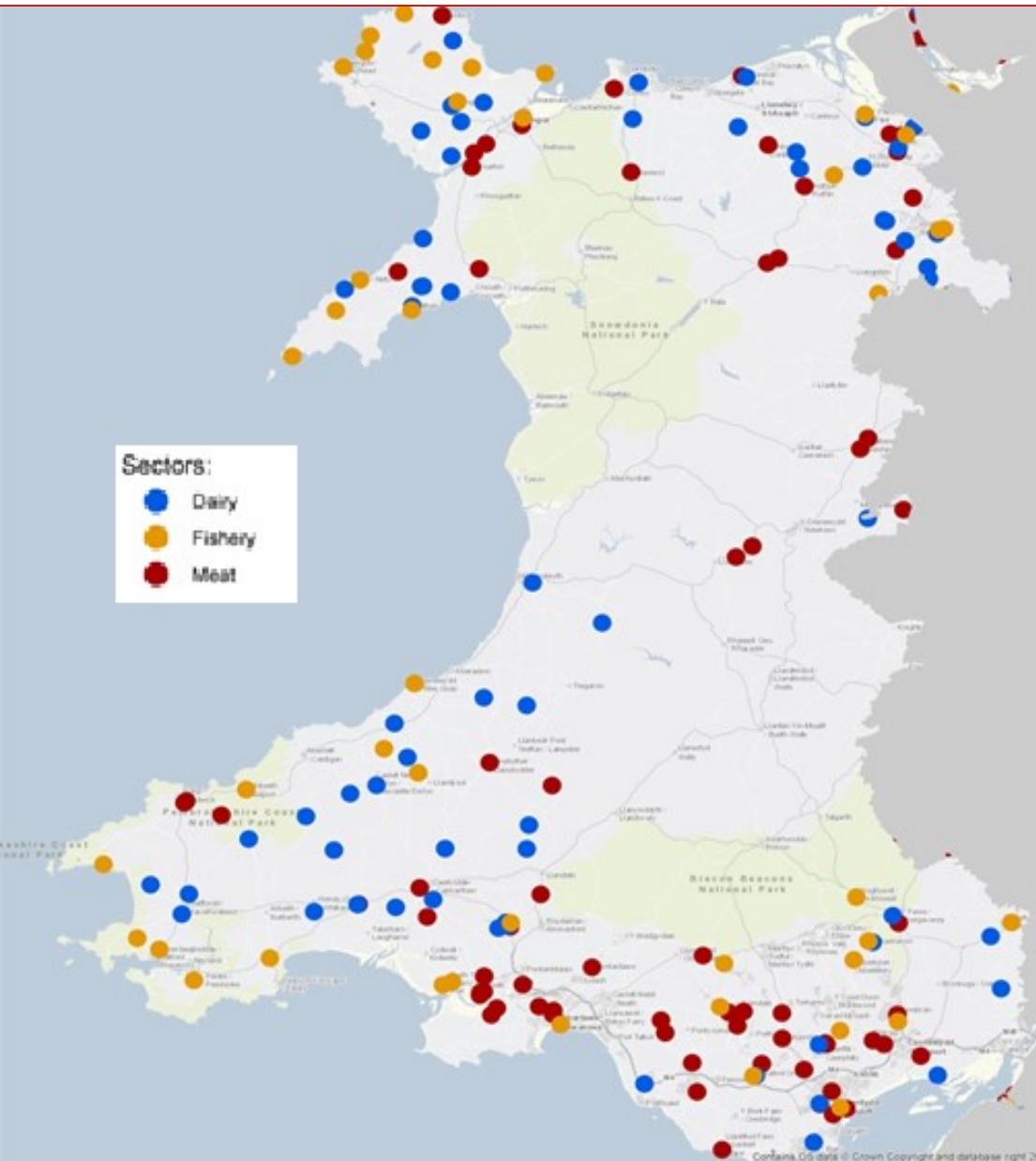
*Exports to the EU and the rest of the world for the UK's major shellfish species (2017)<sup>40</sup>*



Source: HMRC ([www.uktradeinfo.com](http://www.uktradeinfo.com))

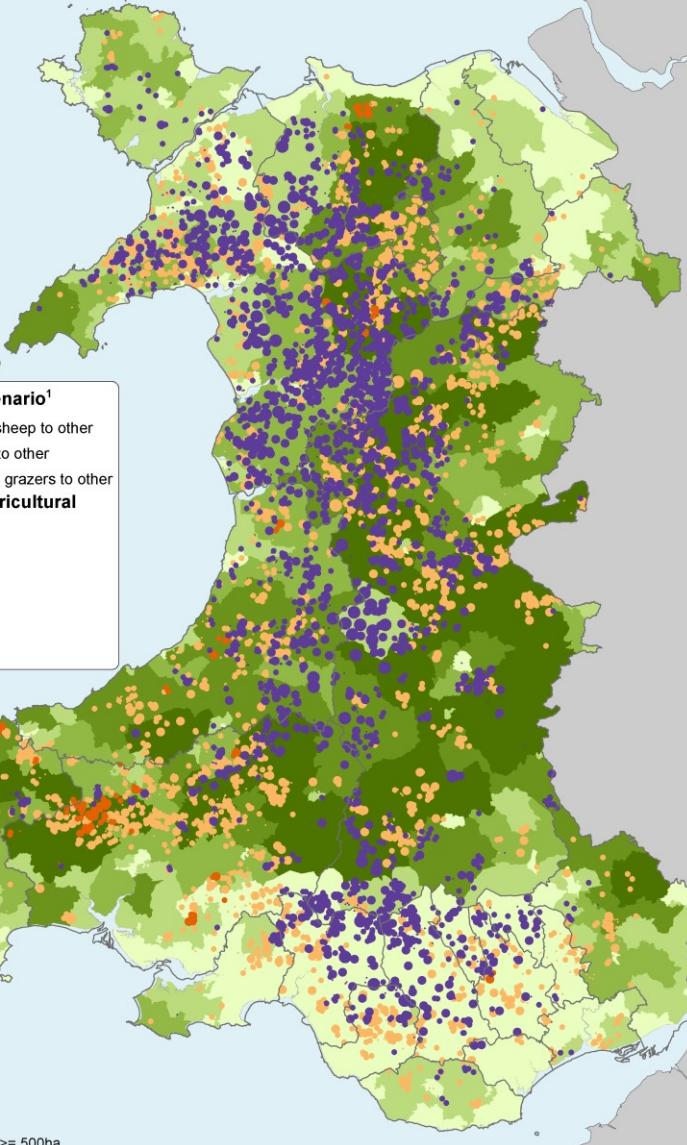
Note: excludes processed (i.e. HS codes starting 1605) except for cockles and clams and whelks; and excludes squid (predominantly landed abroad)

# Food Processors Proseswyr Bwyd



- Only 50% of Welsh milk is processed in Wales
- Wales has three large abattoirs processing lamb, importing lambs from England and Scotland to extend the season
- About three-quarters of Welsh beef is slaughtered outside Wales, Welsh abattoir throughput relies on cross border trade, 40% cattle processed are from outside Wales.
- Dim ond 50% o laeth Cymru sy'n cael ei brosesu yma yng Nghymru
- Mae gan Gymru dri lladd-dy mawr sy'n prosesu âyn, ac yn mewnfiorio âyn o Loegr a'r Alban i ymestyn y tymor
- Mae tua tri-chwarter cig eidion Cymru'n cael ei brosesu y tu allan i'n gwlaid – mae mewnbwn lladd-dai Cymru'n dibynnu ar fasnach drawsffiniol, ac mae 40% o'r gwartheg a brosesir yn dod o'r tu allan i Gymru.

Agricultural workers  
and land management most vulnerable to trade change



Data Source:

<sup>1</sup>ERAMMP Quick Start Modelling Platform

<sup>2</sup>Census of Employment, 2011

Workers includes those in employment or self employment.  
Each worker is allocated a single main industrial sector even if they have more than one job.

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Llywodraeth Cymru  
Welsh Government

# Ffarmwyr, pysgotwyr a choedwigwyr

## Farmers, fishers and foresters

Senarios Scenario	% yn llai o waith i ffermydd mawr (FTE)
	% decline in work for large farms (FTE)
Cytundeb â'r UE EU Deal	-3%
Dim cytundeb No Deal	-10.5%
Masnach rydd amlochrog MFTA	-25.6%

This map indicates those communities where agriculture is a significant employer and areas of Wales where agricultural businesses may be seeking changes.

Mae'r map hwn yn dangos cymunedau lle mae amaethyddiaeth yn gyflogwr sylweddol a'r ardaloedd o Gymru lle gallai busnesau amaeth fod am newid.

**Diolch yn Fawr  
Thank You**

Any questions? Unrhyw gwestiynau?

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