



Prof Calvin Jones & Prof Max Munday
UNWTO, Madrid
October 2016



Mainstreaming Sustainable Tourism: Approaches from Wales

WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

 Croeso Cymru
Visit Wales

Cardiff
Business
School

Ysgol
Fusnes
Caerdydd



menu

the political & policy background
project objectives
brief technical details
applications & progress
next steps

WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff
Business
School

Ysgol
Fusnes
Caerdydd



political background

- Wales recently (1999) received a measure of devolved authority from UK government
 - health
 - education
 - economic development – *including tourism*
- Welsh Government required to have a *plan for sustainable development* and (from 2016) to *consider welfare of future generations*
- hence need for an appropriate 'evidence based policy' - & tools to enable this

WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff
Business
School

Ysgol
Fusnes
Caerdydd



project objectives

- to present an understanding of how tourism works regionally with a view to assessing its 'sustainability'
- to illustrate how tourism can contribute to regional aspirations to cut CO₂e emissions by 3% per annum from this year
- to place the above firmly within wider policy contexts and priorities, especially economic development

WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff
Business
School

Ysgol
Fusnes
Caerdydd



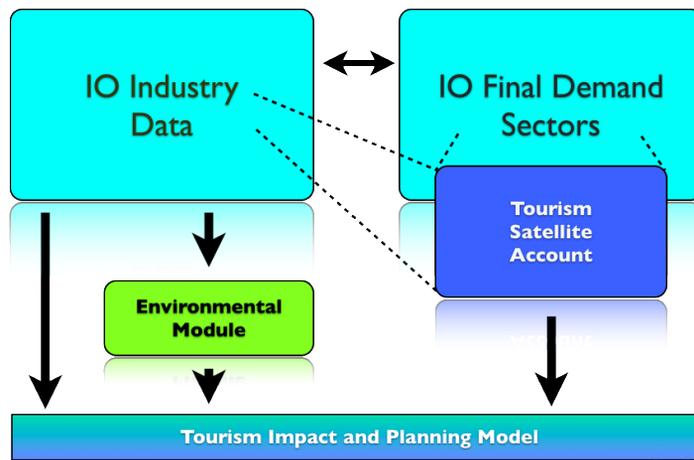
how can Wales do this?

- three regional-bespoke structures:
 - **input-output tables (io)**, mapping 88 sectors of the regional economy, built by CBS since 1998
 - **tourism satellite account (tsa)** detailing scale, scope of regional tourism consumption (CBS and Visit Wales, '98, '00, '03 and '07 base)
 - **environmental satellite account (eeio)** recently developed with CO₂e by 88 industries + households based on regional point emission estimates developed for Kyoto reporting



tourism impact & planning model (tim)

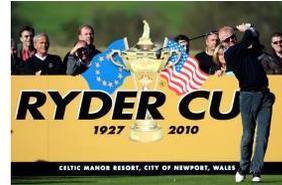
Figure 3.1 - The Welsh Input-Output Project in Summary





Tourism Impact Model

- initially, **tim** used by Visit Wales for economic analysis:
 - bespoke Welsh 'tourism multiplier' analysis
 - project evaluation; pre-investment decisions
 - major sports and cultural event evaluations



WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff Business School
Ysgol Fusnes Caerdydd



Economics

Table 3.1: Tourism Impact and Planning Model for Wales: Key Economic Indicators

	Daytrip	1-3 Nights	4+ Nights	Inter-national	Bus-ness	Total
Gross Expenditure (£m)	2,136.6	605.6	762.5	338.4	245.3	4,088.4
Tourism Dependent GVA (direct)	646.6	291.5	346.9	159.5	122.9	1,567.4
TD-GVA (£m)						
% Wales	1.6	0.7	0.8	0.4	0.3	3.8
Tourism Dependent GVA (Total)	893.9	392.5	457.5	215.0	159.6	2,118.5
TT-GVA (£m)						
% Wales	2.2	1.0	1.1	0.5	0.4	5.1
Tourism Dependent Employment (Direct)	28,200	15,100	17,700	8,500	5,600	75,100
TD-TE (FTEs)						
m % Wales	2.6	1.4	1.6	0.8	0.5	6.8
Tourism Dependent Employment (Total)	35,500	18,000	20,460	10,080	6,620	90,660
TT-DE (FTEs)						
% Wales	3.2	1.6	1.9	0.9	0.6	8.2

WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff Business School
Ysgol Fusnes Caerdydd



and emissions...

Table 4.1 Greenhouse Gas Emissions Arising from Tourism in Wales (2007)

CO2e, tonnes	Daytrip	1-3 Nights	4+ Nights	International	Business	All Staying	Total
Within wales	629,400	256,300	266,800	123,900	86,300	733,300	1,362,700
Travel to/from Wales	-	206,500	129,500	557,200	84,800	978,000	978,000
Total	629,400	462,800	396,300	681,100	171,100	1,711,300	2,340,700

CO2e per trip (kg)

Within wales	5	57	80	116	104	75	11
Travel to/from Wales	-	46	39	523	102	100	8
Total	5	102	118	640	205	175	18

CO2e per day (kg)

Within wales	5	27	13	16	35	18	9
Travel to/from Wales	-	22	6	71	35	24	6
Total	5	49	19	86	70	42	15

Sources:
 Environmentally Extended Input Output Tables for Wales (EEIO-W)
 DEFRA (2008)
 UKTS 2006-8
 International Passenger Survey 2006-8, ONS
 Overseas Tourism To Wales, WAG
 Unpublished analyses by Tourism Intelligence Unit, ONS
 Tourism Impact Model for Wales
 Ireland-Wales Passenger Analysis (unpublished), Central Statistical Office for Ireland

Notes:
 All UK Holiday is sum of 1-3 and 4+ nights in VFR.
 All staying excludes Daytrip.
 International GHG amended for multi-regional UK trips
 Will not sum due to independent rounding

WELSH ECONOMY RESEARCH UNIT
 Yr Uned Ymchwil i Economi Cymru

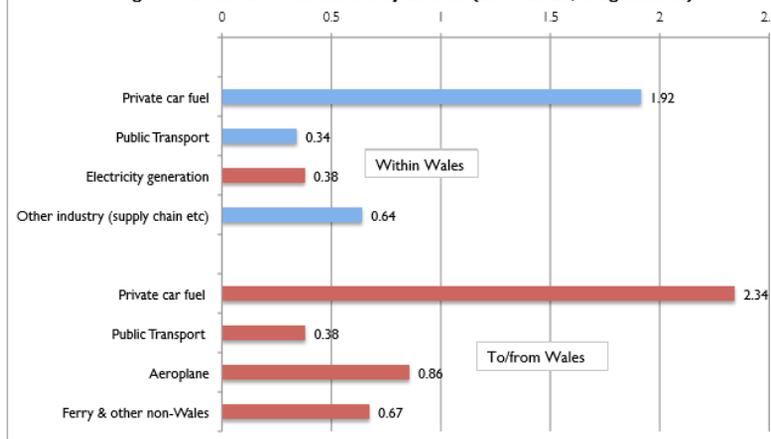
Cardiff
 Business
 School

Ysgol
 Ffynnes
 Caerdydd



by source...

Fig 1: Tourism GHG emissions by Source (2007 CO2e, megatonnes)



WELSH ECONOMY RESEARCH UNIT
 Yr Uned Ymchwil i Economi Cymru

Cardiff
 Business
 School

Ysgol
 Ffynnes
 Caerdydd



regional context

Table 3.1 Estimated GVA and Employment 2003-2011 (Wales, Direct + Indirect)

	2003	2007	2011
Gross Value Added			
£m	2,168	2,120	2,720
% Wales	6.1	5.1	6.3
Employment			
FTE	93,580	90,660	121,340
% Wales	8.7	8.2	11.1

- total emissions in 2007 were 2.34m tonnes CO₂e – some **5%** of total regional emissions.
- **40%** of tourism emissions related to travel to/from Wales

WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff
Business
School

Ysgol
Fusnes
Caerdydd

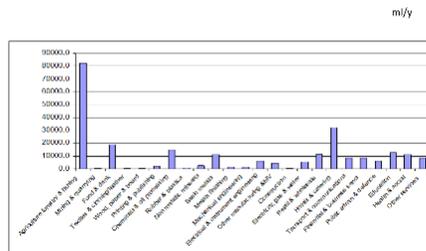


& other environmental impacts..

Waste (within Wales arisings) Experimental				
		<i>industry only</i>	15,479,140	2.3%
Non hazardous (t)	350,615	<i>inc. households</i>	17,022,140	2.1%
Hazardous (t)	21,425		294,210	7.3%
Total (inc households)	372,040		17,316,350	2.1%
Water (industrial abstraction) Experimental				
		<i>industry only</i>	194,830	5.3%
Water Use (megalitres)	10,410	<i>... total water supply</i>	851,415	1.2%

Wales Water Footprint 2007

But note considerable data, conceptual and application issues relative to GHG emissions...



WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff
Business
School

Ysgol
Fusnes
Caerdydd



Scenarios for Sustainable Tourism



WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru



From Modelling to Scenarios

- TIM is an 'account' of how tourism is currently structured in Wales
- Positing changes to the nature of that tourism provides an indication of environmental consequences following those changes
- Far from perfect knowledge, but can give outline of where enviro impacts are greatest, and how remedial action must go... see **Jones, 2013** for full detail

WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru





Jones, 2013 for full detail

	Change CO ₂	Change GVA	Implications
50% of UK resident leisure visitors currently arriving by car switch to rail with this accommodated <i>half</i> by an increase in loading of current vehicles, and <i>half</i> by the running of new trains	-4.1%	Minimal	Modest CO ₂ impacts due largely to the relatively small difference between CO ₂ per passenger mile of leisure car trips and inter-urban rail Implications: Rail must become far cleaner (renewable-electric) for significant gains here
A 50% fall in international arrivals, countered by a 10% increase in UK domestic arrivals	-11%	-1.1%	More significant benefits here: international visitors are three times more carbon-damaging than UK tourists. Economic impact largely protected by increase in domestic market: we save ten times more carbon than we lose in economic impact Implications: Issue of international arrivals (by air) key to any holistic sustainable tourism strategy that values global impact
Decarbonisation of the UK electricity grid to 80% below current baseline	-5%	Unkown but +ive	Very substantial change in electricity generation has very limited impact on tourism emissions in Wales ... because travel and direct fuel burn dominate emissions sources Implications: energy efficiency & renewables messaging is important from both a reputational and resilience/peak oil perspective, but must be complemented by tackling travel

WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff
Business
School

Ysgol
Fusnes
Caerdydd



Next Steps: Context

Key issues

- How important is the improvement of tourism statistics within the Welsh devolution project?
- More focus on fiscal issues
- Pressure on resources of statistical agencies (ONS)
- Post Credit Crunch - Dated Input-Output tables and TSAs
- Residual resistance to improving regional account structures



WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff
Business
School

Ysgol
Fusnes
Caerdydd



Next steps Context

- **Poor and old data on selected environmental variables including water use**
- **Demands for statistical data on tourism at city region level**



Where to now?

- **Integration of tourism and environmental information into new models of the Welsh economy including CGE**
- **Pressure for institutional support for improved IO accounts which are a foundation of environmentally relevant TSA structures**
- **Getting past the 'survey mentality'; being smarter in collecting tourism spending information**
- **Working with regional utilities to gain data on tourism-facing sectors resource use**





Many thanks for listening

Calvin Jones

jonesc24@cf.ac.uk

Max Munday

mundaymc@cf.ac.uk

WELSH ECONOMY RESEARCH UNIT
Yr Uned Ymchwil i Economi Cymru

Cardiff
Business
School

Ysgol
Fusnes
Caerdydd