

# Getting started with individual fieldwork

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- Basic structure is very familiar:

- Title
- Data collection
- Presenting data
- Analysing data
- Conclusions
- Evaluation

Discuss:

- Reflections/lessons learned from similar experiences in the past
- Opportunities presented by new ways of collecting evidence/ data
- Use this opportunity to gather good practice from post 16/HE colleagues

# The Title

Must have

- Essential link to reading / literature. In MS
- Some geographical logic
- Achievable
- Realistic aims – in terms of time, amount & type of data, time available.
- MUST be thought through, planned in detail. Including how the data will be analysed

# The Title



- Use of theories and concepts - students find it hard to critique their textbooks
- Need to be reassured that real data is unlikely to fit perfectly.
  - Partial, tentative, incomplete
- Poor titles lead to poor investigations – need potential for analysis. Ban ‘to find out’, ‘to explore’,
- Watch out for illogical comparisons. Need much in common.
- Aim to avoid a gradual ‘reductionism’ towards safe titles and less innovation.

# Data collection – the challenge

Planning is critical here too.

- What is needed
  1. To address the Q or aim in the title?
  2. To complete the analysis?
- What methods? Range, variety, reliability?
- What sampling technique? Size of sample? Why? Systematic, stratified or random....
- What secondary data is available? Make sure it is compatible with intended primary data. Could use the established organisation for secondary data as a rationale for primary.

# Data collection – the challenge

- Death by questionnaire
  - harder than it looks
  - risk of dodgy results
- Make sure students know how to get the most from it.
  - Focus on a manageable group
- Pilot
- Understand the value of open /closed questions

## Qualitative data

- Don't underestimate the value of interviews.
  1. Make sure interviews are codified as part of the analysis.
  2. Risk – too much narrative

# Data collection – the challenge

Primary data sources:

- Blogs?
- E-questionnaires. Survey Monkey? Much harder than it appears. 33% response rate.

# Data collection - the challenge



- How to make it personal especially on a fieldtrip with limited time, large groups.
- Teachers and field centre staff know what needs to be done and will inevitably guide students to appropriate data collection techniques. Especially in limited time-frame.
- And do it safely....
- **Key Q** – do students know and understand why they are doing what they are doing? Include their own risk assessment.
- And how do you check?



- Teachers need to do their bit...
- Need to develop a plan (dare I suggest a form?) whereby each student is seen to address first 4 aspects of the investigation in advance...

## Basic structure

- Title
- Data collection
- Presenting data
- Analysing data
- Conclusions
- Evaluation

# Sources of data on carbon:

<http://www.esrl.noaa.gov/research/themes/carbon/>

For emissions data look at:

World bank - <http://data.worldbank.org/indicator/EN.ATM.CO2E.PC>

UNFCCC - [http://unfccc.int/ghg\\_data/items/3800.php](http://unfccc.int/ghg_data/items/3800.php)

IEA - <http://www.iea.org/statistics/topics/co2emissions/>

For UK data - <https://www.gov.uk/government/collections/uk-greenhouse-gas-emissions-statistics>

DECC's interactive calculator tool is useful too - <http://2050-calculator-tool.decc.gov.uk/#/home>

A1

DECC Updated Energy &amp; Emissions Projections - September 2014

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	
11	<b>MI<sub>CO<sub>2</sub>e</sub></b>																															
12		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
13	Agriculture	71	71	71	70	70	70	71	71	70	69	67	63	63	62	62	60	58	57	57	57	57	56	56	55	55	55	54	53	52		
14	Business	116	120	115	114	113	111	113	110	110	113	115	115	105	108	107	108	106	105	100	90	90	84	86	91	89	87	85	84	82		
15	Energy supply	272	270	258	241	233	233	234	218	221	209	218	227	225	231	230	228	235	229	222	199	204	190	202	200	199	188	151	145	138		
16	Industrial processes	55	53	47	44	46	45	46	47	44	27	25	22	19	20	20	19	18	19	17	11	12	10	10	11	10	10	9	9			
17	LULUCF	2	2	1	1	1	2	1	0	-1	-1	-2	-3	-4	-4	-5	-6	-6	-7	-7	-7	-7	-7	-7	-7	-8	-8	-9	-9			
18	Public	13	14	15	13	13	13	14	13	12	12	12	12	10	11	11	10	9	10	10	10	10	10	9	9	9	9	9	8			
19	Residential	80	89	87	91	86	82	94	87	89	89	89	92	88	89	91	87	84	80	82	77	89	69	77	78	71	74	70	70	71		
20	Transport	121	119	121	122	122	122	126	127	126	127	126	126	129	128	129	130	130	134	126	121	120	118	117	117	117	117	118	116	114		
21	Waste management	47	47	45	46	46	48	48	46	45	41	39	38	38	35	31	30	29	28	28	26	23	22	21	20	20	19	19	18			
22	<b>Total GHG emissions</b>	<b>777</b>	<b>785</b>	<b>760</b>	<b>741</b>	<b>730</b>	<b>725</b>	<b>745</b>	<b>720</b>	<b>718</b>	<b>687</b>	<b>688</b>	<b>692</b>	<b>673</b>	<b>679</b>	<b>675</b>	<b>669</b>	<b>665</b>	<b>655</b>	<b>636</b>	<b>583</b>	<b>598</b>	<b>554</b>	<b>573</b>	<b>576</b>	<b>563</b>	<b>552</b>	<b>507</b>	<b>496</b>	<b>483</b>		
23	<b>Net carbon account</b>																			<b>616</b>	<b>596</b>	<b>605</b>	<b>578</b>	<b>587</b>	<b>559</b>	<b>549</b>	<b>545</b>	<b>532</b>	<b>514</b>			
24	<i>EUETS allowances cancelled</i>																				1	1	1	1	0	0	0	0	0			
25	<i>EUETS allowances purchased</i>																					19	-14	-8	-25	-14	17	14	7	-26	-28	-31
26																																
27	<b>Total CO<sub>2</sub> emissions</b>																															
28	<b>MI<sub>CO<sub>2</sub>e</sub></b>																															
29		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
30	Agriculture	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	3	3	2	2	2	2		
31	Business	113	118	113	111	110	107	109	105	105	107	108	107	96	98	97	97	94	93	88	77	77	71	73	79	77	77	76	75	74		
32	Energy supply	241	238	227	212	210	209	212	197	202	192	203	213	211	218	217	217	224	219	212	189	195	182	193	192	191	179	143	137	131		
33	Industrial processes	17	14	14	14	15	15	16	16	16	16	15	14	13	14	15	15	14	16	14	9	10	9	9	10	9	9	9	9	9		
34	LULUCF	1	1	0	0	0	1	0	0	-2	-2	-3	-4	-5	-5	-6	-7	-7	-7	-8	-8	-8	-8	-8	-8	-8	-9	-9	-10	-10		
35	Public	13	14	15	13	13	13	14	13	12	12	11	12	10	10	11	11	10	9	10	10	10	10	10	10	9	9	9	8	8		
36	Residential	79	87	85	89	85	81	92	85	86	86	87	89	86	87	88	84	81	78	80	74	86	66	75	76	69	71	68	67	68		
37	Transport	119	117	119	120	120	119	124	125	124	125	124	124	127	127	128	129	129	132	125	120	119	117	116	115	116	116	115	112			
38	Waste management	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
39	<b>Total CO<sub>2</sub> emissions</b>	<b>590</b>	<b>596</b>	<b>579</b>	<b>565</b>	<b>559</b>	<b>551</b>	<b>572</b>	<b>547</b>	<b>551</b>	<b>543</b>	<b>551</b>	<b>561</b>	<b>544</b>	<b>554</b>	<b>555</b>	<b>551</b>	<b>551</b>	<b>543</b>	<b>526</b>	<b>477</b>	<b>493</b>	<b>451</b>	<b>472</b>	<b>477</b>	<b>466</b>	<b>456</b>	<b>413</b>	<b>404</b>	<b>394</b>		
40																																
41	<b>Total CH<sub>4</sub> emissions</b>																															
42	<b>MI<sub>CO<sub>2</sub>e</sub></b>																															
43		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
44	Agriculture	28	28	28	28	28	27	28	28	28	27	26	25	24	24	24	24	24	23	23	22	22	22	22	22	22	22	22	21	21		
45	Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
46	Energy supply	29	29	29	27	21	22	21	19	17	15	14	13	12	11	11	9	9	8	8	8	8	7	7	7	7	7	7	7	7		
47	Industrial Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
48	LULUCF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
49	Public	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
50	Residential	1	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0		
51	Transport	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
52	Waste management	45	45	43	43	44	46	45	45	43	40	37	36	36	33	29	28	28	27	26	25	22	21	20	19	19	18	18	17	17		
53	<b>Total CH<sub>4</sub> emissions</b>	<b>104</b>	<b>104</b>	<b>102</b>	<b>101</b>	<b>95</b>	<b>97</b>	<b>96</b>	<b>93</b>	<b>90</b>	<b>84</b>	<b>78</b>	<b>75</b>	<b>74</b>	<b>69</b>	<b>65</b>	<b>62</b>	<b>61</b>	<b>59</b>	<b>58</b>	<b>56</b>	<b>52</b>	<b>52</b>	<b>50</b>	<b>49</b>	<b>48</b>	<b>47</b>	<b>46</b>	<b>45</b>			
54																																
55	<b>Total N<sub>2</sub>O emissions</b>																															