Modeling progress on Climate Change and Social Value Acts

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KnowProcess

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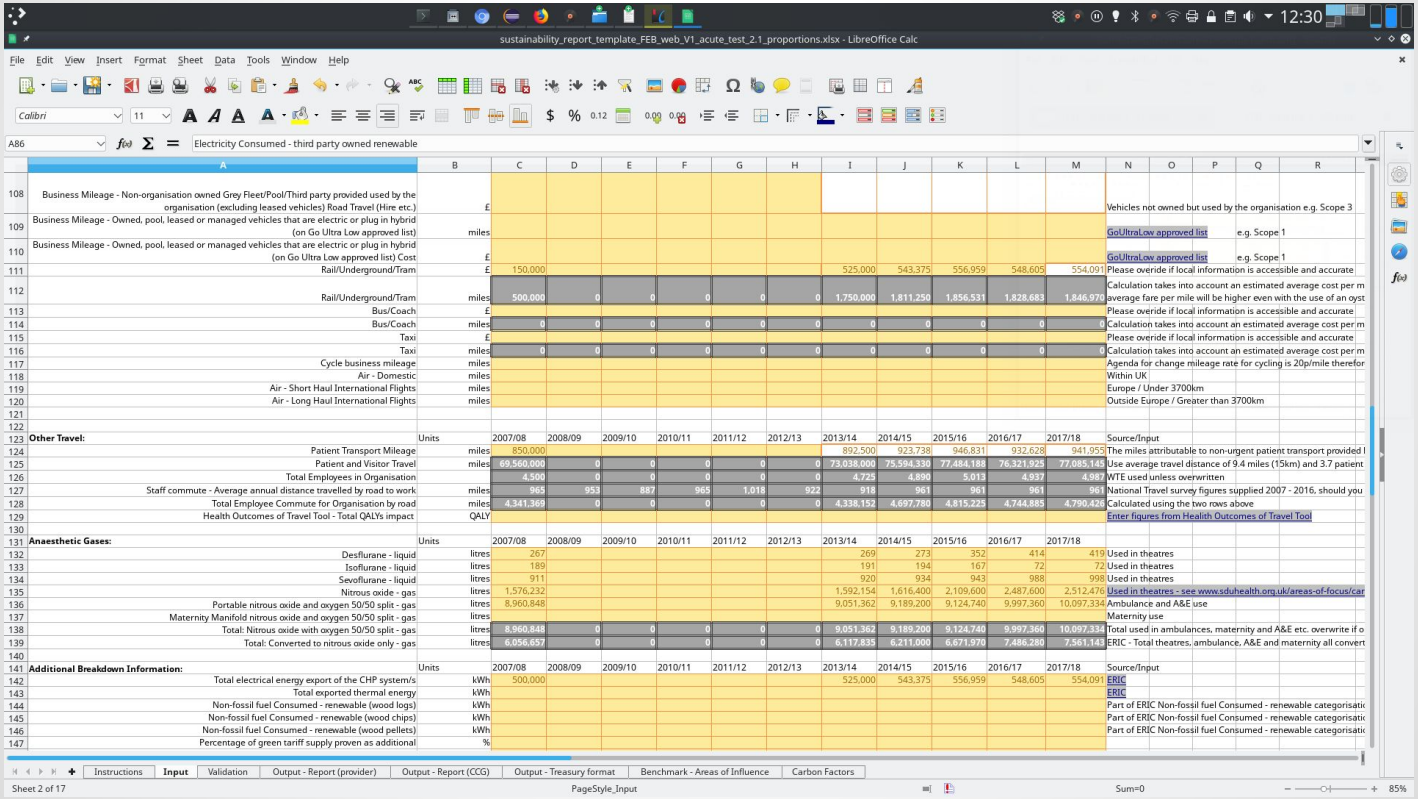
Climate Change Act 2008

Social Value Act 2012
Modern Slavery Act 2015

Scope of work

- Data Capture
- Calculations (decisions)
  - Emissions
  - Social Value
  - Combined with policy statements and context
- Public sustainability report
- Report for HM Treasury

Existing situation (pre-project)



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
108	Business Mileage - Non-organisation owned Grey Fleet/Pool/Third party provided used by the organisation (excluding leased vehicles) Road Travel (Hire etc.)	£												Vehicles not owned but used by the organisation e.g. Scope 3				
109	Business Mileage - Owned, pool, leased or managed vehicles that are electric or plug in hybrid (on Go Ultra Low approved list)	miles												GoUltraLow approved list		e.g. Scope 1		
110	Business Mileage - Owned, pool, leased or managed vehicles that are electric or plug in hybrid (on Go Ultra Low approved list) Cost	£												GoUltraLow approved list		e.g. Scope 1		
111	Rail/Underground/Tram	£	150,000						525,000	543,375	556,959	548,605	554,091	Please overide if local information is accessible and accurate				
112	Rail/Underground/Tram	miles	500,000	0	0	0	0	0	1,750,000	1,811,250	1,856,531	1,828,683	1,846,970	Calculation takes into account an estimated average cost per m average fare per mile will be higher even with the use of an oyst				
113	Bus/Coach	£												Please overide if local information is accessible and accurate				
114	Bus/Coach	miles	0	0	0	0	0	0	0	0	0	0	0	Calculation takes into account an estimated average cost per m				
115	Taxi	£												Please overide if local information is accessible and accurate				
116	Taxi	miles	0	0	0	0	0	0	0	0	0	0	0	Calculation takes into account an estimated average cost per m				
117	Cycle business mileage	miles												Agenda for change mileage rate for cycling is 20p/mile therefor				
118	Air - Domestic	miles												Within UK				
119	Air - Short Haul International Flights	miles												Europe / Under 3700km				
120	Air - Long Haul International Flights	miles												Outside Europe / Greater than 3700km				
121																		
122																		
123	**Other Travel:**	Units	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Source/Input				
124	Patient Transport Mileage	miles	850,000						892,500	923,738	946,831	932,628	941,955	The miles attributable to non-urgent patient transport provided l				
125	Patient and Visitor Travel	miles	69,560,000	0	0	0	0	0	73,038,000	75,594,330	77,484,188	76,321,925	77,085,145	Use average travel distance of 9.4 miles (15km) and 3.7 patient				
126	Total Employees in Organisation		4,500	0	0	0	0	0	4,725	4,890	5,013	4,937	4,987	WTE used unless overwritten				
127	Staff commute - Average annual distance travelled by road to work	miles	965	953	887	965	1,018	922	918	961	961	961	961	National Travel survey figures supplied 2007 - 2016, should you				
128	Total Employee Commute for Organisation by road	miles	4,341,369	0	0	0	0	0	4,338,152	4,697,780	4,815,225	4,744,885	4,790,426	Calculated using the two rows above				
129	Health Outcomes of Travel Tool - Total QALYs impact	QALY												Enter figures from Health Outcomes of Travel Tool				
130																		
131	**Anaesthetic Gases:**	Units	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18					
132	Desflurane - liquid	litres	267						269	273	352	414	419	Used in theatres				
133	Isoflurane - liquid	litres	189						191	194	167	72	72	Used in theatres				
134	Sevoflurane - liquid	litres	911						920	934	943	988	998	Used in theatres				
135	Nitrous oxide - gas	litres	1,576,232						1,592,154	1,616,400	2,109,600	2,487,600	2,512,476	Used in theatres - see www.sduhealth.org.uk/areas-of-focus/car				
136	Portable nitrous oxide and oxygen 50/50 split - gas	litres	8,960,848						9,051,362	9,189,200	9,124,740	9,997,360	10,097,334	Ambulance and A&E use				
137	Maternity Manifold nitrous oxide and oxygen 50/50 split - gas	litres												Maternity use				
138	Total: Nitrous oxide with oxygen 50/50 split - gas	litres	8,960,848	0	0	0	0	0	9,051,362	9,189,200	9,124,740	9,997,360	10,097,334	Total used in ambulances, maternity and A&E etc. overwrite if o				
139	Total: Converted to nitrous oxide only - gas	litres	6,056,657	0	0	0	0	0	6,117,835	6,211,000	6,671,970	7,486,280	7,561,143	ERIC - Total theatres, ambulance, A&E and maternity all convert				
140																		
141	**Additional Breakdown Information:**	Units	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Source/Input				
142	Total electrical energy export of the CHP system/s	kWh	500,000						525,000	543,375	556,959	548,605	554,091	ERIC				
143	Total exported thermal energy	kWh												ERIC				
144	Non-fossil fuel Consumed - renewable (wood logs)	kWh												Part of ERIC Non-fossil fuel Consumed - renewable categorisatio				
145	Non-fossil fuel Consumed - renewable (wood chips)	kWh												Part of ERIC Non-fossil fuel Consumed - renewable categorisatio				
146	Non-fossil fuel Consumed - renewable (wood pellets)	kWh												Part of ERIC Non-fossil fuel Consumed - renewable categorisatio				
147	Percentage of green tariff supply proven as additional	%																

Example decision logic: Emissions due to Patient and Visitor Travel

- =SUM($Input.K124:K125)*$'Carbon Factors'.M85*$Input.$M$18/1000

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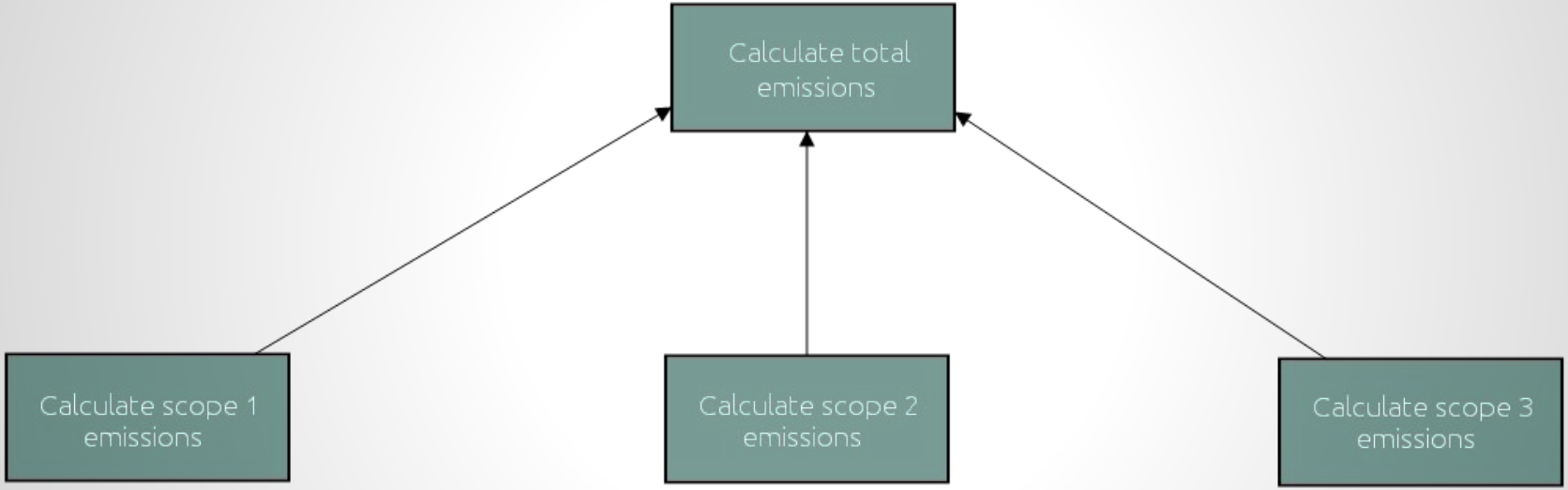
- **K124** =K29*9.4*3.7

Example decision logic: Emissions due to Patient and Visitor Travel

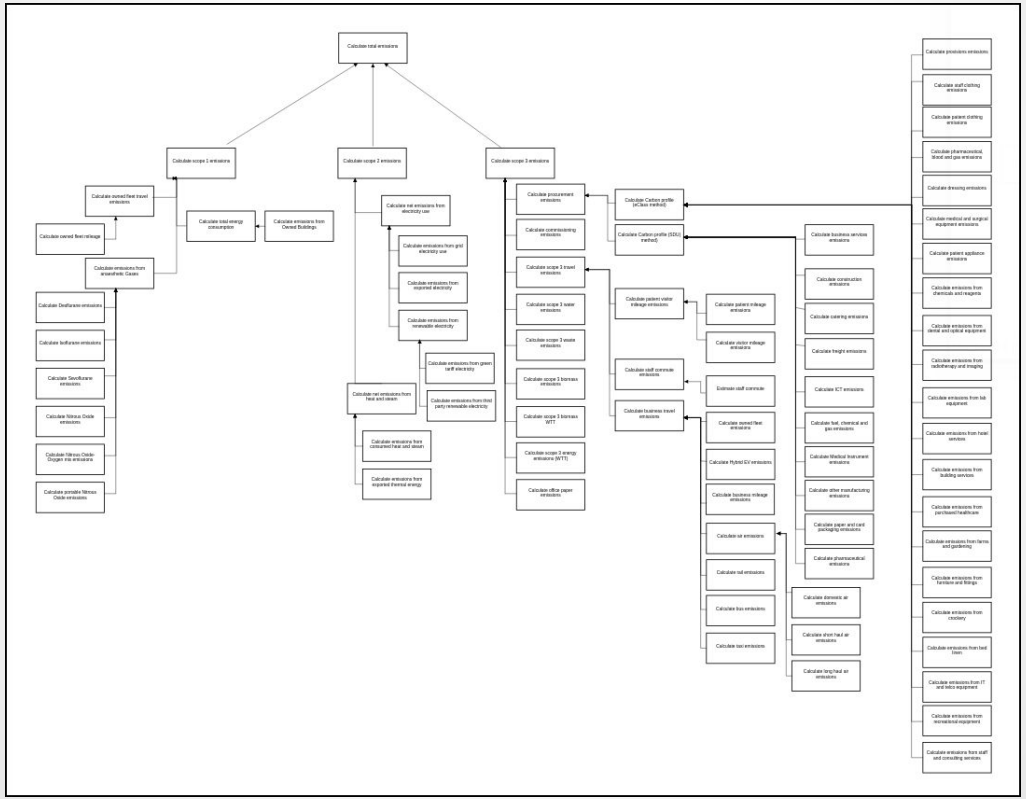
- Patient Travel =SUM($Input.K124:K125)*$'Carbon Factors'.M85*$Input.$M$18/1000
- **K124** =K29*9.4*3.7
- **$'Carbon Factors'.M85:** =SUM(M83:M84)

Data capture

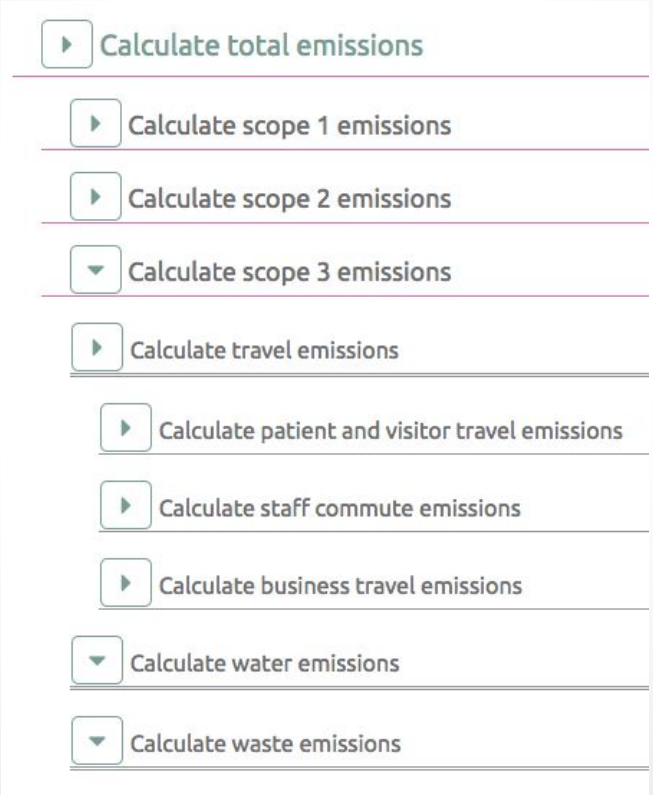
DMN to the rescue



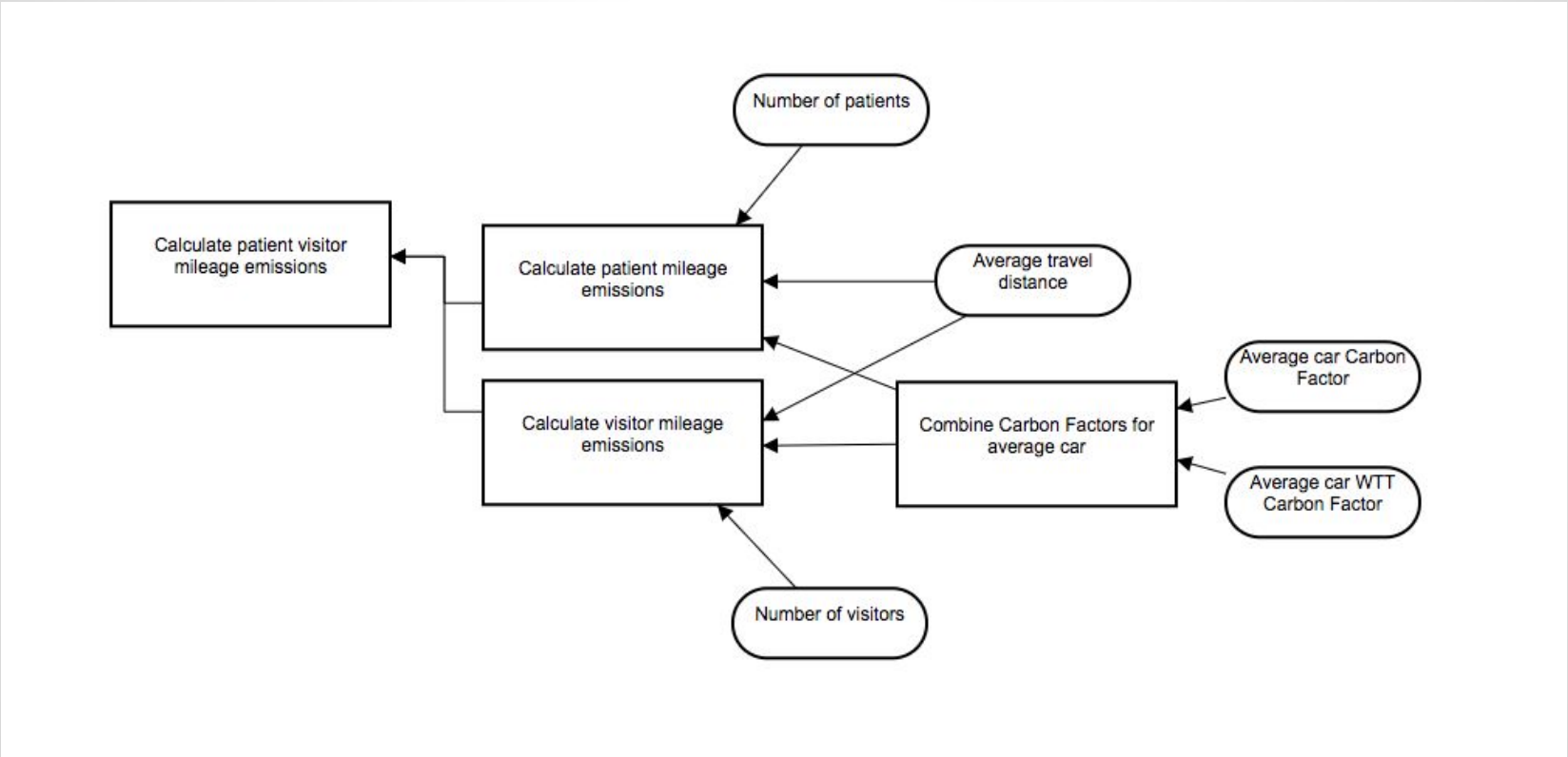
The emissions model



Patient and Visitor Travel revisited



Patient and Visitor Travel revisited



Why on earth did you do it like that!?!

Sample report

Energy

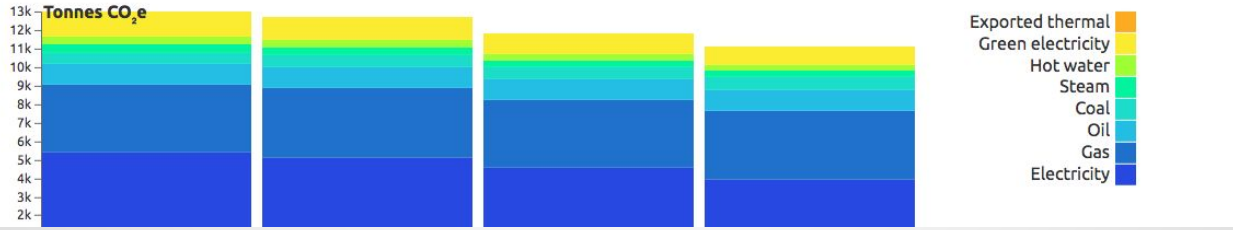
SDU Test Trust has spent £4,444,444 on energy in 2017-18 , which is a 62% increase on energy spend from last year.

Energy used

Energy consumption in kWh

	2014-15	2015-16	2016-17	2017-18
Gas Consumed	17,388,000	17,822,700	17,555,360	17,555,360
Oil Consumed	3,477,600	3,564,540	3,511,072	3,511,072
Coal Consumed	1,738,800	1,782,270	1,755,536	1,755,536
Steam Consumed	1,738,800	1,782,270	1,755,536	1,755,536
Hot Water Consumed	1,738,800	1,782,270	1,755,536	1,755,536
Electricity Consumed	8,694,000	8,911,350	8,777,680	8,777,680
Green electricity	18,205,518	2,231,171	2,194,420	2,194,420
Total	52,981,518	37,876,571	37,305,140	37,305,140

Carbon emissions resulting



Benefits: Transparency (Explanation!)

Benefits: Maintainable

Don’t talk to me about Waste and Disposal definitions!

5 / 20 million tonnes of CO_2e
93 / 488 organisations

Questions...