

s 12(1)(c)

FOI 2322  
Document 1

**s 12(1)(c)**

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# s 34(1)(c) and 34(3)

Group	Line or sub-line (segment)	Level and cost of 2020-2021 (2020-21)	Annual abatement of 2020-2021 (2020-21)	Current abatement potential by 2020-2021 (2020-21)
1. Bio-fuel (wood chips, logging slash, etc.)	Elect c ty	-49.24	1186	6.6
	Elect c ty	-49.24	1332	7.4
	Elect c ty	-48.74	3084	25.4
	Elect c ty	-49.24	3120	25.2
	Elect c ty	-48.62	1173	11.3
2. Low Ca Biom P. on roads and	W ampo t	-128.88	1840	20.2
	Elect c ty	-49.24	2020	16.9
3. To a lot of all other	W ampo t	-49.24	410	2.3
	W ampo t	-49.24	1857	5.6
4. Total gen. red. of and	Elect c ty	-52.81	2177	12.1
	Elect c ty	-55.61	3470	8.2
	W ampo t	-250.76	668	5.3
	W ampo t	0.05	4.8	0
	W ampo t	-113.13	130	0.7
	Elect c ty	-23.79	286	1.6
	W ampo t	-214.62	197	1.1
	W ampo t	-302.6	149	0.8
	W ampo t	-155.57	381	2
	W ampo t	-128.55	296	1.6
	W ampo t	-154.52	1137	6.4
5. To a lot of all other	Elect c ty	-25.51	2350	13.1
	Elect c ty	-37.36	301	1.4
	Elect c ty	-25.88	2236	12.8
	Elect c ty	64.41	118	0.6
	Elect c ty	64.71	3478	16.1
	Elect c ty	56.15	0	0
	Elect c ty	2.52	2243	10.2
	Elect c ty	-37.59	400	2.6
	Elect c ty	65.71	425	6.6
	Elect c ty	44.39	0	0
6. Advanced comm. of	Elect c ty	60.63	0	0
	Elect c ty	0	0	0
	W ampo t	66.93	132	2.3
	W ampo t	-75.47	497	3.2
	W ampo t	-	156	1.2
	W ampo t	0.27	361	2.9
	Elect c ty	6.93	1413	11.7
	W ampo t	35.29	389	3.1
	W ampo t	35.02	317	2.5
	W ampo t	-126.27	1675	13.4
	Elect c ty	-12.46	1243	10.2
	W ampo t	86.52	719	5.8
	W ampo t	86.52	2344	12.8
	Elect c ty	58	347	1.9
W ampo t	86.52	2255	12.4	
W ampo t	58	43	0.2	
7. Advanced comm. of	Elect c ty	-39.36	2152	20.9
	Elect c ty	-50.86	2859	21.6
	Elect c ty	-52.46	2019	16.7
	Elect c ty	-50.94	474	3.9
	Elect c ty	-52.32	403	2.2
8. Low Ca Biom P.	W ampo t	-80.43	6680	53.4
	W ampo t	-109.51	2936	23.5
	W ampo t	86.13	799	6.4
	W ampo t	-217.4	5102	40.8
	W ampo t	255.67	690	7.1
	W ampo t	3.93	209	1.7
	W ampo t	-	-	-
9. To a lot of all other	W ampo t	-79.53	505	2.8
	W ampo t	9.12	11267	62
	W ampo t	24.41	1280	6.9
	W ampo t	9.71	1073	5.9
	W ampo t	14.71	1580	8.7
	W ampo t	85.29	4731	26
	W ampo t	8.82	2527	13.9
	W ampo t	25	10067	88.4
	W ampo t	23.53	10733	98
	W ampo t	26.47	11267	71
10. To a lot of all other	W ampo t	12.94	2273	12.5
	W ampo t	-3.34	2707	14.9
	W ampo t	-2.74	2520	13.9
	W ampo t	25	267	1.5
	W ampo t	3.19	280	1.5
11. Water management	W ampo t	4.26	1987	10.9
	W ampo t	73	2335	18.7
	W ampo t	127	617	3.7
	W ampo t	20	239	1.6
12. Management of system	W ampo t	42	41	0.2
	W ampo t	25	-850	-60.1

\* Included in the MACT output for compliance but not included in the analysis as the area is not yet operational. The new 100% of the area is not yet operational.

Note that some abatement opportunities are listed as annual and cumulative abatement as a fully deployed by 2020 and a 40% abatement by 2021. Scale to the 2020 abatement level.

# s 34(1)(c) and 34(3)

# Articles 34(1)(c) and 34(3)

Group	Sub-category (signature)	Level of cost of abatement in 2010 (€1000 tCO <sub>2</sub> e)	Annual abatement in 2010 - AEGIS sector 1 (€1000 tCO <sub>2</sub> e)	Cumulative abatement potential at 2010 - AEGIS sector 1 (€1000 tCO <sub>2</sub> e)
1. By 5 new cement plants and two new blast furnaces	Direct costs	-49.24	1186	6.6
	Direct costs	-49.24	1122	7.6
	Direct costs	-48.74	3084	25.4
	Direct costs	-49.24	3120	15.2
	Direct costs	-48.62	1373	11.3
2. Low Ca iron Phosphorus and Sulfur	Fertilizer	-128.84	1846	10.2
	Fertilizer	-49.24	2920	16.3
3. Digester of animal waste	Fertilizer	-49.24	42	2.3
	Fertilizer	-104.24	1857	5.6
4. Improvements in energy efficiency and waste management systems	Direct costs	-52.82	2177	12.1
	Direct costs	-55.41	1470	8.2
	Direct costs	-250.96	608	3.3
	Direct costs	0.05	4.8	0
	Direct costs	-113.13	130	0.7
	Direct costs	-23.79	286	1.6
	Fertilizer	-244.82	197	1.1
	Fertilizer	-302.6	148	0.8
	Direct costs	-155.57	285	1.6
	Fertilizer	-128.93	296	1.6
	Fertilizer	-154.52	1157	6.4
	Direct costs	-25.83	2350	13.1
	5. High use of mineral fertilizers and pesticides	Direct costs	-87.86	301
Direct costs		-25.88	2236	17.9
Direct costs		64.41	118	0.6
Direct costs		64.71	1478	10.1
Direct costs		56.15	0	0
Direct costs		2.52	2243	10.2
Direct costs		-17.58	460	2.6
Direct costs		85.71	825	6.6
Direct costs		44.39	0	0
Direct costs		60.63	0	0
6. Advanced treatment of wastewater and effluent	Direct costs	0	0	0
	Direct costs	66.53	312	2.3
	Direct costs	-75.47	457	3.2
	Direct costs	-	196	1.2
	Direct costs	0.27	363	2.8
	Direct costs	8.93	1413	11.7
	Direct costs	35.29	389	3.1
	Direct costs	35.62	317	2.5
	Direct costs	-126.27	1675	13.4
	Direct costs	-52.46	1243	10.2
	Direct costs	86.62	718	5.8
	Direct costs	86.62	2344	12.9
	Direct costs	58	347	2.8
Direct costs	86.92	2255	12.4	
Direct costs	58	45	0.3	
7. Advanced treatment of effluent	Direct costs	-39.36	2512	20.9
	Direct costs	-50.86	2893	23.6
	Direct costs	-52.46	2019	16.7
	Direct costs	-50.94	474	3.8
8. Low Ca iron Fertilizer	Fertilizer	-89.43	6680	53.4
	Fertilizer	-199.51	2936	23.5
	Fertilizer	86.13	790	6.4
	Fertilizer	-217.4	5102	40.8
	Fertilizer	255.67	890	7.1
	Fertilizer	3.93	200	1.7
9. Improvements in land management and low use of fertilizers	Direct costs	-73.55	585	2.8
	Direct costs	9.32	11267	62
	Direct costs	24.41	1280	6.9
	Direct costs	9.71	1073	5.8
	Direct costs	14.71	1580	8.7
	Direct costs	85.29	4733	26
	Direct costs	8.82	2127	11.9
	Direct costs	25	16067	88.4
	Direct costs	23.53	10733	58
	Direct costs	26.47	13267	71
10. Fertilizer use	Fertilizer	3.94	2707	14.9
	Fertilizer	2.74	2120	11.9
	Fertilizer	25	267	1.5
	Fertilizer	3.19	280	1.5
11. Waste management	Waste	6.26	1987	10.9
	Waste	71	2315	18.7
	Waste	127	457	3.7
	Waste	20	289	2.3
12. Management of synthetic fertilizers	Direct costs	25	4890	40.1
	Direct costs	25	4890	40.1

\* Included in the MACC output for completeness but not included in the abatement analysis as they are not policy mechanisms to support the low carbon transition. Note that some abatement opportunities listed here are a result of cost-effective abatement of a fully deployed by 2020 and are therefore not available to cost-benefit in the 2010 abatement year.

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6401.0 Consumer Price Index, Australia  
 TABLES 1 and 2. CPI: All Groups, Index Numbers and Percentage Changes

Related Information: [Summary Publication](#) [Explanatory Notes](#) [Inquiries](#)

Data Item Description	Series Type	Series ID	Series Start	Series End	No. Obs.	Unit	Data Type	Freq.	Collection Month
Index Numbers ; All groups CPI ; Sydney ;	Original	<a href="#">A2325806K</a>	Sep-1948	Mar-2018	279	Index Numb	INDEX	Quarter	3
Index Numbers ; All groups CPI ; Melbourne ;	Original	<a href="#">A2325811C</a>	Sep-1948	Mar-2018	279	Index Numb	INDEX	Quarter	3
Index Numbers ; All groups CPI ; Brisbane ;	Original	<a href="#">A2325816R</a>	Sep-1948	Mar-2018	279	Index Numb	INDEX	Quarter	3
Index Numbers ; All groups CPI ; Adelaide ;	Original	<a href="#">A2325821J</a>	Sep-1948	Mar-2018	279	Index Numb	INDEX	Quarter	3
Index Numbers ; All groups CPI ; Perth ;	Original	<a href="#">A2325826V</a>	Sep-1948	Mar-2018	279	Index Numb	INDEX	Quarter	3
Index Numbers ; All groups CPI ; Hobart ;	Original	<a href="#">A2325831L</a>	Sep-1948	Mar-2018	279	Index Numb	INDEX	Quarter	3
Index Numbers ; All groups CPI ; Darwin ;	Original	<a href="#">A2325836X</a>	Sep-1980	Mar-2018	151	Index Numb	INDEX	Quarter	3
Index Numbers ; All groups CPI ; Canberra ;	Original	<a href="#">A2325841T</a>	Sep-1948	Mar-2018	279	Index Numb	INDEX	Quarter	3
Index Numbers ; All groups CPI ; Australia ;	Original	<a href="#">A2325846C</a>	Sep-1948	Mar-2018	279	Index Numb	INDEX	Quarter	3
Percentage Change from Corresponding Quarter of Previous Year ; All groups CPI ; Sydney ;	Original	<a href="#">A2325807L</a>	Sep-1949	Mar-2018	275	Percent	PERCENT	Quarter	3
Percentage Change from Corresponding Quarter of Previous Year ; All groups CPI ; Melbourne ;	Original	<a href="#">A2325812F</a>	Sep-1949	Mar-2018	275	Percent	PERCENT	Quarter	3
Percentage Change from Corresponding Quarter of Previous Year ; All groups CPI ; Brisbane ;	Original	<a href="#">A2325817T</a>	Sep-1949	Mar-2018	275	Percent	PERCENT	Quarter	3
Percentage Change from Corresponding Quarter of Previous Year ; All groups CPI ; Adelaide ;	Original	<a href="#">A2325822K</a>	Sep-1949	Mar-2018	275	Percent	PERCENT	Quarter	3
Percentage Change from Corresponding Quarter of Previous Year ; All groups CPI ; Perth ;	Original	<a href="#">A2325827W</a>	Sep-1949	Mar-2018	275	Percent	PERCENT	Quarter	3
Percentage Change from Corresponding Quarter of Previous Year ; All groups CPI ; Hobart ;	Original	<a href="#">A2325832R</a>	Sep-1949	Mar-2018	275	Percent	PERCENT	Quarter	3
Percentage Change from Corresponding Quarter of Previous Year ; All groups CPI ; Darwin ;	Original	<a href="#">A2325837A</a>	Sep-1981	Mar-2018	147	Percent	PERCENT	Quarter	3
Percentage Change from Corresponding Quarter of Previous Year ; All groups CPI ; Canberra ;	Original	<a href="#">A2325842V</a>	Sep-1949	Mar-2018	275	Percent	PERCENT	Quarter	3
Percentage Change from Corresponding Quarter of Previous Year ; All groups CPI ; Australia ;	Original	<a href="#">A2325847F</a>	Sep-1949	Mar-2018	275	Percent	PERCENT	Quarter	3
Percentage Change from Previous Period ; All groups CPI ; Sydney ;	Original	<a href="#">A2325810A</a>	Dec-1948	Mar-2018	278	Percent	PERCENT	Quarter	3
Percentage Change from Previous Period ; All groups CPI ; Melbourne ;	Original	<a href="#">A2325815L</a>	Dec-1948	Mar-2018	278	Percent	PERCENT	Quarter	3
Percentage Change from Previous Period ; All groups CPI ; Brisbane ;	Original	<a href="#">A2325820T</a>	Dec-1948	Mar-2018	278	Percent	PERCENT	Quarter	3
Percentage Change from Previous Period ; All groups CPI ; Adelaide ;	Original	<a href="#">A2325825F</a>	Dec-1948	Mar-2018	278	Percent	PERCENT	Quarter	3
Percentage Change from Previous Period ; All groups CPI ; Perth ;	Original	<a href="#">A2325830K</a>	Dec-1948	Mar-2018	278	Percent	PERCENT	Quarter	3
Percentage Change from Previous Period ; All groups CPI ; Hobart ;	Original	<a href="#">A2325835W</a>	Dec-1948	Mar-2018	278	Percent	PERCENT	Quarter	3
Percentage Change from Previous Period ; All groups CPI ; Darwin ;	Original	<a href="#">A2325840R</a>	Dec-1980	Mar-2018	150	Percent	PERCENT	Quarter	3
Percentage Change from Previous Period ; All groups CPI ; Canberra ;	Original	<a href="#">A2325845A</a>	Dec-1948	Mar-2018	278	Percent	PERCENT	Quarter	3
Percentage Change from Previous Period ; All groups CPI ; Australia ;	Original	<a href="#">A2325850V</a>	Dec-1948	Mar-2018	278	Percent	PERCENT	Quarter	3

Table with multiple columns containing data points, likely representing a financial or performance report. The columns include various indices and values, such as 'Index', 'Change', and numerical values. The table is organized into a grid with multiple rows and columns.



**6401.0 Consumer Price Index, Australia**

**TABLES 1 and 2. CPI: All Groups, Index Numbers and Percentage Changes**

**INQUIRIES**

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070.

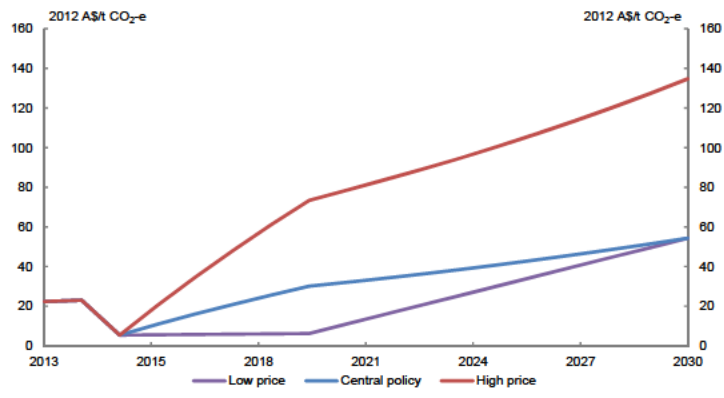


# Climate Change Mitigation Scenarios - Modelling report provided to the Climate Change Authority in support of its Caps and Targets Review

Charts and tables from the report

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Central policy	22.5	23.1	5.5	10.9	16.1	21.0	25.7	30.1	32.1	34.2	36.4	38.6	41.0	43.4	46.0	48.7	51.5	54.4
Low price	22.5	23.1	5.5	5.7	5.9	6.0	6.2	6.3	11.1	15.9	20.8	25.6	30.4	35.2	40.0	44.8	49.7	54.5
High price	22.5	23.1	5.5	20.5	34.8	48.3	61.2	73.4	78.6	84.0	89.3	94.8	100.8	107.0	113.5	120.4	127.5	134.9

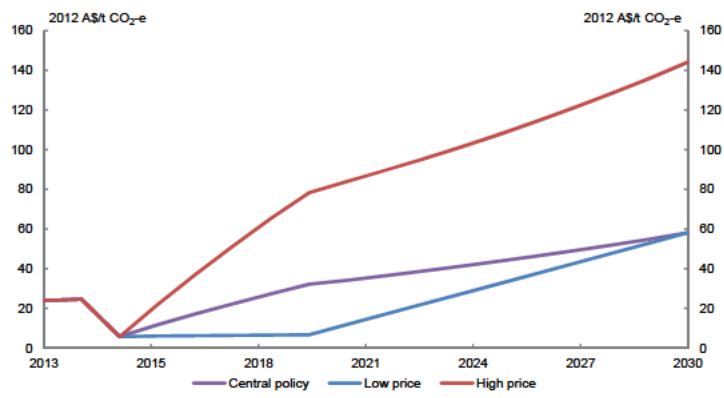
Chart 3.1: Projected Australian carbon unit prices



Source: Estimates from MMRF and GTEM.

\*\*Base year 2016\*\*

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Average 2020-2030
Central policy	24.0	24.7	5.9	11.7	17.2	22.5	27.5	32.2	34.3	36.6	38.9	41.3	43.8	46.4	49.2	52.1	55.1	58.2	44.4
Low price	24.0	24.7	5.9	6.1	6.3	6.4	6.6	6.7	11.9	17.0	22.2	27.3	32.5	37.6	42.8	47.9	53.1	58.2	32.5
High price	24.0	24.7	5.9	21.9	37.2	51.7	65.4	78.5	84.0	89.7	95.4	101.3	107.7	114.3	121.3	128.6	136.2	144.2	109.2





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## Australia's emissions projections 2017

v1.0 19 December 2017

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\*Note: The data presented has been rounded to a set decimal point. This can create rounding impacts which may result in small differences to the figures presented in *Australia's emissions projections 2017*.

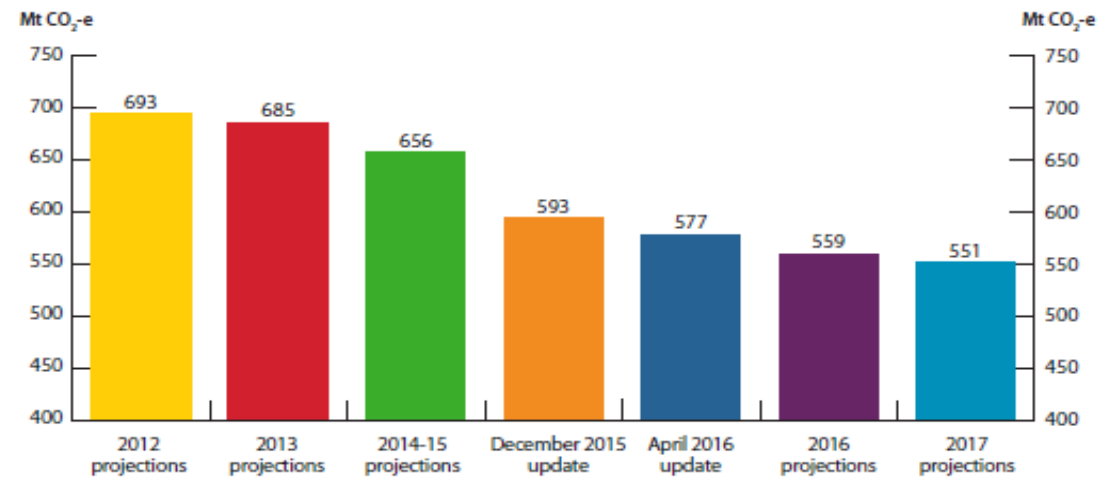
\*\*Note: Totals may not sum due to rounding.

\*\*\*Note: The estimate of historical emissions (1990-2017) may be different by a small amount to those published in the *Quarterly Update of Australia's National Greenhouse Gas Inventory: June 2017* due to different emissions accounting treatments and the application of policies.



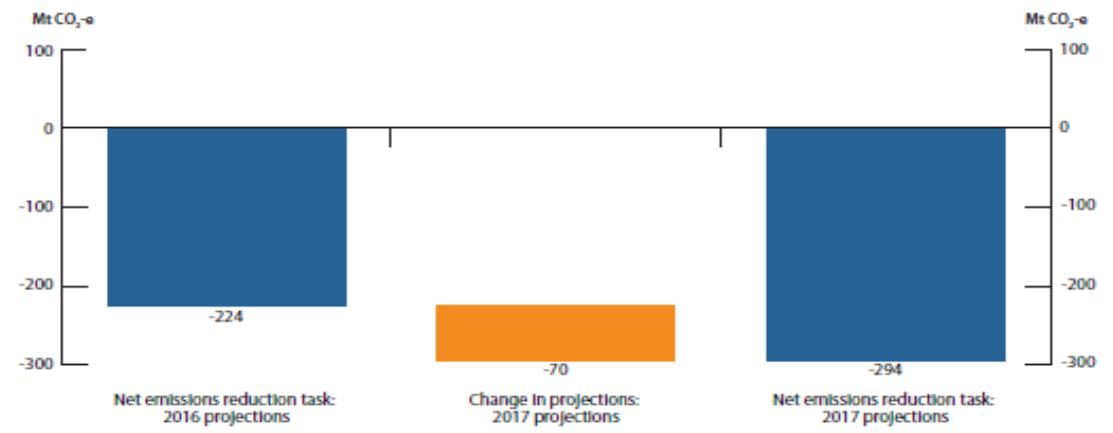
### Projected emissions in 2020 over time (Mt CO<sub>2</sub>-e)

	Emissions in 2020
2012 projections	693
2013 projections	685
2014-15 projections	656
December 2015 update	593
April 2016 update	577
2016 projections	559
2017 projections	551



### Change in the cumulative emissions reduction task for 2020 target (Mt CO<sub>2</sub>-e)

	Emissions
Net emissions reduction task: 2016 projections	-224
Change in projections: 2017 projections	-70
Net emissions reduction task: 2017 projections	-294

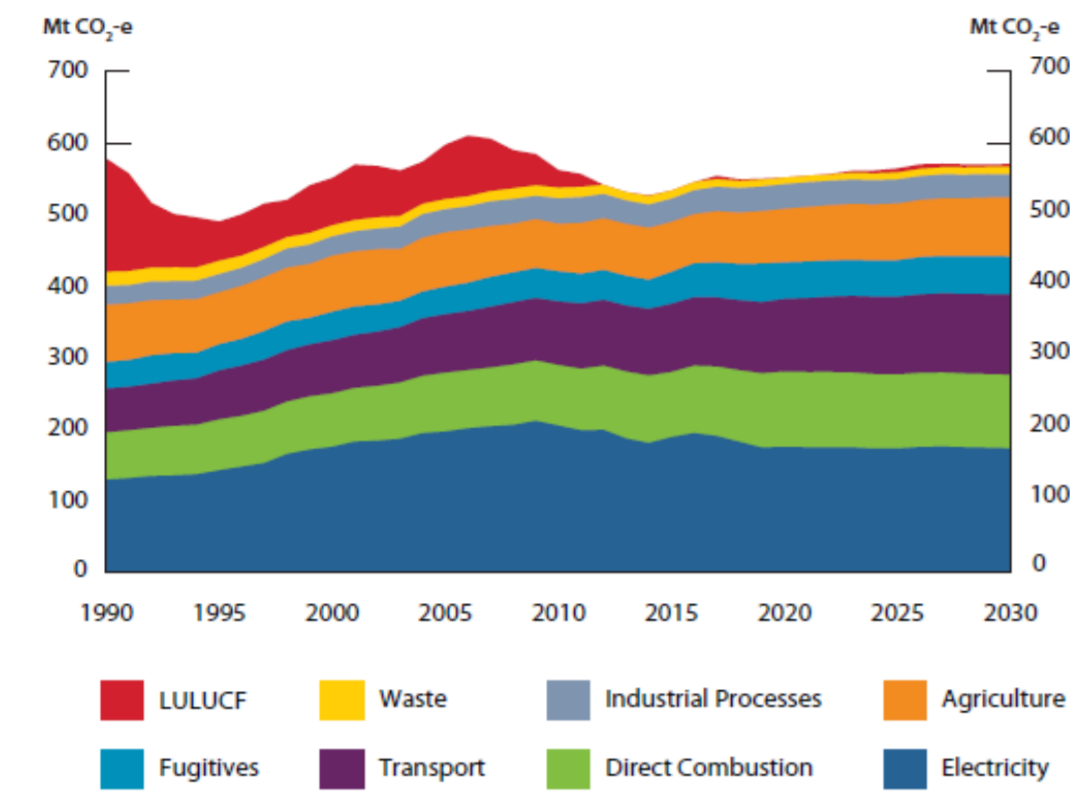


Australia's emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Electricity	130	132	135	136	137	143	148	153	165	172	175	183	184	187	195	197	201	204	206	212	205	199	199	187	181	189	195	191	182	174	176	175	175	175	173	173	175	176	175	174	173	
Direct combustion	66	67	67	69	69	71	71	73	73	74	75	75	77	78	80	82	81	82	84	84	84	86	90	93	94	91	94	97	100	104	105	105	105	105	104	103	103	103	103	103	103	103
Transport	61	61	62	63	65	68	70	72	72	73	74	74	76	77	80	82	82	85	87	87	89	91	92	92	93	95	96	97	98	99	102	103	105	107	108	109	110	110	111	112	112	
Fugitives	37	37	40	38	36	37	37	40	40	37	40	40	38	37	37	39	40	42	42	42	42	42	42	42	41	45	48	49	51	54	51	51	51	51	50	51	52	52	53	53	53	
Agriculture	80	79	77	75	75	73	74	75	76	78	77	77	77	72	75	76	74	71	68	68	66	71	72	73	73	70	69	72	72	73	75	76	77	78	79	79	80	81	81	82	82	
Industrial processes	26	25	26	26	26	25	25	25	27	27	27	28	29	31	33	32	32	34	35	32	35	36	34	33	32	32	33	34	34	34	34	34	34	34	34	34	33	33	33	33	33	
Waste	20	20	19	19	19	19	17	17	16	16	16	16	16	15	14	14	14	14	15	15	15	14	13	12	12	12	11	10	10	9	9	10	10	10	10	10	10	10	10	10		
LULUCF	158	137	91	75	70	55	58	61	52	67	66	78	72	64	59	76	85	74	54	44	25	18	-6	-8	1	-8	-5	5	2	2	-1	-1	1	3	4	6	7	5	5	4	4	
Total (incl. LULUCF)	578	557	516	501	496	490	500	515	520	541	551	570	568	561	574	597	610	606	590	584	562	557	535	524	527	526	540	554	549	550	551	553	557	561	562	564	570	571	570	570	570	

\*Note: Emissions are presented under UNFCCC inventory reporting categories consistent with Australia's 2030 target.

\*\*Note: Australia's emissions under Kyoto Protocol reporting categories are presented in the "Kyoto Protocol Categories" tab consistent with Australia's 2020 target.

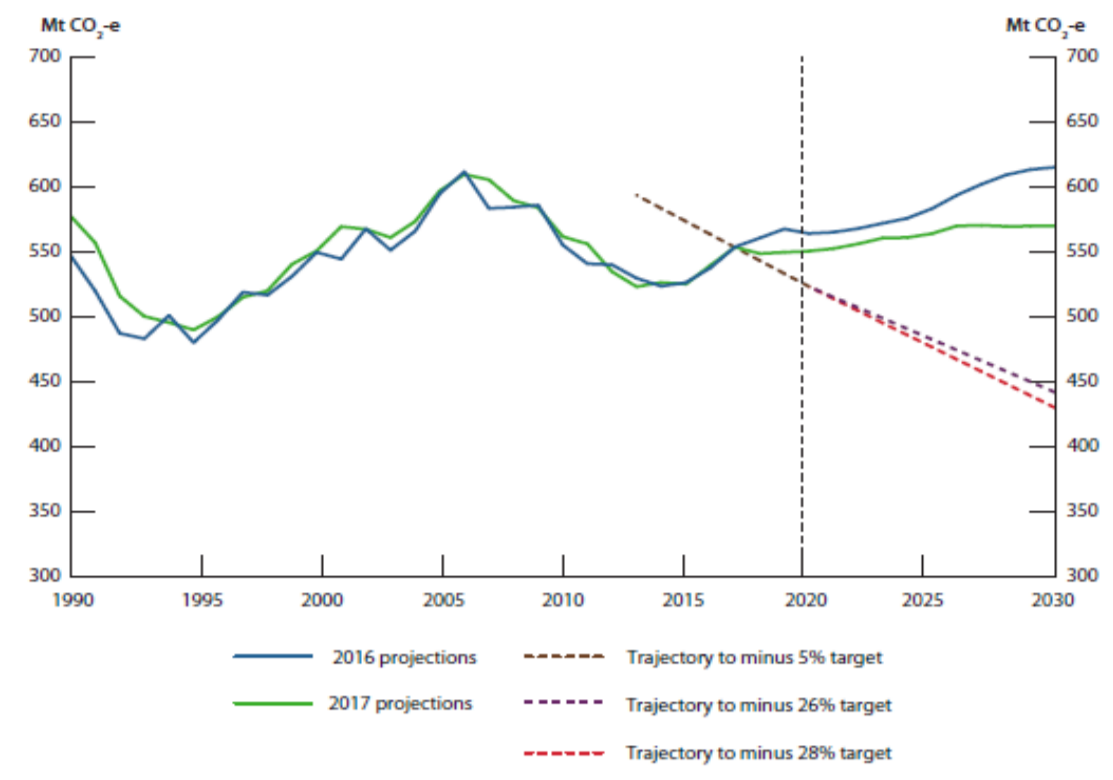


Australia's emissions trends, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
2016 projections	548	520	488	483	501	480	498	519	517	532	550	545	568	552	566	595	612	584	585	586	556	541	540	530	524	527	538	554	561	568	565	566	568	572	576	584	594	602	610	614	616			
2017 projections	578	557	516	501	496	490	500	515	520	541	551	570	568	561	574	597	610	606	590	584	562	557	535	524	527	526	540	554	549	550	551	553	557	561	562	564	570	571	570	570	570	570		
Trajectory to minus 5% target*																																												
Trajectory to minus 26% target																																												
Trajectory to minus 28% target																																												

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\*Note: Australia's 2020 target is accounted for using Kyoto Protocol reporting categories (see the "Kyoto Protocol Categories" tab).

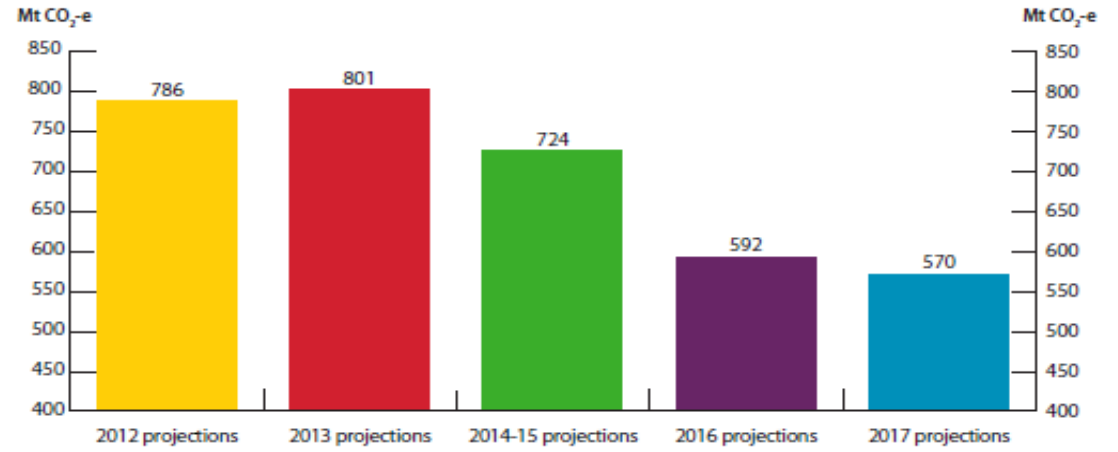


# s 34(1)(c) and s 34(3)

s 34(1)(c) and s34(3)

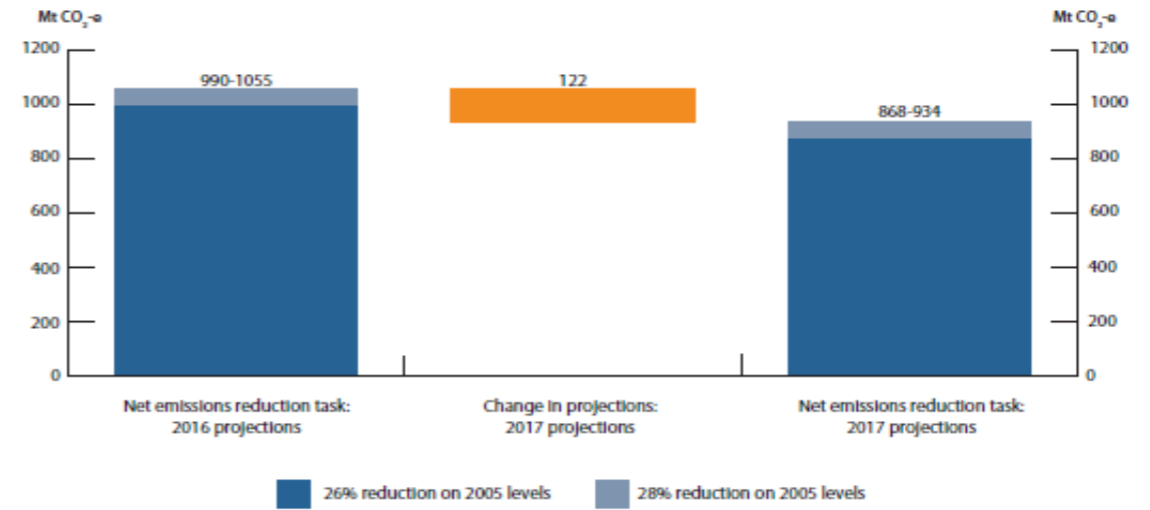
### Projected emissions in 2030 over time (Mt CO<sub>2</sub>-e)

	Emissions in 2030
2012 projections	786
2013 projections	801
2014-15 projections	724
2016 projections	592
2017 projections	570



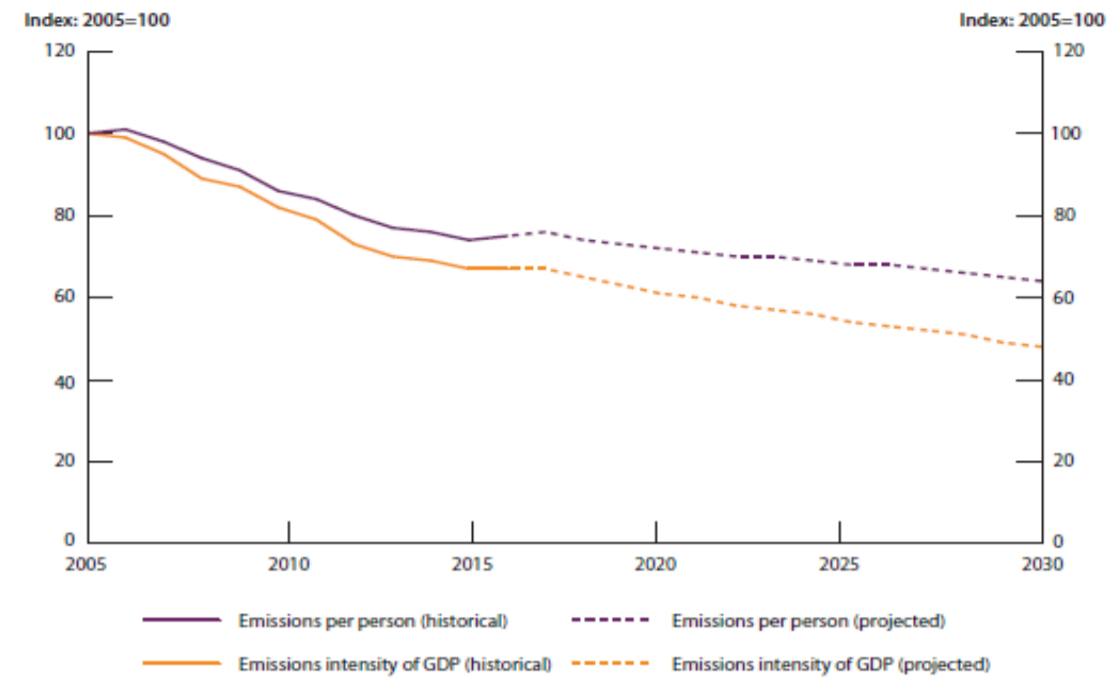
**Change in the cumulative emissions reduction task for 2030 target (Mt CO<sub>2</sub>-e)**

	26% reduction on 2005 levels	28% reduction on 2005 levels
Net emissions reduction task: 2016 projections	990	1,055
Change in projections: 2017 projections	122	121
Net emissions reduction task: 2017 projections	868	934



Emissions per person and emissions intensity of GDP, 2005 to 2030 (Index: 2005=100)

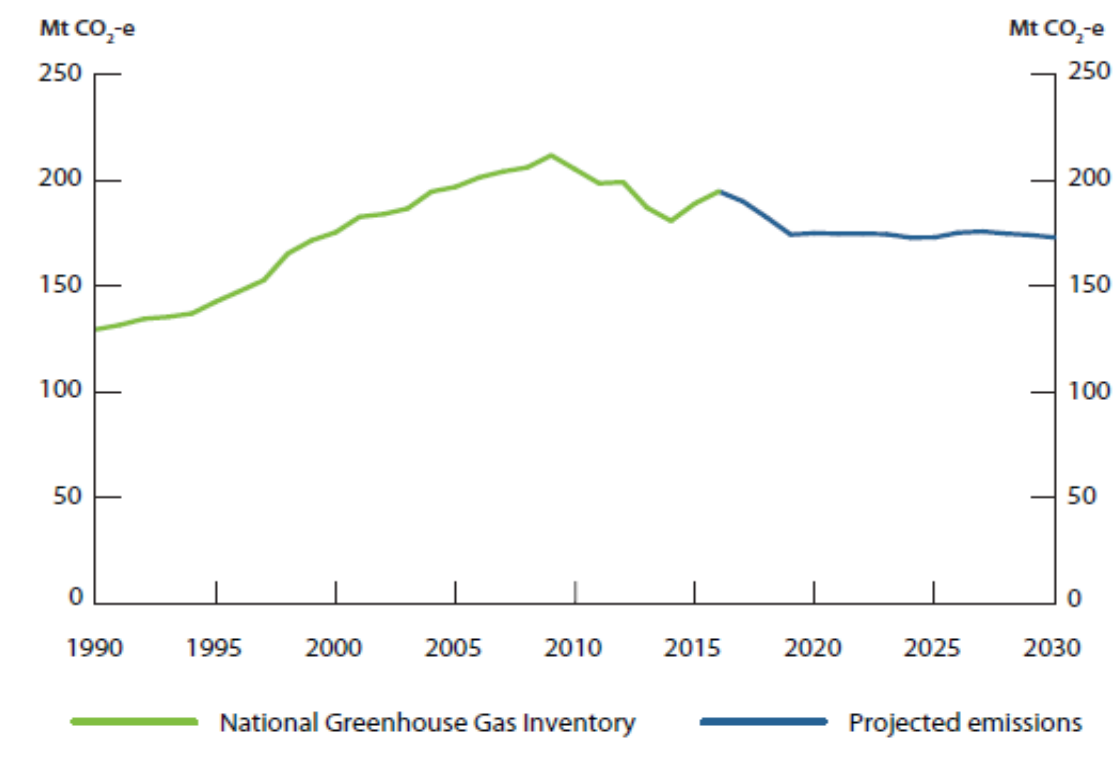
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Emissions per person (historical)	100.0	100.8	98.5	94.1	91.2	86.2	84.2	79.6	76.5	75.9	74.3	75.2	75.7	73.8	72.7	71.6	70.8	70.1	69.6	68.7	68.0	67.7	66.9	65.9	65.0	64.2
Emissions per person (projected)																										
Emissions intensity of GDP (historical)	100.0	99.2	94.9	89.1	86.7	81.8	79.1	73.4	70.0	68.6	66.9	66.9	67.3	64.9	63.1	61.4	59.8	58.4	57.2	55.6	54.4	53.5	52.1	50.6	49.3	48.0
Emissions intensity of GDP (projected)																										





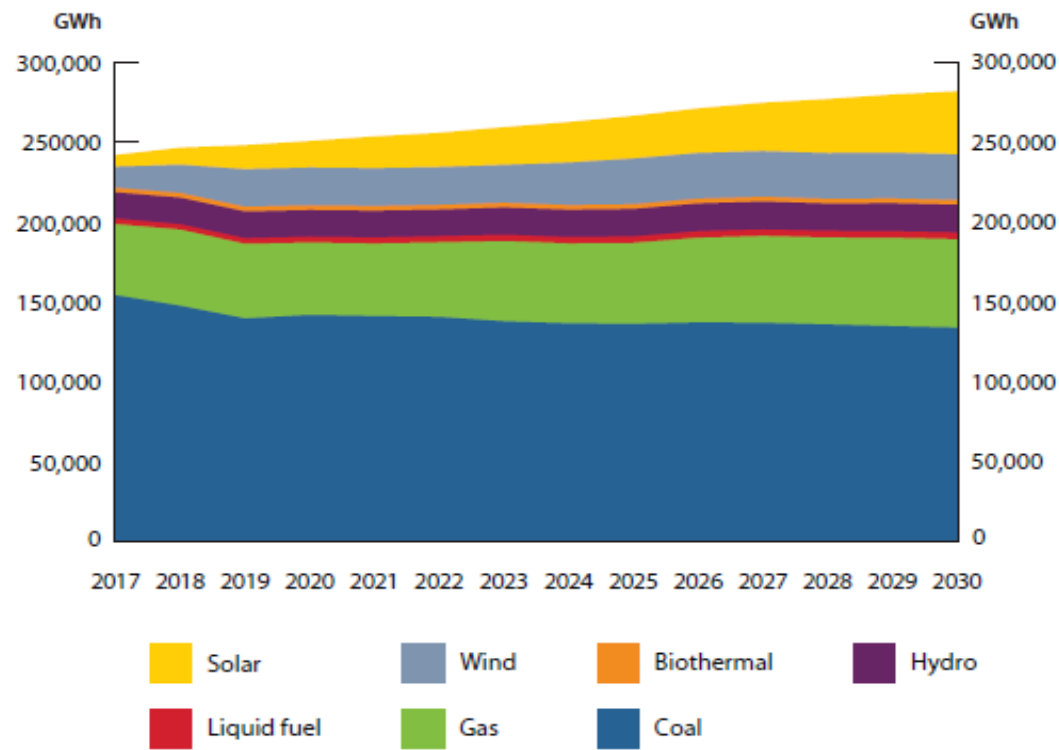
Electricity emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
National greenhouse gas inventory	129.6	131.7	134.6	135.5	137.1	142.7	147.7	152.8	165.4	171.6	175.4	182.7	184.0	186.6	194.6	196.8	201.3	204.1	206.0	211.7	205.1	198.5	199.1	187.0	180.8	189.0	194.7	190.5	182.4	174.3	175.5	174.7	174.8	174.5	172.9	173.0	175.2	175.8	174.8	174.1	173.3			
2017 projections																																												



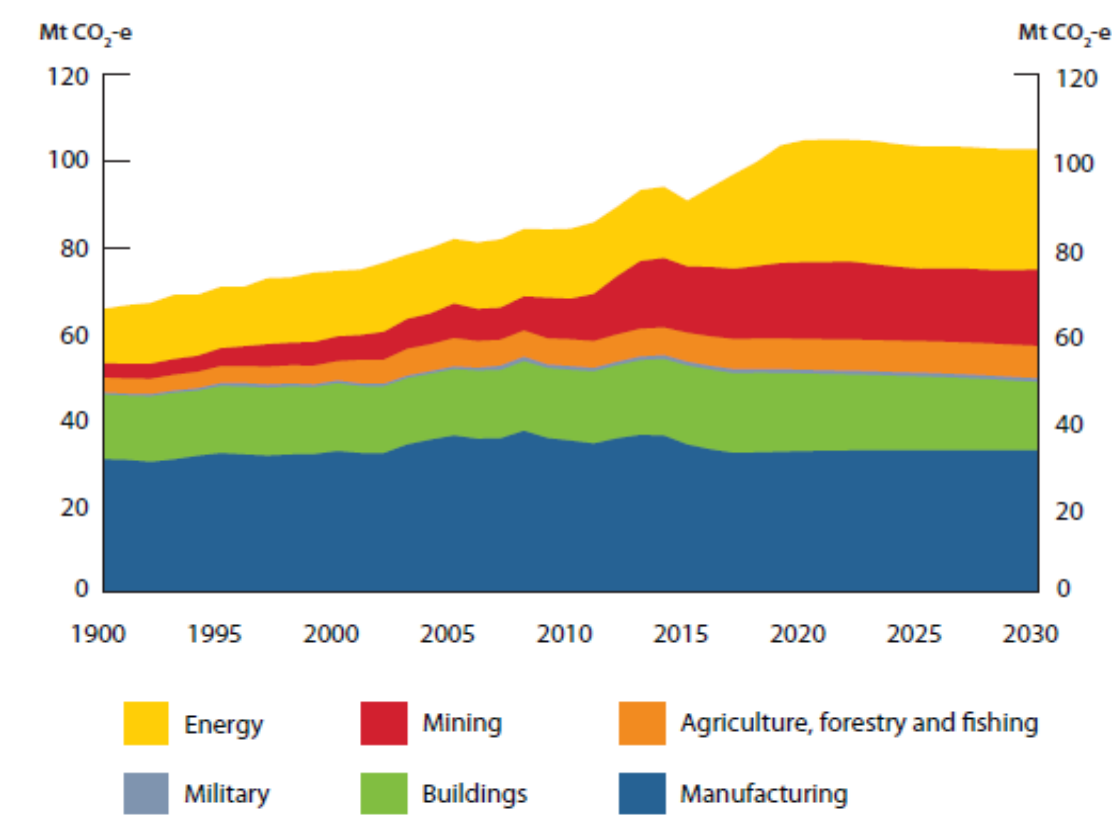
**Projected sent-out electricity generation by fuel, 2017 to 2030 (GWh)**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Coal	153,945	147,289	139,377	141,586	140,879	140,323	137,617	136,306	135,985	136,896	136,655	135,649	134,588	133,641
Gas	44,394	47,596	46,611	45,196	45,332	46,587	50,133	49,941	50,604	52,908	54,244	54,322	55,171	55,228
Liquid fuel	3,549	3,397	3,557	3,751	3,844	3,907	3,969	4,027	4,077	4,119	4,158	4,195	4,229	4,263
Hydro	16,376	16,603	16,677	16,619	16,661	16,604	17,045	17,043	17,161	17,339	17,431	17,045	17,438	17,350
Wind	13,110	17,585	23,412	23,578	23,576	23,576	23,576	26,498	28,516	28,516	28,516	28,517	28,513	28,513
Biothermal	2,839	2,993	3,003	2,997	2,989	2,987	2,995	3,003	2,997	3,006	3,009	3,012	3,006	3,005
Solar	7,426	10,782	15,128	16,650	19,966	21,510	23,710	25,433	26,761	28,005	30,316	33,895	36,523	39,502



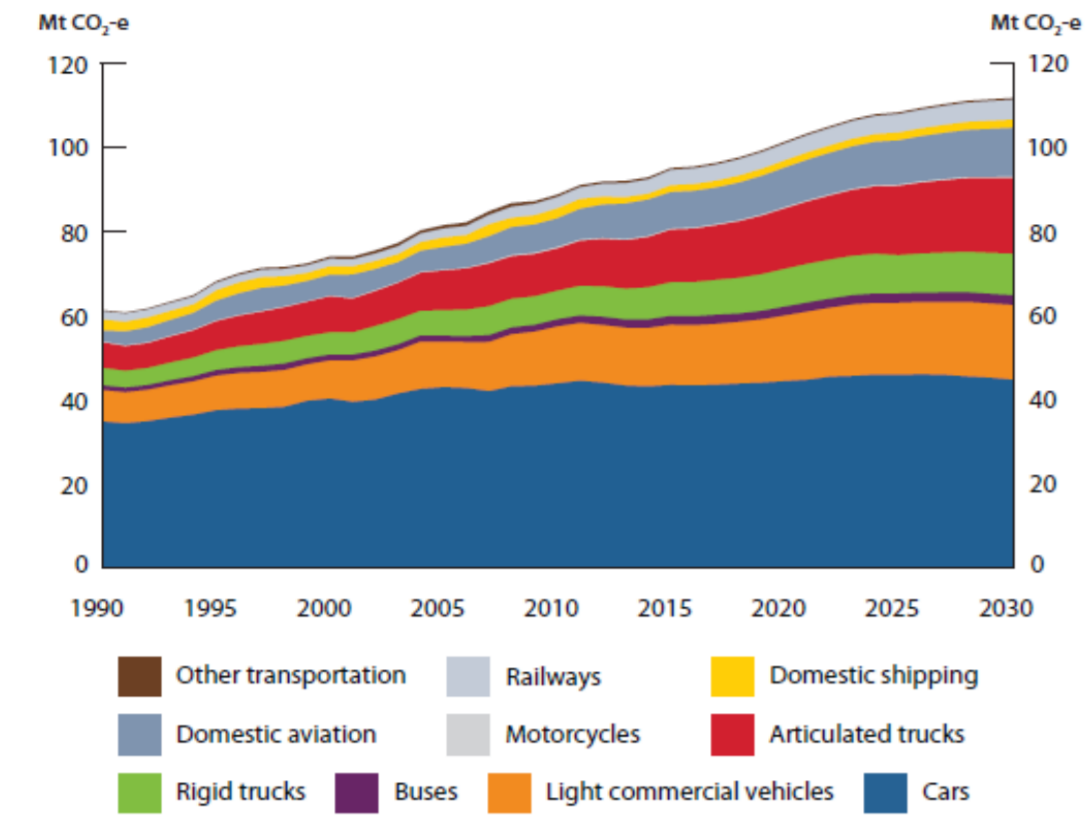
Direct combustion emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Energy	12.6	13.7	14.1	14.9	14.1	14.3	13.8	15.3	15.1	16.1	15.2	15.2	16.1	15.0	15.2	15.0	15.5	15.9	15.7	15.8	16.3	16.6	16.1	16.5	16.6	15.3	18.5	22.0	24.2	27.3	28.3	28.4	28.3	28.6	28.5	28.4	28.3	28.3	28.1	28.1	28.0		
Mining	3.4	3.4	3.6	3.7	3.7	4.2	4.6	5.3	5.3	5.5	5.8	5.8	6.5	7.0	7.2	8.0	7.5	7.5	8.0	9.5	9.5	11.0	13.6	15.7	16.1	15.4	16.1	16.3	16.9	17.6	17.8	18.0	18.1	17.6	17.2	16.8	17.0	17.2	17.1	17.4	17.7		
Manufacturing	30.9	30.7	30.2	30.8	31.6	32.3	32.0	31.7	31.9	32.0	32.7	32.3	32.3	34.3	35.4	36.3	35.6	35.7	37.4	35.8	35.2	34.5	35.7	36.5	36.3	34.2	33.1	32.3	32.4	32.6	32.7	32.8	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9
Buildings	15.0	14.9	15.2	15.5	15.1	15.5	15.8	15.7	15.8	15.6	15.7	15.5	15.5	15.4	15.3	15.4	15.8	15.9	16.1	16.2	16.4	16.7	17.0	17.3	17.7	18.3	18.5	18.5	18.3	18.0	17.8	17.6	17.5	17.3	17.1	16.9	16.7	16.5	16.2	15.8			
Agriculture, forestry and fishing	3.5	3.5	3.5	3.7	3.8	3.9	3.9	4.1	4.2	4.3	4.5	5.5	5.6	6.2	6.2	6.6	6.2	6.0	6.1	6.1	6.2	6.2	6.3	6.4	6.4	6.7	6.8	7.0	7.0	7.1	7.1	7.2	7.2	7.2	7.3	7.3	7.4	7.4	7.4	7.5	7.5		
Military	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	1.0	1.0	0.8	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9		



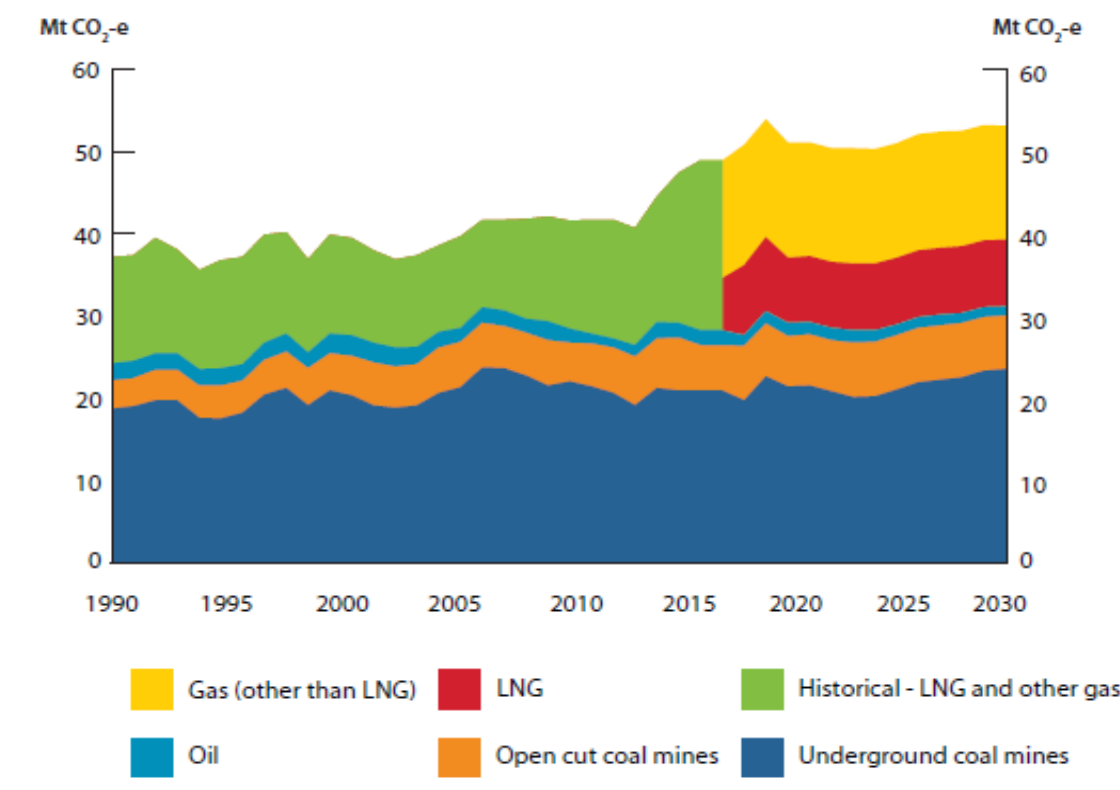
Transport emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
Cars	34.8	34.4	34.9	35.7	36.4	37.5	37.9	38.0	38.3	39.7	40.3	39.5	40.0	41.5	42.6	43.0	42.8	42.0	43.2	43.3	43.9	44.5	44.1	43.4	43.2	43.5	43.4	43.6	43.8	44.1	44.4	44.7	45.5	45.7	46.0	45.9	46.0	45.9	46.0	45.9	45.5	45.3	44.8	
Light commercial vehicles	7.5	7.4	7.5	7.7	7.9	8.3	8.5	8.6	8.8	8.7	9.1	9.8	10.3	10.3	11.3	10.9	11.0	11.7	12.4	12.9	13.5	13.7	13.7	13.8	13.9	14.3	14.4	14.5	14.7	15.1	15.6	16.2	16.4	17.0	17.1	17.1	17.2	17.3	17.7	17.7	17.7	17.8		
Motorcycles	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Buses	1.2	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.6	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.6	1.6	1.6	1.7	1.8	2.0	2.0	2.0	2.1	2.2	2.2	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Rigid trucks	4.1	4.0	4.0	4.2	4.4	4.7	4.9	5.2	5.4	5.3	5.3	5.3	5.8	6.0	5.9	6.1	6.3	6.9	6.8	6.8	7.0	7.2	7.3	7.6	8.0	8.1	8.3	8.5	8.7	9.0	9.2	9.3	9.3	9.4	9.1	9.3	9.4	9.1	9.3	9.4	9.6	9.7	9.9	
Articulated trucks	6.1	5.9	6.0	6.2	6.5	6.9	7.3	7.7	8.0	8.1	8.6	8.1	8.4	8.6	9.1	9.5	9.8	10.2	10.2	10.1	10.1	10.7	11.3	11.5	12.0	12.6	12.8	13.0	13.5	14.0	14.4	14.9	15.3	15.7	16.1	16.5	16.9	17.2	17.6	17.8	18.1			
Domestic aviation	2.6	3.3	3.5	3.7	3.9	4.6	5.1	5.4	4.9	4.8	5.0	5.5	4.9	4.7	4.9	5.4	5.7	6.1	6.6	6.7	6.8	7.3	7.9	8.5	8.6	8.6	8.7	8.7	8.9	9.2	9.4	9.6	9.8	10.1	10.3	10.5	10.7	10.9	11.2	11.4	11.6			
Domestic shipping	2.6	2.3	2.4	2.2	2.0	2.5	2.6	2.6	2.2	2.0	2.1	2.0	2.0	1.9	2.1	2.3	2.1	2.9	2.2	2.2	2.4	2.4	1.9	1.5	1.4	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0		
Railways	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.9	2.1	2.1	2.1	2.2	2.6	2.7	2.7	2.8	3.1	3.3	3.4	3.7	3.7	3.8	3.9	4.0	4.1	4.1	4.2	4.3	4.4	4.4	4.5	4.6	4.6	4.7				
Other transportation	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.7	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	



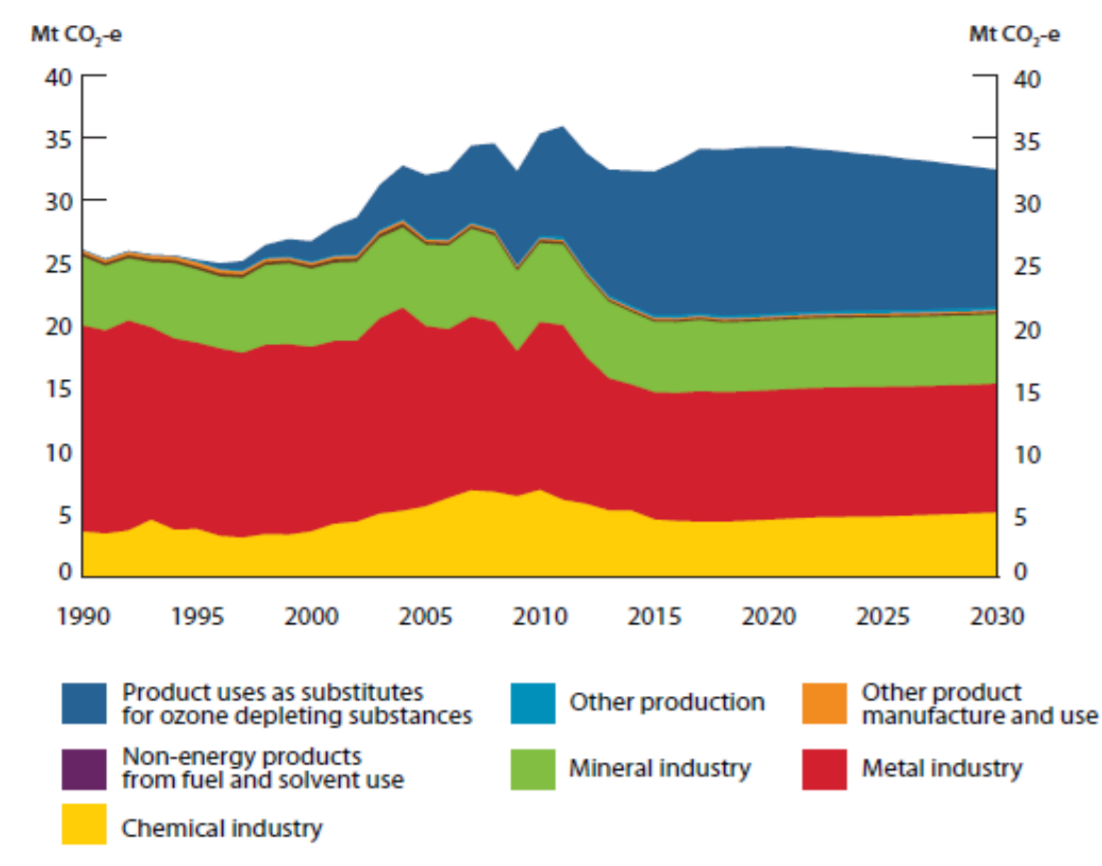
Fugitive emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Open cut coal mines	3.4	3.4	3.7	3.7	3.9	4.0	3.9	4.2	4.4	4.5	4.5	4.8	5.2	5.0	5.0	5.5	5.5	5.4	5.1	5.2	5.5	4.7	5.2	5.5	5.9	6.0	6.4	5.5	5.5	6.6	6.4	6.1	6.2	6.2	6.6	6.6	6.6	6.6	6.6	6.5	6.5		
Underground coal mines	18.8	19.1	19.8	19.8	17.7	17.6	18.3	20.5	21.3	19.2	21.0	20.4	19.2	18.9	19.2	20.7	21.4	23.8	23.7	22.8	21.6	22.1	21.5	20.7	19.2	21.3	21.0	21.0	21.0	19.8	22.7	21.5	21.6	20.9	20.2	20.3	21.1	22.0	22.3	22.6	23.4	23.6	
LNG																																											
Gas (other than LNG)																																											
Oil	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.2	1.9	2.4	2.5	2.4	2.3	2.1	1.9	1.7	1.9	1.9	1.7	2.3	1.7	1.2	1.1	1.4	2.0	1.8	1.8	1.8	1.3	1.5	1.6	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.1	
Historical - LNG and other gas	12.9	12.8	14.0	12.6	12.0	13.1	13.0	13.1	12.3	11.3	12.0	11.8	11.2	10.7	11.1	10.5	11.1	10.6	11.0	12.1	12.7	13.1	13.8	14.4	14.2	15.2	18.2	20.6															



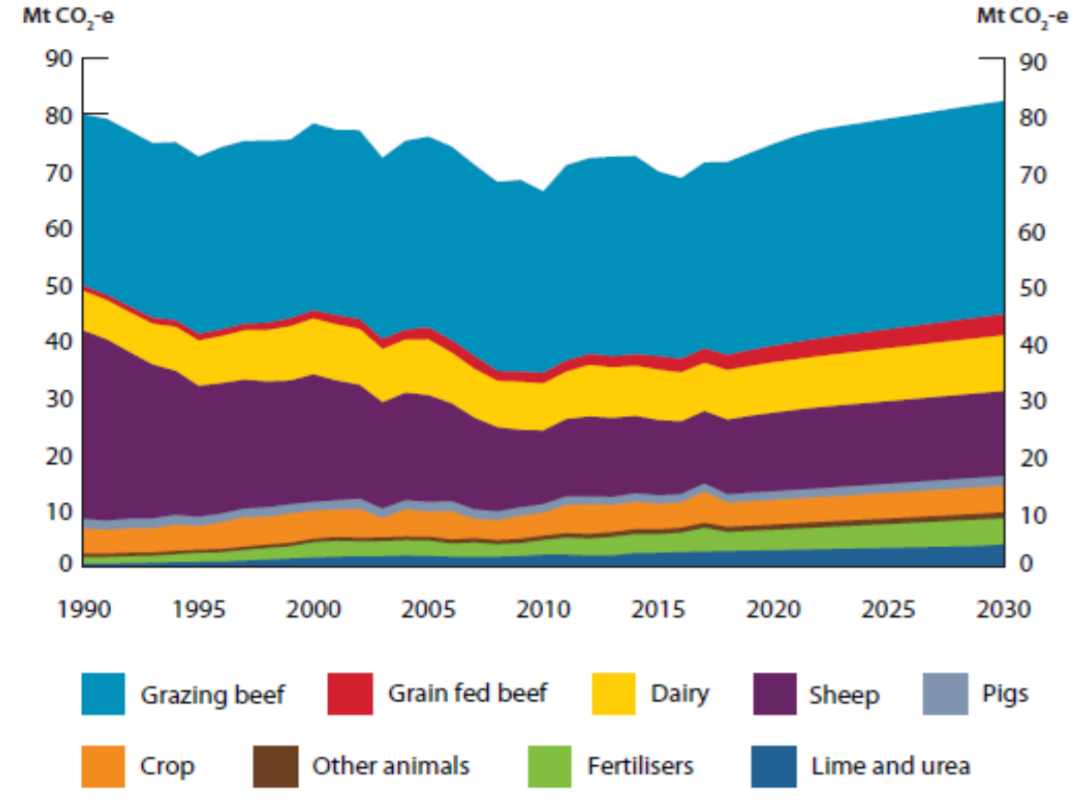
Industrial processes and product use emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Other product manufacture and use	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Other production	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Non-energy products from fuel and solvent use	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Mineral industry	5.5	5.2	5.0	5.2	6.0	5.8	5.7	6.0	6.4	6.4	6.2	6.2	6.3	6.4	6.4	6.5	6.7	7.0	6.9	6.4	6.3	6.4	6.4	6.1	5.8	5.6	5.6	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	
Metal industry	16.5	16.2	16.8	15.4	15.3	14.9	15.0	14.8	15.1	15.2	14.8	14.6	14.5	15.6	16.2	14.4	13.5	13.9	13.6	11.6	13.4	14.0	11.8	10.6	10.1	10.2	10.2	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.3	10.3	10.3	10.3	
Chemical industry	3.5	3.4	3.6	4.5	3.7	3.8	3.2	3.1	3.3	3.3	3.6	4.2	4.3	5.0	5.2	5.6	6.2	6.8	6.7	6.4	6.9	6.1	5.8	5.2	5.2	4.5	4.4	4.3	4.3	4.4	4.5	4.6	4.7	4.7	4.7	4.7	4.8	4.9	4.9	5.0	5.1		
Product uses as substitutes for ozone depleting substances	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.7	1.0	1.4	1.6	2.3	2.9	3.6	4.3	5.0	5.5	6.1	6.8	7.5	8.2	8.8	9.4	10.0	10.8	11.5	12.3	13.2	13.3	13.4	13.4	13.3	13.0	12.8	12.5	12.4	12.1	11.9	11.6	11.3	11.0		



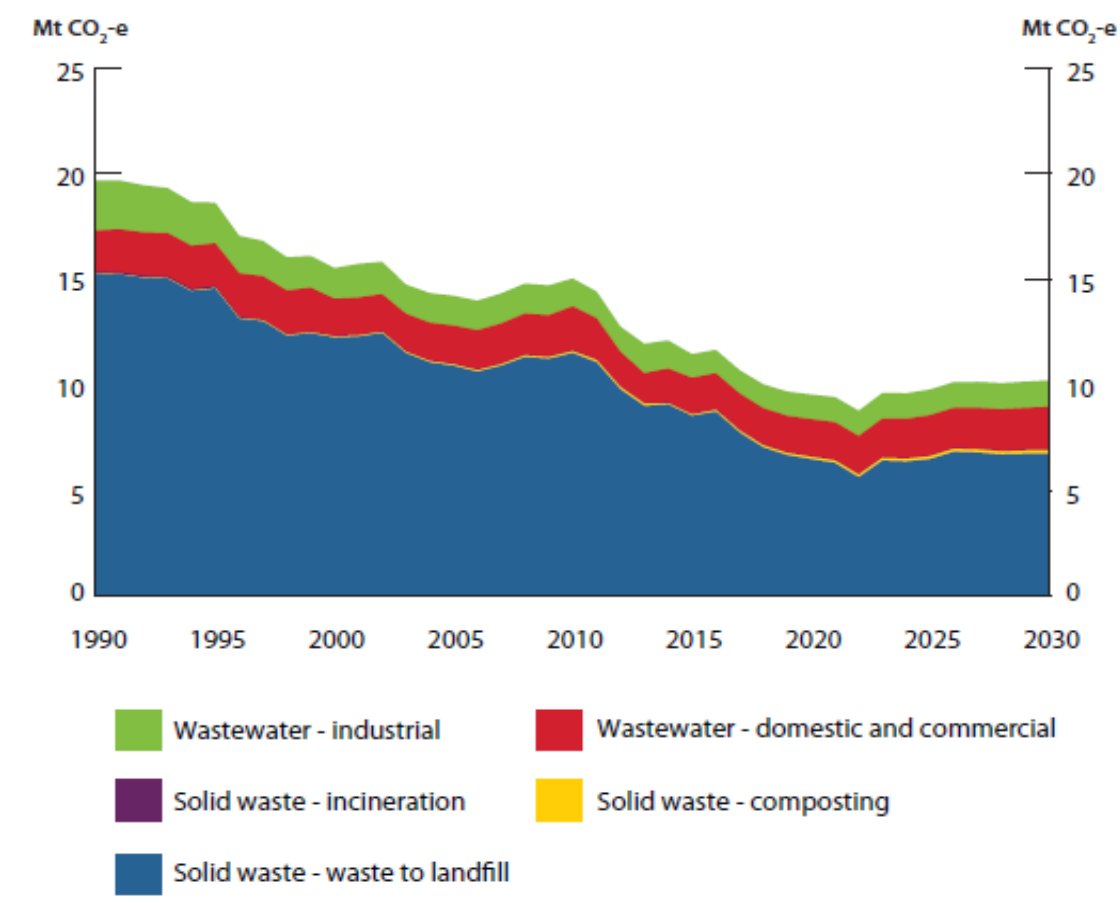
Agriculture emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030				
Other animals	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Pigs	1.7	1.6	1.7	1.7	1.8	1.6	1.5	1.5	1.7	1.6	1.5	1.7	1.8	1.7	1.6	1.7	1.7	1.7	1.6	1.5	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
Lime and urea	0.9	0.9	1.0	1.1	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.7	2.1	2.2	2.3	1.8	1.8	1.9	2.0	2.0	2.0	2.1	2.4	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.5	3.6	3.6	3.7	3.7	3.7	3.7	3.7
Grain fed beef	1.2	1.1	1.2	1.2	1.4	1.6	1.7	1.9	2.0	2.2	2.7	2.8	2.6	2.6	2.7	2.7	2.3	2.5	2.2	2.3	2.6	3.0	3.0	3.3	3.3	3.3	3.4	4.2	3.4	3.5	3.6	3.7	3.8	3.9	4.1	4.2	4.3	4.4	4.4	4.5	4.5	4.7	4.8	4.8	4.8
Fertilisers	0.6	0.6	0.7	0.8	0.9	0.9	0.9	1.2	1.3	1.5	1.7	1.8	1.9	1.9	2.0	2.0	1.8	1.8	1.9	2.2	2.2	2.0	2.0	2.5	2.5	2.7	2.7	2.8	2.9	3.0	3.1	3.2	3.2	3.2	3.3	3.4	3.5	3.6	3.6	3.7	3.8	3.8	3.8	3.8	3.8
Crop	4.4	4.2	4.3	4.3	4.6	4.2	4.8	5.2	4.9	5.2	5.0	4.8	5.1	3.4	4.8	4.4	5.0	3.4	3.5	4.1	4.1	5.0	5.2	4.8	4.8	4.5	4.5	5.5	4.3	4.3	4.3	4.4	4.4	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7	4.7	4.7	4.7	
Dairy	7.0	6.9	7.0	7.2	7.7	8.0	8.3	8.7	9.1	9.6	9.8	9.9	9.9	9.4	9.4	9.8	9.0	8.6	8.2	8.5	8.3	8.3	9.1	8.9	8.8	8.9	8.6	8.5	8.7	8.8	8.9	8.9	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.8	9.8	9.8	9.8
Sheep	33.3	32.0	29.5	27.2	25.4	23.1	23.0	22.8	22.2	21.9	22.6	21.1	20.1	18.8	19.0	18.9	17.3	16.2	14.9	13.7	13.0	13.7	14.1	14.0	13.7	13.3	12.9	12.8	13.2	13.6	13.9	14.1	14.3	14.4	14.5	14.6	14.7	14.8	14.8	14.9	15.0	15.0	15.0	15.0	15.0
Grazing beef	30.3	31.1	31.0	30.9	31.5	31.3	32.2	32.3	32.2	31.6	33.0	32.8	33.4	32.0	33.4	33.8	34.2	33.8	33.4	33.9	32.1	34.5	34.6	35.3	35.0	32.6	32.0	32.9	34.1	34.9	35.7	36.4	36.9	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.7	37.7	37.7	37.7



Waste emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Solid waste- waste to landfill	15.2	15.2	15.1	15.0	14.4	14.6	13.1	13.0	12.3	12.4	12.2	12.3	12.5	11.5	11.1	10.9	10.6	10.9	11.3	11.2	11.5	11.1	9.8	9.0	9.1	8.5	8.7	7.7	7.0	6.7	6.5	6.3	5.6	6.4	6.4	6.5	6.8	6.8	6.7	6.7	6.8	
Solid waste- composting	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.11	0.11	0.11	0.06	0.06	0.08	0.09	0.10	0.10	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.16	0.16	
Solid waste- incineration	0.09	0.09	0.09	0.09	0.09	0.09	0.07	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Wastewater- domestic and commercial	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.0	1.6	1.4	1.6	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	
Wastewater- industrial	2.4	2.3	2.2	2.1	2.1	1.9	1.8	1.7	1.6	1.5	1.5	1.6	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.4	1.3	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	

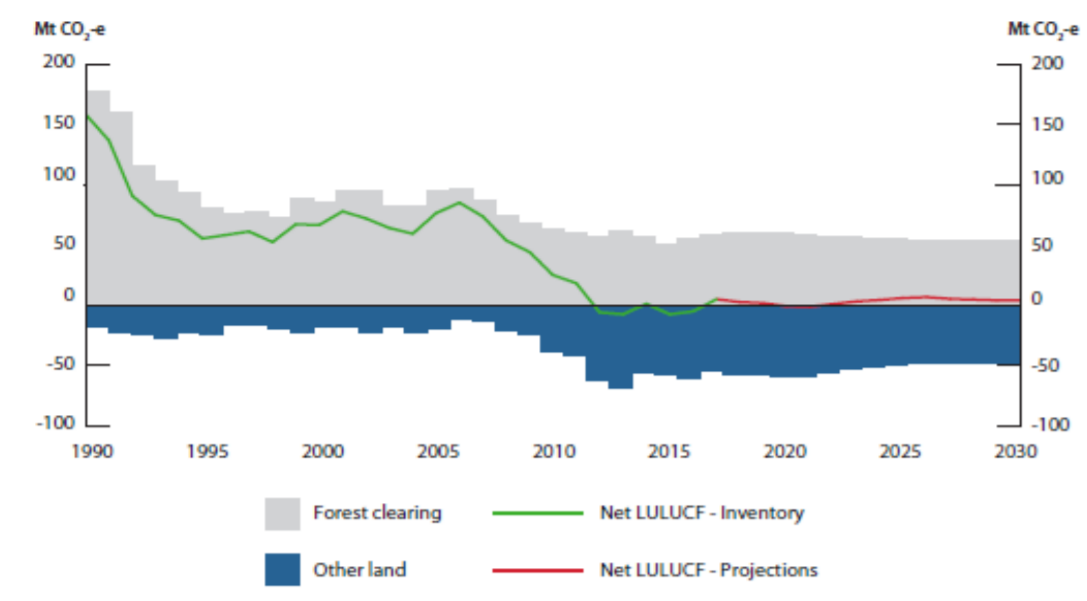




Land use, land-use change and forestry emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
Forest clearing	177.2	160.1	114.7	101.6	92.5	80.0	75.3	77.5	72.3	89.1	84.4	95.4	94.4	82.0	81.4	95.1	96.6	87.0	74.2	67.8	63.4	59.7	56.6	61.9	56.7	49.7	55.5	59.0	60.3	59.5	58.7	57.9	57.1	56.3	55.5	54.8	54.2	53.5	53.1	52.8	52.6			
Other land	-18.9	-23.4	-24.1	-27.0	-22.5	-24.9	-17.2	-16.5	-20.1	-22.1	-18.0	-17.7	-22.5	-18.0	-22.2	-18.9	-11.6	-13.4	-20.6	-23.8	-38.5	-41.6	-62.7	-69.6	-55.7	-57.4	-60.7	-54.2	-57.9	-58.0	-59.3	-59.2	-56.3	-53.3	-51.4	-49.0	-47.6	-48.5	-48.6	-48.9	-48.7			
Net LULUCF - Inventory	158.3	136.6	90.6	74.7	70.0	55.2	58.1	61.0	52.2	67.0	66.4	77.7	71.9	63.9	59.2	76.2	85.0	73.5	53.6	44.0	24.9	18.1	-6.1	-7.7	1.0	-7.7	-5.3	4.8	4.8	2.4	1.5	-0.6	-1.3	0.8	2.9	4.2	5.8	6.6	5.1	4.5	3.8	4.0		
Net LULUCF - Projections																																												

\*Note: Emissions are presented under UNFCCC inventory reporting categories consistent with Australia's 2030 target.



Kyoto Protocol: Australia's emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

The data presented in Figure 3 in *Australia's emissions projections 2017* is calculated using the UNFCCC classifications. The following data is presented under Kyoto Protocol categories consistent with Australia's 2020 target. Differences between the classification systems impact the estimate of emissions in the LULUCF sector.

	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	2020
Electricity	130	132	135	136	137	143	148	153	165	172	175	183	184	187	195	197	201	204	206	212	205	199	199	187	181	189	195	191	182	174	176
Direct combustion	66	67	67	69	69	71	71	73	73	74	75	75	77	78	80	82	81	82	84	84	84	86	90	93	94	91	94	97	100	104	105
Transport	61	61	62	63	65	68	70	72	72	73	74	74	76	77	80	82	82	85	87	87	89	91	92	92	93	95	96	97	98	99	102
Fugitives	37	37	40	38	36	37	37	40	40	37	40	40	38	37	37	39	40	42	42	42	42	42	42	42	41	45	48	49	51	54	51
Agriculture	80	79	77	75	75	73	74	75	75	76	78	77	77	72	75	76	74	71	68	68	66	71	72	73	73	70	69	72	72	73	75
Industrial processes	26	25	26	26	26	25	25	25	27	27	27	28	29	31	33	32	32	34	35	32	35	36	34	33	32	32	33	34	34	34	34
Waste	20	20	19	19	19	19	17	17	16	16	16	16	16	15	14	14	14	15	15	15	15	14	13	12	12	12	11	10	10	10	
LULUCF	163	142	94	76	75	64	63	65	58	70	70	81	78	67	65	84	86	73	55	52	27	18	6	-2	5	5	-2	6	4	5	3
Total (incl. LULUCF)	583	563	520	502	501	499	505	519	526	544	554	573	573	565	580	605	611	606	591	593	564	556	548	529	531	538	543	556	551	553	554
Trajectory to minus 5% target																							598	588	578	568	557	547	537	527	



**Australian Government**  
**Department of the Environment and Energy**

## Australia's emissions projections 2017

v1.0 19 December 2017

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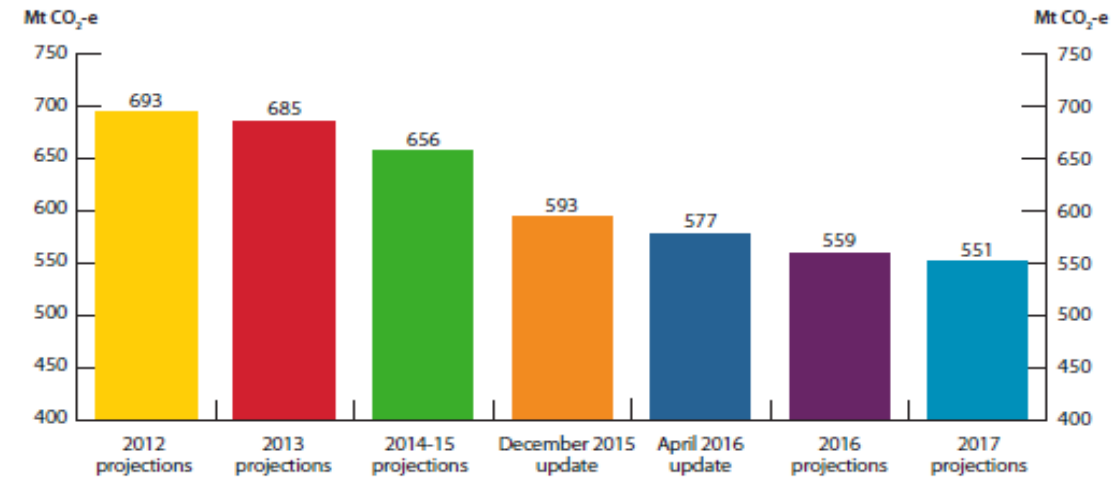
\*Note: The data presented has been rounded to a set decimal point. This can create rounding impacts which may result in small differences to the figures presented in *Australia's emissions projections 2017*.

\*\*Note: Totals may not sum due to rounding.

\*\*\*Note: The estimate of historical emissions (1990-2017) may be different by a small amount to those published in the *Quarterly Update of Australia's National Greenhouse Gas Inventory: June 2017* due to different emissions accounting treatments and the application of policies.

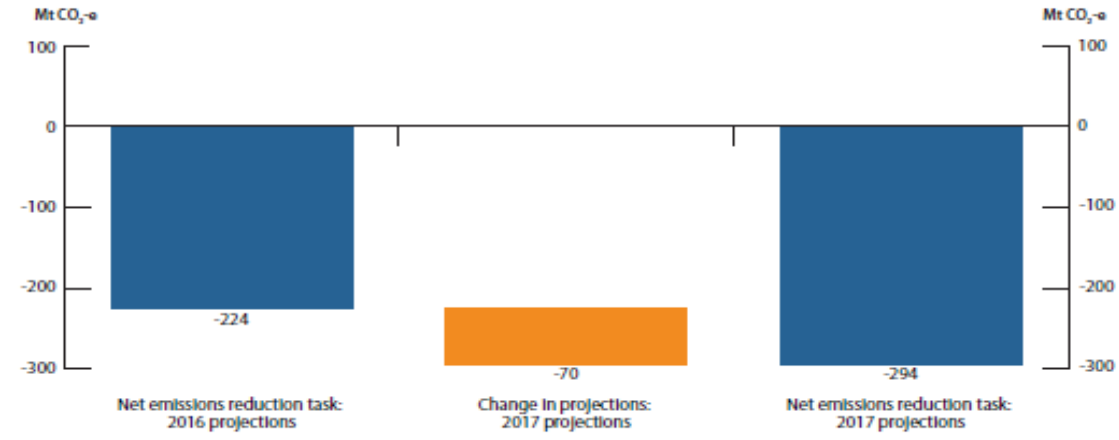
Projected emissions in 2020 over time (Mt CO<sub>2</sub>-e)

	Emissions in 2020
2012 projections	693
2013 projections	685
2014-15 projections	656
December 2015 update	593
April 2016 update	577
2016 projections	559
2017 projections	551



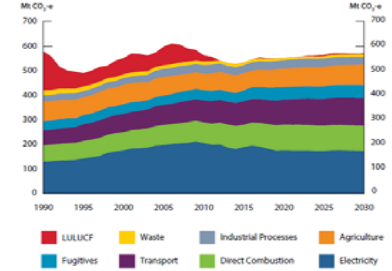
Change in the cumulative emissions reduction task for 2020 target (Mt CO<sub>2</sub>-e)

	Emissions
Net emissions reduction task: 2016 projections	-224
Change in projections: 2017 projections	-70
Net emissions reduction task: 2017 projections	-294



	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Electricity	150	172	175	186	187	144	143	153	165	172	175	163	144	147	105	107	201	204	206	212	205	199	190	177	181	189	195	191	182	174	176	175	172	173	175	176	175	174	173			
Direct combustion	66	67	67	69	69	71	71	73	73	74	75	75	77	78	80	82	83	84	84	84	84	86	90	93	94	91	94	97	100	104	95	105	105	105	104	103	103	103	103	103		
Transport	61	61	62	63	65	68	70	72	72	73	74	74	76	77	80	82	82	85	87	87	89	89	91	92	92	93	95	96	97	98	99	92	103	105	107	108	109	110	110	111	112	112
Fugitives	37	37	40	38	36	37	37	40	40	37	40	40	38	37	37	39	40	42	42	42	42	42	42	42	41	45	48	49	51	54	51	51	51	51	50	51	52	52	53	53	53	
Agriculture	86	78	77	75	75	74	74	75	75	75	78	77	75	74	75	76	74	71	68	67	66	66	67	71	72	73	76	79	72	73	75	76	77	78	79	79	79	80	81	81	81	82
Industrial processes	25	25	26	26	26	25	25	25	27	27	27	28	29	31	33	32	32	34	35	32	35	35	36	34	33	32	32	34	34	34	34	34	34	34	34	34	34	33	33	33	33	
Waste	20	20	19	19	19	19	17	17	16	16	16	6	16	15	14	14	14	14	15	15	15	15	14	13	12	12	12	11	10	10	9	9	10	0	10	10	10	10	10	10	10	
LULUCF	158	137	91	75	70	55	58	61	52	67	66	78	72	64	59	76	85	74	54	44	25	18	-6	-8	1	-8	-5	5	2	2	-1	-1	1	3	4	6	7	5	5	4	4	
Total (incl. LULUCF)	578	557	516	501	496	490	500	515	520	541	551	570	568	561	574	597	610	606	590	584	562	557	535	524	527	526	540	554	549	550	551	553	557	561	562	564	570	571	570	570	570	

\*Note: Emissions are presented under UNFCCC inventory reporting categories consistent with Australia's 2030 target.  
\*\*Note: Australia's emissions under Kyoto Protocol reporting categories are presented in the "Kyoto Protocol Categories" tab consistent with Australia's 2020 target.



s 34(1)(c) and 34(3)

s 34(1)(c) and 34(3)

s 22

s 34(1)(c) and s34(3)



s 34(1)(c) and s34(3)

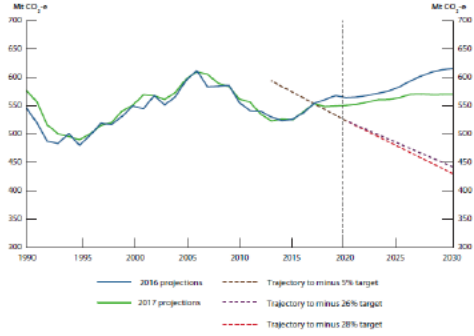
s 34(1)(c) and 34(3)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030				
2016 projections	548	520	488	483	501	480	498	519	517	532	550	545	568	552	566	595	612	584	585	586	556	541	540	530	524	527	538	554	561	568	565	566	568	572	576	584	594	602	610	614	616				
2017 projections	578	557	516	501	496	490	500	515	520	541	551	570	568	561	574	597	610	606	590	584	562	557	535	524	527	526	540	554	549	550	551	553	557	561	562	564	570	571	570	570	570				
Trajectory to minus 5% target*																								598	588	578	568	557	547	537															
Trajectory to minus 26% target																																													
Trajectory to minus 28% target																																													

s 34(1)(c) and s 34(3)

\*Note: Australia's 2020 target is accounted for using Kyoto Protocol reporting categories (see the "Kyoto Protocol Categories" tab).

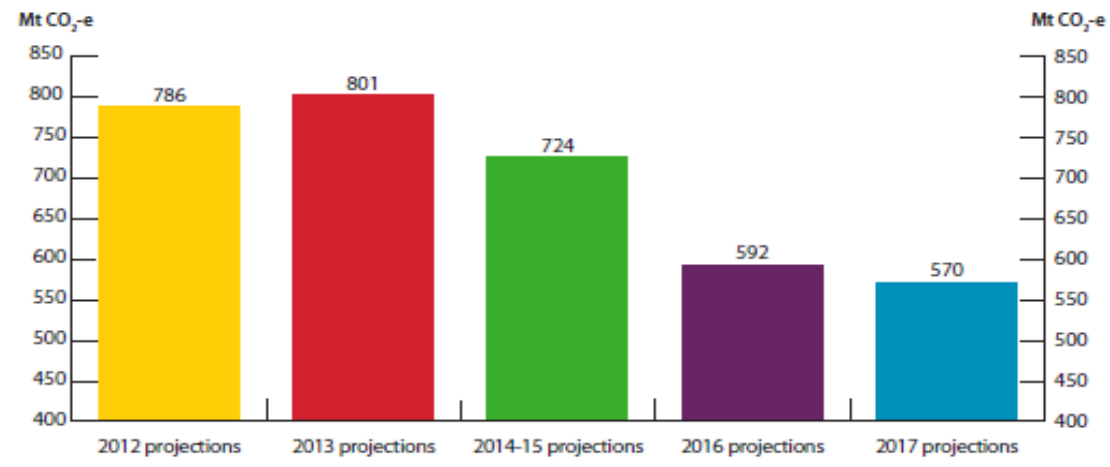
s 34(1)(c) and s 34(3)



s 34(1)(c) and 34(3)

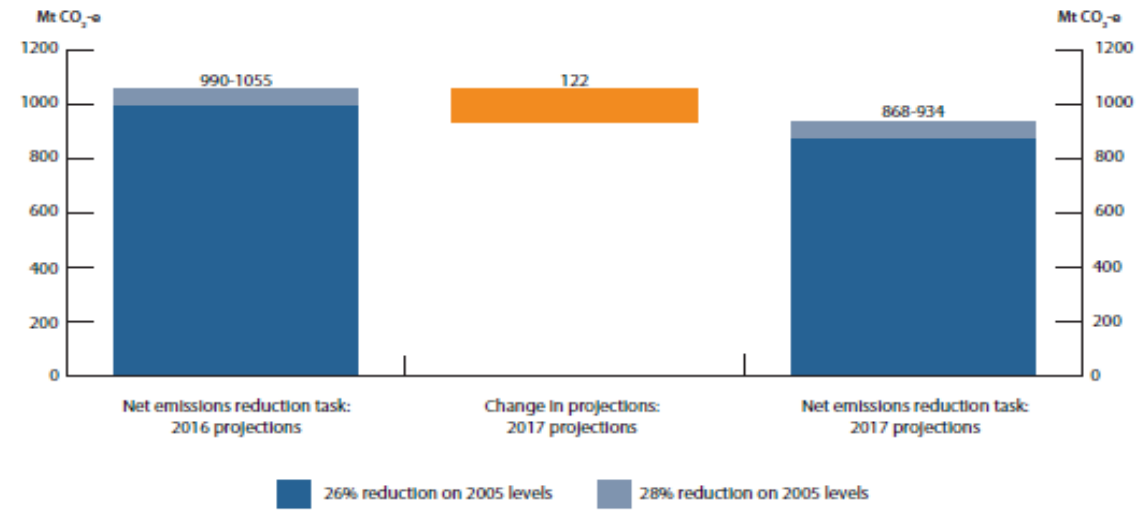
Projected emissions in 2030 over time (Mt CO<sub>2</sub>-e)

	Emissions in 2030
2012 projections	786
2013 projections	801
2014-15 projections	724
2016 projections	592
2017 projections	570



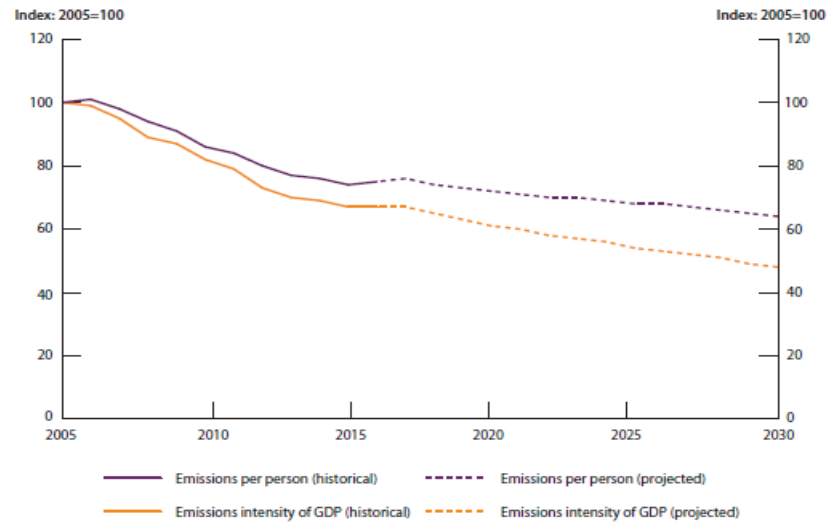
Change in the cumulative emissions reduction task for 2030 target (Mt CO<sub>2</sub>-e)

	26% reduction on 2005 levels	28% reduction on 2005 levels
Net emissions reduction task: 2016 projections	990	1,055
Change in projections: 2017 projections	122	121
Net emissions reduction task: 2017 projections	868	934



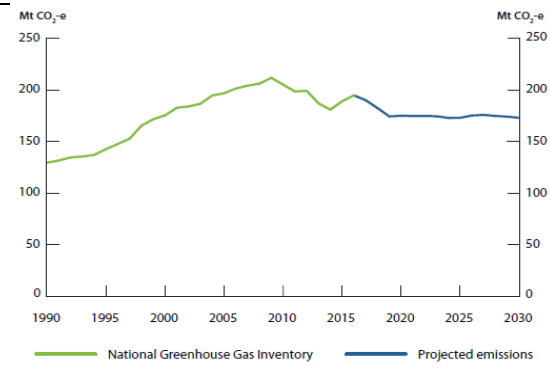
Emissions per person and emissions intensity of GDP, 2005 to 2030 (Index: 2005=100)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Emissions per person (historical)	100.0	100.8	98.5	94.1	91.2	86.2	84.2	79.6	76.5	75.9	74.3	75.2	75.7	73.8	72.7	71.6	70.8	70.1	69.6	68.7	68.0	67.7	66.9	65.9	65.0	64.2
Emissions per person (projected)													75.7	73.8	72.7	71.6	70.8	70.1	69.6	68.7	68.0	67.7	66.9	65.9	65.0	64.2
Emissions intensity of GDP (historical)	100.0	99.2	94.9	89.1	86.7	81.8	79.1	73.4	70.0	68.6	66.9	66.9	67.3	64.9	63.1	61.4	59.8	58.4	57.2	55.6	54.4	53.5	52.1	50.6	49.3	48.0
Emissions intensity of GDP (projected)													67.3	64.9	63.1	61.4	59.8	58.4	57.2	55.6	54.4	53.5	52.1	50.6	49.3	48.0



Electricity emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

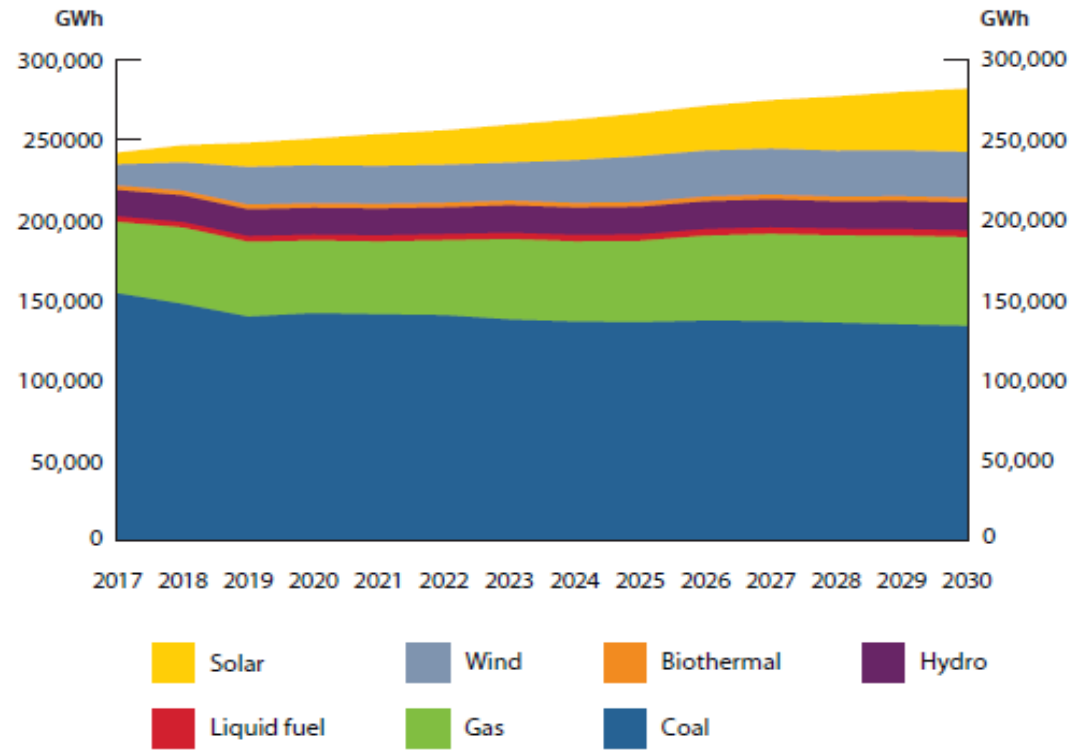
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030					
National greenhouse gas inventory	129.6	131.7	134.6	135.5	137.1	142.7	147.7	152.8	165.4	171.6	175.4	182.7	184.0	186.6	194.6	196.8	201.3	204.1	206.0	211.7	205.1	198.5	199.1	187.0	180.8	189.0	194.7	190.5																		
2017 projections																													190.5	182.4	174.3	175.5	174.7	174.8	174.5	172.9	173.0	175.2	175.8	174.8	174.1	173.3				





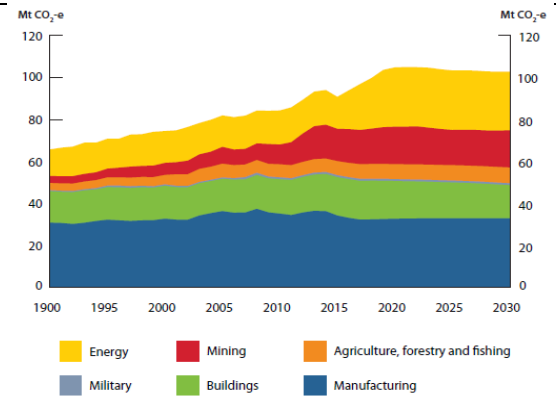
Projected sent-out electricity generation by fuel, 2017 to 2030 (GWh)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Coal	153,945	147,289	139,377	141,586	140,879	140,323	137,617	136,306	135,985	136,896	136,655	135,649	134,588	133,641
Gas	44,394	47,596	46,611	45,196	45,332	46,587	50,133	49,941	50,604	52,908	54,244	54,322	55,171	55,228
Liquid fuel	3,549	3,397	3,557	3,751	3,844	3,907	3,969	4,027	4,077	4,119	4,158	4,195	4,229	4,263
Hydro	16,376	16,603	16,677	16,619	16,661	16,604	17,045	17,043	17,161	17,339	17,431	17,045	17,438	17,350
Wind	13,110	17,585	23,412	23,578	23,576	23,576	23,576	26,498	28,516	28,516	28,516	28,517	28,513	28,513
Biothermal	2,839	2,993	3,003	2,997	2,989	2,987	2,995	3,003	2,997	3,006	3,009	3,012	3,006	3,005
Solar	7,426	10,782	15,128	16,650	19,966	21,510	23,710	25,433	26,761	28,005	30,316	33,895	36,523	39,502

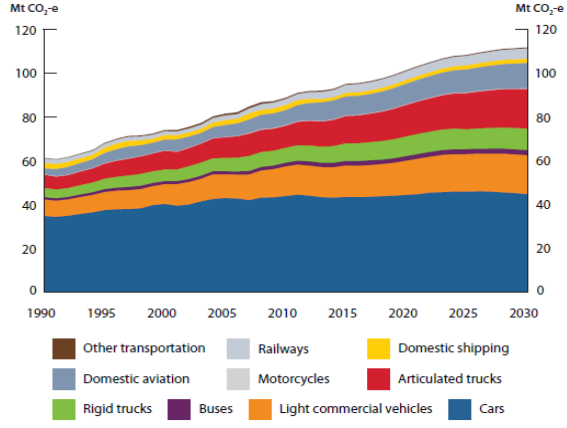


PROTECTED - SENSITIVE - CONFIDENCE CABINET  
 Direct combustion emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Energy	12.6	13.7	14.1	14.9	14.1	14.3	13.8	15.3	15.1	16.1	15.2	15.2	16.1	15.0	15.2	15.0	15.5	15.9	15.7	15.8	16.3	16.6	16.1	16.5	16.6	15.3	18.5	22.0	24.2	27.3	28.3	28.4	28.3	28.6	28.5	28.4	28.3	28.3	28.1	28.1	28.0	
Mining	3.4	3.4	3.6	3.7	3.7	4.2	4.6	5.3	5.3	5.5	5.8	5.8	6.5	7.0	7.2	8.0	7.5	7.5	8.0	9.5	9.5	11.0	13.6	15.7	16.1	15.4	16.1	16.3	16.9	17.6	17.8	18.0	18.1	17.6	17.2	16.8	17.0	17.2	17.1	17.4	17.7	
Manufacturing	30.9	30.7	30.2	30.8	31.6	32.3	32.0	31.7	31.9	32.0	32.7	32.3	32.3	34.3	35.4	36.3	35.6	35.7	37.4	35.8	35.2	34.5	35.7	36.5	36.3	34.2	33.1	32.3	32.4	32.6	32.7	32.8	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9
Buildings	15.0	14.9	15.2	15.5	15.1	15.5	15.8	15.7	15.8	15.6	15.7	15.5	15.5	15.4	15.3	15.4	15.8	15.9	16.1	16.2	16.4	16.7	17.0	17.3	17.7	18.3	18.5	18.5	18.5	18.3	18.0	17.8	17.6	17.5	17.3	17.1	16.9	16.7	16.5	16.2	15.8	
Agriculture, forestry and fishing	3.5	3.5	3.5	3.7	3.8	3.9	3.9	4.1	4.2	4.3	4.5	5.5	5.6	6.2	6.2	6.6	6.2	6.0	6.1	6.1	6.2	6.3	6.4	6.4	6.7	6.8	7.0	7.0	7.1	7.1	7.2	7.2	7.2	7.3	7.3	7.4	7.4	7.4	7.5	7.5		
Military	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	1.0	1.0	0.8	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9		

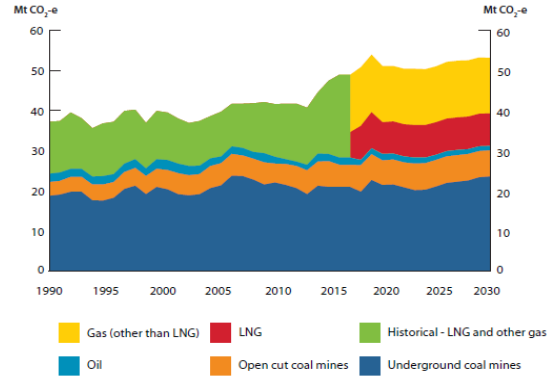


	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cars	34.8	34.4	34.9	35.7	36.4	37.5	37.9	38.0	38.3	39.7	40.3	39.5	40.0	41.5	42.6	43.0	42.8	42.0	43.2	43.3	43.9	44.5	44.1	43.4	43.2	43.5	43.4	43.6	43.8	44.1	44.4	44.7	45.5	45.7	46.0	45.9	46.0	45.9	46.0	45.3	44.8
Light commercial vehicles	7.5	7.4	7.5	7.7	7.9	8.3	8.5	8.6	8.8	8.7	9.1	9.8	10.3	10.3	11.3	10.9	11.0	11.7	12.4	12.9	13.5	13.7	13.7	13.8	13.9	14.3	14.4	14.5	14.7	15.1	15.6	16.2	16.4	17.0	17.1	17.1	17.2	17.3	17.7	17.7	17.8
Motorcycles	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Buses	1.2	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.6	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.6	1.6	1.6	1.7	1.8	2.0	2.0	2.0	2.1	2.2	2.2	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3
Rigid trucks	4.1	4.0	4.0	4.2	4.4	4.7	4.9	5.2	5.4	5.3	5.3	5.3	5.8	6.0	5.9	6.1	6.3	6.9	6.8	6.8	6.8	7.0	7.2	7.3	7.6	8.0	8.1	8.3	8.5	8.7	9.0	9.2	9.3	9.3	9.4	9.1	9.3	9.4	9.6	9.7	9.9
Articulated trucks	6.1	5.9	6.0	6.2	6.5	6.9	7.3	7.7	8.0	8.1	8.6	8.1	8.4	8.6	9.1	9.5	9.8	10.2	10.2	10.1	10.1	10.7	11.3	11.5	12.0	12.6	12.8	13.0	13.5	14.0	14.4	14.9	15.3	15.7	16.1	16.5	16.9	17.2	17.6	17.8	18.1
Domestic aviation	2.6	3.3	3.5	3.7	3.9	4.6	5.1	5.4	4.9	4.8	5.0	5.5	4.9	4.7	4.9	5.4	5.7	6.1	6.6	6.7	6.8	7.3	7.9	8.5	8.6	8.6	8.7	8.7	8.9	9.2	9.4	9.6	9.8	10.1	10.3	10.5	10.7	10.9	11.2	11.4	11.6
Domestic shipping	2.6	2.3	2.4	2.2	2.0	2.5	2.6	2.6	2.2	2.0	2.1	2.0	2.0	1.9	2.1	2.3	2.1	2.9	2.2	2.2	2.4	2.4	1.9	1.5	1.4	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0
Railways	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.9	2.1	2.1	2.2	2.6	2.7	2.7	2.8	3.1	3.3	3.4	3.7	3.7	3.8	3.9	3.9	4.0	4.1	4.1	4.1	4.2	4.3	4.4	4.4	4.5	4.6	4.7
Other transportation	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.7	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	

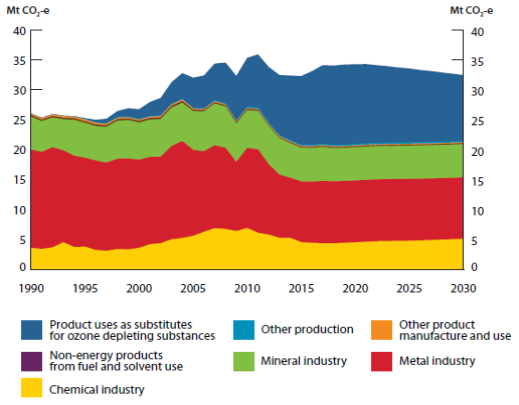


Fugitive emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Open cut coal mines	3.4	3.4	3.7	3.7	3.9	4.0	3.9	4.2	4.4	4.5	4.5	4.8	5.2	5.0	5.0	5.5	5.5	5.4	5.1	5.2	5.5	4.7	5.2	5.5	5.9	6.0	6.4	5.5	5.5	6.6	6.4	6.1	6.2	6.2	6.6	6.6	6.6	6.6	6.6	6.5	6.5			
Underground coal mines	18.8	19.1	19.8	19.8	17.7	17.6	18.3	20.5	21.3	19.2	21.0	20.4	19.2	18.9	19.2	20.7	21.4	23.8	23.7	22.8	21.6	22.1	21.5	20.7	19.2	21.3	21.0	21.0	21.0	19.8	22.7	21.5	21.6	20.9	20.2	20.3	21.1	22.0	22.3	22.6	23.4	23.6		
LNG																																												
Gas (other than LNG)																																												
Oil	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.2	1.9	2.4	2.5	2.4	2.3	2.1	1.9	1.7	1.9	1.9	1.7	2.3	1.7	1.2	1.1	1.4	2.0	1.8	1.8	1.8	14.3	14.6	14.3	14.0	13.8	13.8	14.0	13.9	13.9	14.1	14.1	14.0	14.0	13.8	
Historical - LNG and other gas	12.9	12.8	14.0	12.6	12.0	13.1	13.0	13.1	12.3	11.3	12.0	11.8	11.2	10.7	11.1	10.5	11.1	10.6	11.0	12.1	12.7	13.1	13.8	14.4	14.2	15.2	18.2	20.6																

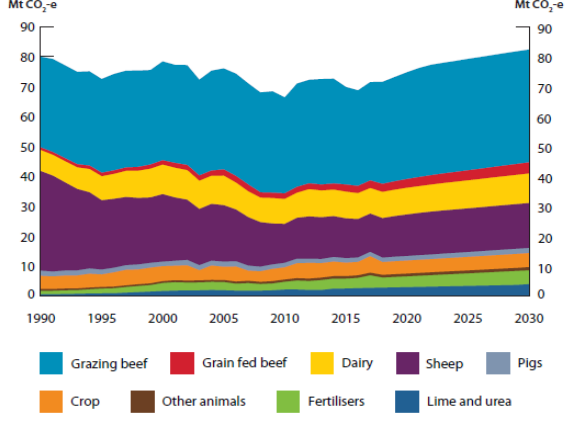


	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Other product manufacture and use	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Other production	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Non-energy products from fuel and solvent use	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Mineral industry	5.5	5.2	5.0	5.2	6.0	5.8	5.7	6.0	6.4	6.4	6.2	6.2	6.3	6.4	6.4	6.5	6.7	7.0	6.9	6.4	6.3	6.4	6.4	6.1	5.8	5.6	5.6	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Metal industry	16.5	16.2	16.8	15.4	15.3	14.9	15.0	14.8	15.1	15.2	14.8	14.6	14.5	15.6	16.2	14.4	13.5	13.9	13.6	11.6	13.4	14.0	11.8	10.6	10.1	10.2	10.2	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.3	10.3	10.3	10.3	10.3	
Chemical industry	3.5	3.4	3.6	4.5	3.7	3.8	3.2	3.1	3.3	3.3	3.6	4.2	4.3	5.0	5.2	5.6	6.2	6.8	6.7	6.4	6.9	6.1	5.8	5.2	5.2	4.5	4.4	4.3	4.3	4.4	4.5	4.6	4.7	4.7	4.7	4.7	4.8	4.9	4.9	5.0	5.1	
Product uses as substitutes for ozone depleting substances	0.0	0.0	0.0	0.0	0.1	0.4	0.7	1.0	1.4	1.6	2.3	2.9	3.6	4.3	5.0	5.5	6.1	6.8	7.5	8.2	8.8	9.4	10.0	10.8	11.5	12.3	13.2	13.3	13.4	13.4	13.3	13.0	12.8	12.5	12.4	12.1	11.9	11.6	11.3	11.0		



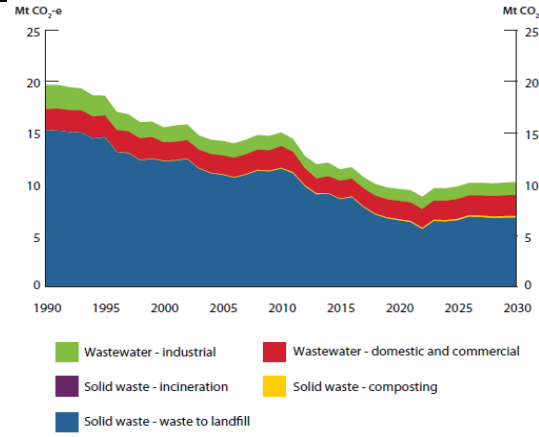
PROTECTED - SENSITIVE - CONFIDENCE CABINET  
 Agriculture emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030					
Other animals	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
Pigs	1.7	1.6	1.7	1.7	1.8	1.6	1.5	1.5	1.7	1.6	1.5	1.7	1.8	1.7	1.6	1.7	1.7	1.7	1.6	1.5	1.5	1.5	1.4	1.4	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
Lime and urea	0.9	0.9	1.0	1.1	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.7	2.1	2.2	2.3	2.3	1.8	1.8	1.9	2.0	2.0	2.0	2.1	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.5	3.6	3.6	3.6	3.7	3.7	3.7	3.7	
Grain fed beef	1.2	1.1	1.2	1.2	1.4	1.6	1.7	1.9	2.0	2.2	2.7	2.8	2.6	2.6	2.7	2.7	2.3	2.5	2.2	2.3	2.6	3.0	3.0	3.3	3.3	3.3	3.4	4.2	3.4	3.5	3.6	3.7	3.8	3.9	4.1	4.2	4.3	4.4	4.5	4.7	4.8	4.8	4.8	4.8	4.8	
Fertilisers	0.6	0.6	0.7	0.8	0.9	0.9	0.9	1.2	1.3	1.5	1.7	1.8	1.9	1.9	2.0	2.0	1.8	1.8	1.8	1.9	2.2	2.2	2.0	2.0	2.5	2.5	2.7	2.8	2.9	3.0	3.1	3.2	3.2	3.3	3.4	3.5	3.6	3.6	3.7	3.8	3.8	3.8	3.8	3.8	3.8	
Crop	4.4	4.2	4.3	4.3	4.6	4.2	4.8	5.2	4.9	5.2	5.0	4.8	5.1	3.4	4.8	4.4	5.0	3.4	3.5	4.1	4.1	5.0	5.2	4.8	4.8	4.5	4.5	5.5	4.3	4.3	4.3	4.4	4.4	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7	4.7	4.7	4.7	4.7	
Dairy	7.0	6.9	7.0	7.2	7.7	8.0	8.3	8.7	9.1	9.6	9.8	9.9	9.9	9.4	9.4	9.8	9.0	8.6	8.2	8.5	8.3	8.3	9.1	8.9	8.8	8.9	8.6	8.5	8.7	8.8	8.9	8.9	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.8	9.8	9.8	9.8	9.8
Sheep	33.3	32.0	29.5	27.2	25.4	23.1	23.0	22.8	22.2	21.9	22.6	21.1	20.1	18.8	19.0	18.9	17.3	16.2	14.9	13.7	13.0	13.7	14.1	14.0	13.7	13.3	12.9	12.8	13.2	13.6	13.9	14.1	14.3	14.4	14.5	14.6	14.7	14.8	14.8	14.9	15.0	15.0	15.0	15.0	15.0	15.0
Grazing beef	30.3	31.1	31.0	30.9	31.5	31.3	32.2	32.3	32.2	31.6	33.0	32.8	33.4	32.0	33.4	33.8	34.2	33.8	33.4	33.9	32.1	34.5	34.6	35.3	35.0	32.6	32.0	32.9	34.1	34.9	35.7	36.4	36.9	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.6	37.6	37.6	37.6	37.6	37.6



Waste emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

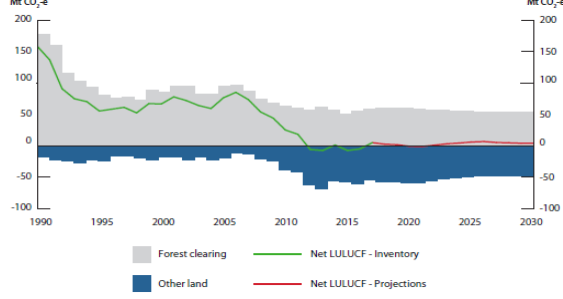
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Solid waste- waste to landfill	15.2	15.2	15.1	15.0	14.4	14.6	13.1	13.0	12.3	12.4	12.2	12.3	12.5	11.5	11.1	10.9	10.6	10.9	11.3	11.2	11.5	11.1	9.8	9.0	9.1	8.5	8.7	7.7	7.0	6.7	6.5	6.3	5.6	6.4	6.4	6.5	6.8	6.8	6.7	6.7	6.8	
Solid waste- composting	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.11	0.11	0.11	0.06	0.06	0.08	0.09	0.10	0.10	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.16	0.16	
Solid waste- incineration	0.09	0.09	0.09	0.09	0.09	0.09	0.07	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Wastewater- domestic and commercial	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.0	1.6	1.4	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	
Wastewater- industrial	2.4	2.3	2.2	2.1	2.1	1.9	1.8	1.7	1.6	1.5	1.5	1.6	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.4	1.3	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		



Land use, land-use change and forestry emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
Forest clearing	177.2	160.1	114.7	101.6	92.5	80.0	75.3	77.5	72.3	89.1	84.4	95.4	94.4	82.0	81.4	95.1	96.6	87.0	74.2	67.8	63.4	59.7	56.6	61.9	56.7	49.7	55.5	59.0	60.3	59.5	58.7	57.9	57.1	56.3	55.5	54.8	54.2	53.5	53.1	52.8	52.6			
Other land	-18.9	-23.4	-24.1	-27.0	-22.5	-24.9	-17.2	-16.5	-20.1	-22.1	-18.0	-17.7	-22.5	-18.0	-22.2	-18.9	-11.6	-13.4	-20.6	-23.8	-38.5	-41.6	-62.7	-69.6	-55.7	-57.4	-60.7	-54.2	-57.9	-58.0	-59.3	-59.2	-56.3	-53.3	-51.4	-49.0	-47.6	-48.5	-48.6	-48.9	-48.7			
Net LULUCF - Inventory	158.3	136.6	90.6	74.7	70.0	55.2	58.1	61.0	52.2	67.0	66.4	77.7	71.9	63.9	59.2	76.2	85.0	73.5	53.6	44.0	24.9	18.1	-6.1	-7.7	1.0	-7.7	-5.3	4.8																
Net LULUCF - Projections																																												

\*Note: Emissions are presented under UNEFCC inventory reporting categories consistent with Australia's 2020 target.





Kyoto Protocol: Australia's emissions, 1990 to 2030 (Mt CO<sub>2</sub>-e)

The data presented in Figure 3 in *Australia's emissions projections 2017* is calculated using the UNFCCC classifications. The following data is presented under Kyoto Protocol categories consistent with Australia's 2020 target. Differences between the classification systems impact the estimate of emissions in the LULUCF sector.

	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	2020
Electricity	130	132	135	136	137	143	148	153	165	172	175	183	184	187	195	197	201	204	206	212	205	199	199	187	181	189	195	191	182	174	176
Direct combustion	66	67	67	69	69	71	71	73	73	74	75	75	77	78	80	82	81	82	84	84	84	86	90	93	94	91	94	97	100	104	105
Transport	61	61	62	63	65	68	70	72	72	73	74	74	76	77	80	82	82	85	87	87	89	91	92	92	93	95	96	97	98	99	102
Fugitives	37	37	40	38	36	37	37	40	40	37	40	40	38	37	37	39	40	42	42	42	42	42	42	42	41	45	48	49	51	54	51
Agriculture	80	79	77	75	75	73	74	75	75	76	78	77	77	72	75	76	74	71	68	68	66	71	72	73	73	70	69	72	72	73	75
Industrial processes	26	25	26	26	26	25	25	25	27	27	27	28	29	31	33	32	32	34	35	32	35	36	34	33	32	32	33	34	34	34	34
Waste	20	20	19	19	19	19	17	17	16	16	16	16	16	15	14	14	14	14	15	15	15	14	13	12	12	12	12	11	10	10	10
LULUCF	163	142	94	76	75	64	63	65	58	70	70	81	78	67	65	84	86	73	55	52	27	18	6	-2	5	5	-2	6	4	5	3
Total (incl. LULUCF)	583	563	520	502	501	499	505	519	526	544	554	573	573	565	580	605	611	606	591	593	564	556	548	529	531	538	543	556	551	553	554
Trajectory to minus 5% target																								598	588	578	568	557	547	537	527