

Safeguard rules for coal mines

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Summary

The removal of the distinction between open cut and underground coal mines, in section 17 of Schedule 1, is very sensible.

Based on Queensland coal mine data, the default emission intensity for coal mines should be higher than 0.0653

Taking the default emission intensity for a coal mine as the average of 0.0653 and the facility-specific emissions intensity is a logical nonsense.

A slower transition to the default emissions intensity could be achieved by amending the transition proportion table in section 13 of schedule 1 in the Safeguard Rule to show slower increases for coal

The claim that the variability in emissions intensity is widest in the coal sector is not supported by any published figures, and may not be accurate.

The high emission intensities of all seven Queensland underground mines may largely reflect failure to use methane capture or flaring. The proposed slower transition to default emission intensities would reduce the financial incentives for these high-emitting mines to introduce abatement measures.

In a further submission to this consultation, we will estimate the reduction in abatement likely from a 50% transition to the coal benchmark emissions intensity by 29-30, rather than 100%.

1. Removal of distinction between open cut and underground coal mines

The removal of the distinction between open cut and underground coal mines, in 17(2) and 17(3) of Schedule 1, is very sensible. One of the assumptions underlying the reformed Safeguard Mechanism is that all facilities producing the same product should have baselines from 29-30 based on the default emission intensity for that product.

2. The default emission intensity for coal mines should be higher than 0.0653

Open Cut							
Rolleston Coal Mine	Southern	0.011	0.012	0.011	0.011	0.012	0.012
Caval Ridge Mine	Northern	0.039	0.035	0.038	0.037	0.047	0.019
Callide	Southern		0.014	0.018	0.016	0.019	0.025
Hail Creek Mine	Northern	0.056	0.055	0.032	0.034	0.041	0.031
Saraji Mine	Northern	0.025	0.023	0.026	0.029	0.036	0.031
Clermont Coal	Central	0.034	0.033	0.031	0.034	0.044	0.032
Lake Vermont Mine	Northern	0.019	0.024	0.024	0.037	0.042	0.033
Peak Downs Mine	Northern	0.017	0.018	0.024	0.024	0.025	0.034
Collinsville Mine	Northern		0.038	0.041	0.033	0.046	0.036
Poitrel Mine	Northern	0.031	0.029	0.031	0.033	0.042	0.040
Drake Mine	Northern	0.031	0.032	0.034	0.039	0.041	0.043
Blackwater Mine	Central	0.039	0.041	0.042	0.047	0.048	0.047
South Walker Creek	Northern	0.036	0.033	0.031	0.037	0.049	0.048
Jellinbah Mine	Central	0.046	0.049	0.053	0.052	0.045	0.049
Daunia Mine	Northern	0.048	0.051	0.049	0.050	0.053	0.049
Curragh Mine	Central	0.038	0.038	0.036	0.042	0.056	0.049
German Creek	Central	0.050	0.050	0.050	0.050	0.050	0.050
German Creek	Northern	0.050	0.050	0.050	0.050	0.050	0.050
Moorvale Coal Mine	Northern	0.037	0.048	0.048	0.069	0.052	0.051
Coppabella Coal Mine	Northern	0.036	0.044	0.052	0.051	0.053	0.052
Newlands	Northern	0.028	0.036	0.139	0.095	0.083	0.053
Middlemount Coal Mine	Central	0.049	0.050	0.056	0.071	0.055	0.055
Byerwen	Northern		0.061	0.053	0.038	0.042	0.055
Yarrabee Coal Mine	Central	0.047	0.052	0.051	0.050	0.056	0.060
Goonyella Broadmeadow	Northern	0.053	0.053	0.053	0.054	0.066	0.065
Dawson Mine	Southern	0.035	0.043	0.047	0.055	0.048	0.071
Baralaba Coal Mine	Southern					0.081	0.072
Foxleigh Mine	Central		0.046	0.055	0.054	0.063	0.075
Ensham Resources	Central				0.080	0.134	0.079
Carmichael Coal Mine	Northern						0.115
Isaac Plains Coal Mine	Northern			0.038	0.036		
Meandu Coal Mine	Southern			0.013			
Millennium Coal Mine	Northern	0.054	0.049				
Open cut total		0.035	0.038	0.041	0.046	0.053	0.045
Underground							
Oaky Creek Coal	Central	0.162	0.183	0.166	0.184	0.143	0.150
Kestrel	Central	0.072	0.074	0.049	0.114	0.164	0.162
German Creek	Central	0.262	0.253	0.370	0.501	0.435	0.287
Carborough Downs	Northern	0.074	0.069	0.148	0.235	0.171	0.394
Grosvenor Mine	Northern	0.277	0.226	0.199	0.212	0.159	0.475
Moranbah North	Northern	0.237	0.313	0.382	0.385	0.530	0.716
Cook Colliery	Central	0.228	0.558	0.254			
Underground total		0.154	0.180	0.173	0.194	0.227	0.245
All Queensland mines		0.063	0.058	0.061	0.070	0.077	0.070

The above emission intensities for Queensland coal mines are from emissions by Safeguard coal mines in Queensland (CER 2023) and earlier similar publications, divided by Queensland Government mine production statistics (2023). The “All Queensland mines” average of 0.070 for 21-22 is likely to underestimate average emission intensities of Queensland coal mines, as

- the denominator includes the production of active mines not producing enough emissions to reach the Safeguard threshold of 100,000 tonnes of CO2 equivalent

- none of the open cut figures reflect the increase from 1 July 2023 in the method 1 value for Queensland
- the method 1 value for NSW, the only other significant coal exporter, is higher than for NSW.

3. The default emission intensity for all active coal mines should be identical

Taking the default emission intensity for a coal mine as the average of 0.0653 and the facility-specific emissions intensity is a logical nonsense. The definition of default emissions intensity makes no mention of facility. The DCCEE Position paper of 10 January 2023, and the Safeguard Mechanism Reforms paper of 5 May, both implied that the default emissions intensity would be based on industry averages, and not on the facility's performance. No similar proposal has yet been made for any other product.

4. Achieving a slower transition to default emission intensities for coal mines

If considered desirable, a slower transition to the default emissions intensity could be achieved by amending the transition proportion table in section 13 of schedule 1 in the Safeguard Rule to show slower increases for coal, perhaps reaching a value of 1.0 by 34-35.

5. High emission intensity variability of some other products

The exposure draft of the explanatory document says on page 3

"...in 29-30, the industry average for existing facilities will be a 50-50 split between the calculated industry average value and a facility's site-specific emissions intensity, in recognition that the variability in emissions intensity is widest in the coal sector compared to all other sectors."

The claim that the variability in emissions intensity is widest in the coal sector is not supported by any published figures, and may not be accurate. For example, part 18 of schedule 1 relates to run-of-mine metal ore, and may have great variability between facilities.

6. High emission intensities of underground mines

The table in 2. shows that, in nearly all years, the 7 underground mines had much higher emission intensities than the 33 open cut mines. CER has recently told us that sampling of 1100 locations near active coal mines has shown that methane content increases linearly with depth below the surface. This may partly account for the much lower reported emission intensities of open-cut mines, as they are likely to shallower than underground mines. We also believe that the method 1 used by about half of open cut mines is likely to be under-reporting emissions, as it caps the reported methane emission intensity. No similar method is available for underground mines.

We believe that the high emission intensities of all seven Queensland underground mines largely reflect failure to use methane capture or flaring. The proposed slower transition to default emission intensities would reduce the financial incentives for these high-emitting mines to introduce abatement measures.

7. Risks to target abatement of over 200 Mt by 2030

The exposure draft also says, in relation to the coal production variable

"The finalisation of the production variable does not adversely impact the delivery of the over 200 Mt of abatement expected in the period to 2030 from the reforms as a whole or the contribution of the coal sector to the emissions reduction task."

In a further submission to this consultation, to be made by 15 August, we will estimate the reduction in abatement likely from a 50% transition to the coal benchmark emissions intensity by 29-30, rather than 100%.

Abbreviations

CER	Clean Energy Regulator
CO ₂	Carbon dioxide
DCCEEW	Department of Climate Change, Energy, the Environment and Water
NGER Act	National Greenhouse and Energy Reporting Act 2007

References

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