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## Additional information on coal-related operations

We refer to the Ministry's letter of 28 June 2018 following up Report to the Storting No. 13 (2017-2018) "The Government Pension Fund 2018". In its letter the Ministry ask Norges Bank amongst other things to describe its work on assessing the observation and exclusion of companies under the coal criterion. In our reply letter of 25 October 2018 we provided our description of this work, including a description of the extent of coal-related operations at companies excluded or placed under observation, and at companies not excluded or placed under observation.

In its letter of 26 November 2018 the Ministry asks the Bank to expand on its description and assessment of companies not excluded or placed under observation, including the number of companies, the distribution in terms of size, as well as shares of capacity and extraction and possible plans to change the revenue or capacity shares of thermal coal. Below and in the attachments we provide such additional information.

As pointed out in our previous letters of 31 August 2015 and 31 January 2017 concerning the coal criterion, access to information is a challenge when implementing the coal criterion. There are no single sources covering all relevant companies, and the information reported by companies themselves is not normally detailed enough for the analysis required. We have therefore contacted multiple suppliers. While the average levels from different data sources are comparable, the individual data points can vary substantially.

We can nevertheless provide estimates of the extent of coal-related operations in companies not excluded or placed under observation. As in our letter of 25 October 2018, we base our estimates for power production on last available data from World Electric Power Plants



database, and for thermal coal production we have looked at information disclosed by companies we have identified as having coal production as part of their business. The coal criterion includes consolidation, where production at subsidiaries are taken into account when parent companies are assessed and compared against the thresholds in the criterion. Thus, we include subsidiaries in the figures provided for parent companies' production of coal-based power, production of thermal coal, and market value of holdings in our benchmark index for equities.

Chart 1 shows companies' coal-based power capacity in bars, while accumulated market value of holdings in our benchmark index is represented by the line. As shown in the chart, most of the remaining coal-based power capacity is found among the largest companies by coal-based power capacity. Most of the companies do not have power production as their main business. There is a long tail of companies that have some coal-based power capacity, and some of these companies are engaged in other operations of considerable size. As such, there are notable jumps in the accumulated market value of holdings in the benchmark index. The chart data is found in the attachments to this letter.

*Chart 1 Companies' coal-based power capacity and market value of holdings in the benchmark index. Last available data, market values as at 30 September 2018. Source: Norges Bank Investment Management and World Electric Power Plants database (Platts Energy)*

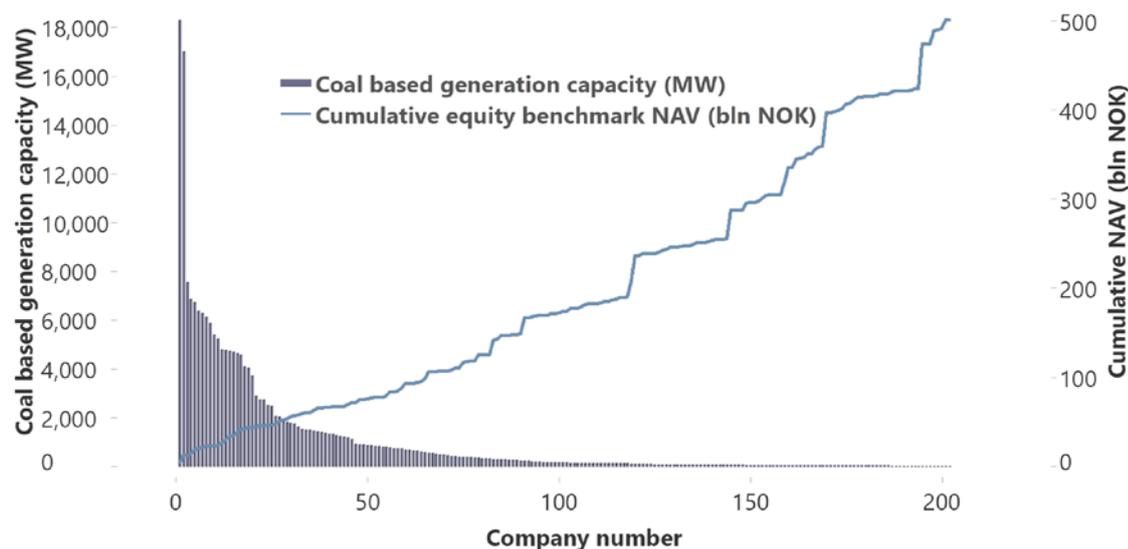
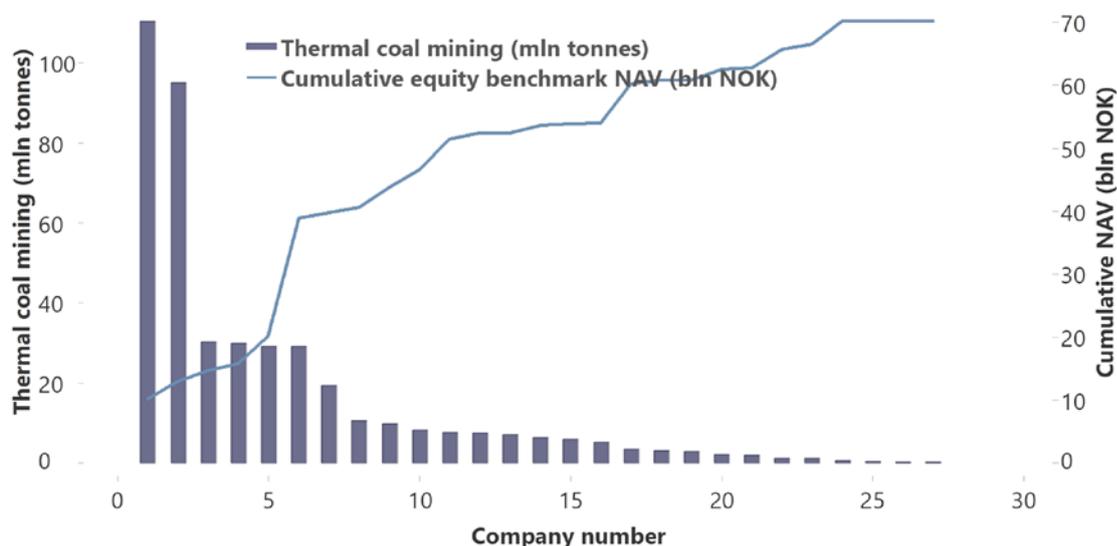


Chart 2 provides an overview of remaining companies' production of thermal coal. The overview is based on information disclosed by companies and our own calculations. The chart data is found in the attachments to this letter.



Chart 2 Companies' production of thermal coal and market value of holdings in the benchmark index. Last available data, market values as at 30 September 2018.



Regarding the Ministry's question on companies' possible plans to change the revenue or capacity shares of thermal coal, we find it is more challenging to obtain information that can provide a total overview. Forward-looking assessments are necessary in the assessment of individual companies. Purchases or sales of assets or companies may have great significance for the fuel mix of power production or the share of thermal coal in total mining operations. Such actions may thus decide whether a company are considered above or below the thresholds of the coal criterion. However, we do know that a number of relevant companies are engaged in change processes, among other things aimed at increasing the share of renewable energy.

Yours sincerely

Dag Huse

Patrick Du Plessis

Attachment



## Attachment 1: Overview of companies not excluded or placed under observation and coal-based power production capacity

Last available data, market values as at 30 September 2018. Source: Norges Bank Investment Management and World Electric Power Plants database (Platts Energy)

Number	Coal based generation capacity (MW)	Share of coal based generation capacity (%)	Equity benchmark NAV (bln NOK)
1	18,295.1	58	3.929
2	17,003.0	30	7.955
3	7,550.0	25	0.265
4	6,855.0	75	1.108
5	6,729.7	27	4.961
6	6,377.3	30	1.201
7	6,285.0	100	0.877
8	6,131.4	65	1.634
9	5,846.2	71	0.129
10	5,400.0	12	0.000
11	5,220.3	35	0.813
12	4,777.0	78	3.065
13	4,753.8	24	3.653
14	4,735.4	39	4.416
15	4,702.0	59	0.000
16	4,610.0	76	4.288
17	4,575.5	87	2.237
18	4,100.0	13	1.266
19	4,014.6	49	1.170
20	3,692.0	67	0.062
21	2,880.0	47	1.256
22	2,733.4	96	0.246
23	2,730.0	65	0.104
24	2,483.4	74	0.720
25	2,464.3	24	0.000
26	2,068.0	18	1.685
27	2,030.0	26	3.030
28	1,828.7	2	1.743
29	1,800.0	7	1.312
30	1,760.0	9	2.160
31	1,750.0	69	1.082
32	1,616.0	15	0.535
33	1,506.0	29	2.025
34	1,475.0	72	0.316
35	1,469.0	40	0.174
36	1,460.0	10	3.158
37	1,410.5	82	1.984
38	1,400.0	100	0.708
39	1,352.4	96	0.302
40	1,340.0	100	0.318
41	1,320.0	100	0.727



Number	Coal based generation capacity (MW)	Share of coal based generation capacity (%)	Equity benchmark NAV (bln NOK)
42	1,274.0	87	0.046
43	1,215.0	26	0.340
44	1,200.0	31	0.000
45	1,163.0	69	1.973
46	1,116.8	79	2.021
47	912.0	100	0.000
48	891.5	29	3.365
49	880.3	73	0.388
50	848.9	76	0.474
51	843.0	100	0.602
52	827.3	77	1.245
53	820.0	100	0.196
54	785.0	100	0.000
55	774.0	85	1.720
56	750.0	41	4.178
57	735.3	82	0.167
58	712.3	100	0.608
59	707.0	100	3.753
60	656.9	82	5.090
61	648.4	57	0.000
62	630.0	87	0.000
63	622.9	65	0.793
64	603.0	100	0.747
65	560.4	35	3.152
66	532.1	86	8.315
67	526.6	31	0.207
68	500.0	30	0.102
69	481.0	92	0.524
70	472.9	81	0.054
71	450.0	11	0.025
72	400.0	47	1.076
73	400.0	7	2.124
74	375.0	71	0.112
75	372.0	39	6.458
76	370.0	12	0.180
77	366.0	97	1.284
78	352.0	25	0.115
79	330.0	1	6.298
80	303.0	100	0.214
81	300.0	100	0.000
82	300.0	100	0.090



Number	Coal based generation capacity (MW)	Share of coal based generation capacity (%)	Equity benchmark NAV (bln NOK)
83	286.9	84	16.558
84	282.9	25	0.765
85	276.5	63	4.747
86	270.0	12	0.020
87	255.0	60	0.121
88	246.0	95	0.318
89	232.3	36	0.428
90	223.0	58	0.278
91	216.0	100	18.691
92	203.0	22	0.221
93	190.0	77	0.232
94	184.7	46	1.187
95	180.9	30	0.455
96	165.0	30	0.397
97	160.0	100	0.000
98	158.7	94	1.389
99	154.3	100	0.066
100	149.0	9	0.921
101	146.3	10	1.602
102	135.0	41	0.057
103	132.5	24	3.602
104	127.0	66	0.060
105	124.9	51	0.000
106	124.1	13	1.412
107	123.8	1	3.360
108	123.0	13	0.241
109	120.0	100	0.121
110	115.0	100	0.299
111	115.0	49	0.385
112	111.5	100	1.697
113	110.5	16	0.418
114	109.5	13	2.139
115	108.0	35	0.257
116	107.2	16	1.857
117	107.2	67	0.277
118	106.5	54	0.659
119	102.0	11	16.248
120	95.0	82	30.119
121	86.4	4	0.037
122	83.4	31	1.949
123	74.4	9	0.000



Number	Coal based generation capacity (MW)	Share of coal based generation capacity (%)	Equity benchmark NAV (bIn NOK)
124	72.3	58	0.015
125	68.0	45	0.021
126	67.5	32	0.748
127	66.0	26	2.625
128	65.0	23	0.927
129	64.5	52	3.158
130	63.0	48	0.000
131	62.2	100	0.000
132	60.2	50	0.827
133	60.0	25	0.440
134	60.0	100	0.186
135	59.0	2	1.025
136	55.0	17	2.321
137	55.0	100	0.000
138	54.0	82	0.000
139	51.8	47	0.703
140	50.0	9	2.260
141	50.0	70	0.592
142	50.0	59	0.077
143	48.0	100	0.089
144	43.5	100	0.464
145	40.0	100	32.537
146	40.0	100	0.050
147	39.8	100	0.149
148	39.4	60	0.021
149	36.0	39	7.767
150	35.9	100	0.185
151	33.8	94	0.206
152	33.3	67	0.851
153	32.0	80	3.518
154	30.0	100	3.867
155	30.0	100	0.286
156	30.0	2	0.019
157	28.5	50	0.435
158	27.0	36	0.081
159	26.1	75	13.244
160	25.5	9	16.545
161	24.0	9	0.010
162	24.0	77	10.083
163	22.0	100	0.994
164	22.0	25	0.811



Number	Coal based generation capacity (MW)	Share of coal based generation capacity (%)	Equity benchmark NAV (bln NOK)
165	20.0	100	4.428
166	20.0	0	0.077
167	20.0	100	4.827
168	20.0	30	2.299
169	19.7	22	0.817
170	19.1	9	37.544
171	19.0	100	0.051
172	17.0	12	0.632
173	17.0	27	1.878
174	16.0	6	2.072
175	15.0	100	5.442
176	14.0	100	0.197
177	13.9	70	3.881
178	12.8	13	2.928
179	12.6	100	0.442
180	10.2	100	0.400
181	10.0	100	0.523
182	10.0	100	0.036
183	9.1	8	0.406
184	8.7	100	2.007
185	8.6	93	0.025
186	7.8	100	0.124
187	7.0	100	2.649
188	6.5	100	0.931
189	6.0	100	0.079
190	6.0	3	0.000
191	5.0	83	0.141
192	5.0	100	0.803
193	4.0	41	1.340
194	3.8	100	0.095
195	3.7	100	50.350
196	2.5	2	0.000
197	2.5	9	0.051
198	2.5	2	15.071
199	2.0	36	0.771
200	2.0	100	0.971
201	1.5	100	9.584
202	1.5	2	0.237



## Attachment 2: Overview of companies not excluded or placed under observation and thermal coal production

*Last available data, market values as at 30 September 2018. Source: Company reports and Norges Bank Investment Management*

Number	Thermal coal mining (mln tonnes)	Share of revenue from thermal coal mining (%)	Equity benchmark NAV (bln NOK)
1	110.5	4	10.083
2	95.0	1	2.787
3	30.3	16	1.747
4	30.0	5	1.108
5	29.2	14	4.428
6	29.2	8	18.691
7	19.4	5	0.813
8	10.6	6	0.927
9	9.9	4	3.097
10	8.3	1	2.872
11	7.8	3	4.892
12	7.5	5	0.877
13	7.1	8	0.058
14	6.3	3	1.194
15	6.0	5	0.286
16	5.2	11	0.112
17	3.5	2	6.230
18	3.0	5	0.541
19	2.9	1	0.057
20	2.1	2	1.685
21	1.9	5	0.265
22	1.2	1	2.870
23	1.2	1	0.898
24	0.6	5	3.602
25	0.5	3	0.057
26	0.2	5	0.029
27	0.2	1	0.000