Supplementary Material for "Reports of coal's terminal decline may be exaggerated"

Ottmar Edenhofer [1,2,3,], Jan Christoph Steckel [1,2,3,*], Michael Jakob [1], Christoph Bertram [2]

[1] Mercator Research Institute on Global Commons and Climate Change, Berlin, Germany

[2] Potsdam Institute for Climate Impact Research, Potsdam, Germany

[3] Technische Universität Berlin, Department Economics of Climate Change, Berlin, Germany

[*] Corresponding author: steckel@mcc-berlin.net

Background on calculations for Figure 2 of the main text

Country	Assumed (I)NDC emission level [Mt CO_2eq]	Source
China	14,500	UNEP EGR (S1)
India	4,200	UNEP EGR (S1)
Turkey	929	(I)NDC, p.5 (S2)
Vietnam	590	(I)NDC, p.4 (S2)
Indonesia	1,700	(I)NDC, p. 5/6 (S2)

Table S1: Regional (I)NDC emission levels used for Figure 2 in the main text. Table S1 lists the emission levels assumed for (I)NDCs and the respective data sources.

Technology	Average Heat rate(kJ/kWh)	Average Emission factor (kgCo2/GJ)	Capacity factor	kgCO2/kWh
CFB[1]	9273.01	91.58	0.593	0.85
IGCC[2]	8055.71	90.69	0.593	0.73
IGCC/CCS	11083.41	14.11	0.593	0.16
Subcritical	8809.56	65.46	0.593	0.58
Subcritical/CCS	14479.64	8.81	0.593	0.13
Supercritical	9321.18	51.30	0.593	0.48
Supercritical/CCS	12534.00	8.81	0.593	0.11
Ultra-super	8797.96	42.80	0.593	0.38
Unknown	9106.80	42.80	0.593	0.39
Unknown/CCS	13224.12	8.81	0.593	0.12

Table S2: Resulting average values across the dataset sorted by combustion technology. Source: Platts WEPP as reported by (S3).

Table S2 shows the resulting average values for different technologies across the dataset.

[1] Integrated gasification combined cycle

[2] Circulating Fluidized Bed

Region	Announced	Pre-Permitted	Permitted	Construction	Operating	Total
East Asia	12.58	10.43	5.19	30.65	126.61	185.45
South Asia	9.15	13.52	4.84	9.12	26.38	63.01
SE Asia	8.86	5.41	1.99	5.44	8.60	30.29
EU28	0.08	1.27	0.17	1.26	7.36	10.14
non-EU Europe	4.89	6.46	1.79	0.44	2.55	16.14
Africa and Middle-East	4.60	1.05	2.86	2.13	2.53	13.17
Latin America	0.66	0.15	0.30	0.38	1.76	3.24
Eurasia	1.63	0.00	0.00	0.17	2.68	4.49
Canada/US	0.00	0.16	0.06	0.09	9.34	9.65
Australia	0.21	0.03	0.00	0.00	1.19	1.42
Total	**42.66**	**38.50**	**17.20**	**49.67**	**188.99**	**337.01**

Table S3: Committed emissions from planned coal (announced. Pre-permitted, permitted), coal under construction and operating plants by region. Data Source Shearer et al. (2017, S3). Note that emissions refer to plants that were in the pipeline at the beginning of 2017.

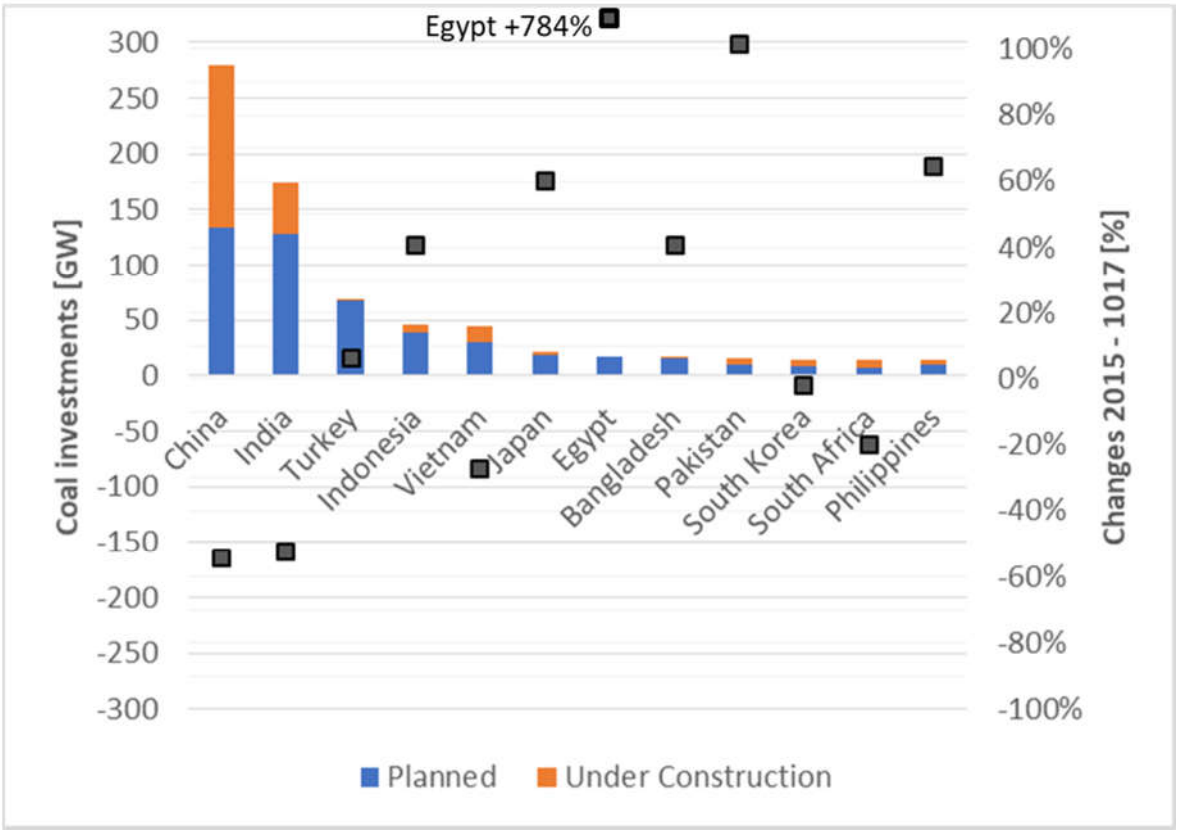

Fig. S1: Coal fired power plants planned (blue) and under construction (orange) in [GW] as reported by Shearer et al. (S3) in January 2017 (left axis) and changes to (total, i.e. planned + under construction) values in January 2015 (black squares, right axis, S4).

Figure 1 in the main text shows a selection of the top five coal investing countries based on capacity in GW (planned and under construction). Figure S1 illustrates countries that cumulatively account for 85% of the coal pipeline 2017 as well as changes (in percent) to 2015.

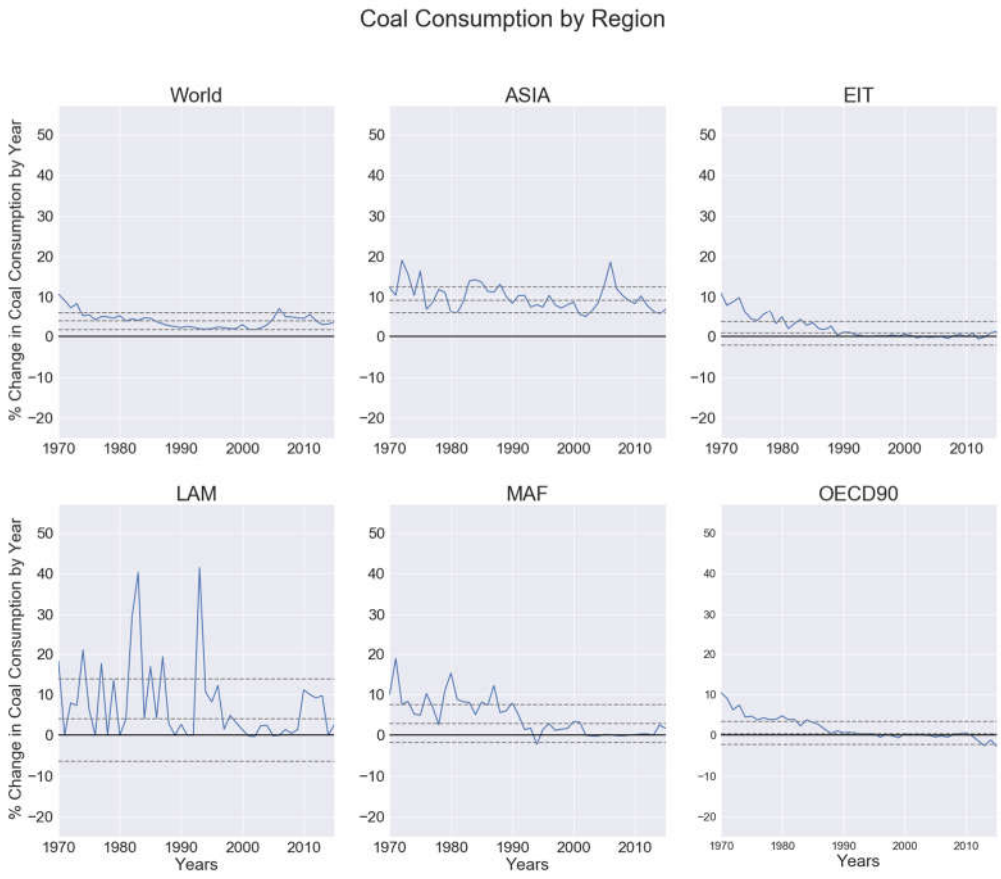

Fig. S2: Annual changes in annual coal consumption in the electricity and heat sectors based on IEA 2016 (S5) for RC5 regions as used in the IPCC AR5 (S6). Lines indicate the median values over the entire period ± one standard deviation.

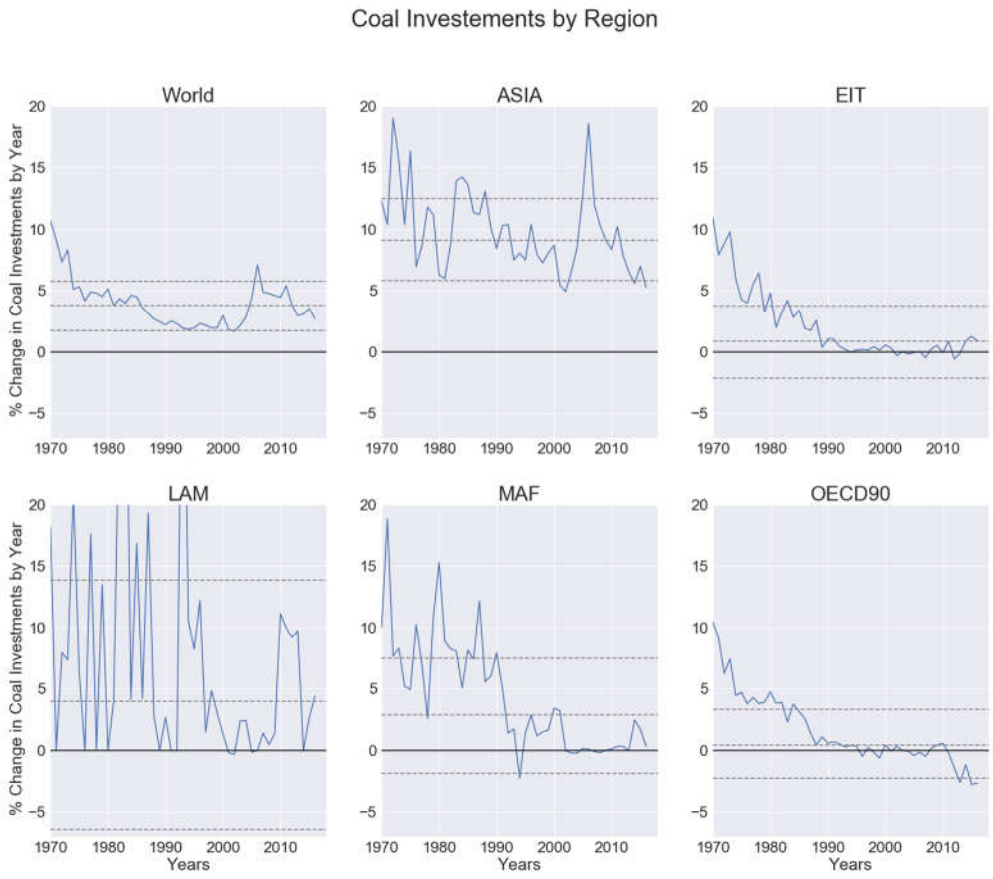

Fig. S3: Annual changes in investments in coal fired capacity from 1970 to 2016 based on PLATTS (2017) (S7) for RC5 regions as used in the IPCC AR5 (S6). Lines indicate the median values over the entire period ± one standard deviation.

SI **References**

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S2. UNFCCC. (I)NDCs as communicated by Parties [Internet]. 2015. Available from: http://www4.unfccc.int/submissions/(I)NDC/Submission%20Pages/submissions.aspx [Accessed December, 2015]

S3. Shearer, Christine, Nicole Ghio, Lauri Myllyvirta, Aiqun Yu, Ted Nace. Boom and Bust. Tracking the Global Coal Plant Pipeline. Coal Swarm, Sierra Club and Greenpeace. [Internet] 2017. Available online at: http://endcoal.org/wp-content/uploads/2017/03/BoomBust2017-English-Final.pdf [Accessed April 26, 2017]

S4. Shearer, Christine, Nicole Ghio, Lauri Myllyvirta, Ted Nace. Boom and Bust. Tracking the Global Coal Plant Pipeline. Coal Swarm and Sierra Club. [Internet] 2015. Available online at: https://www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/Coal_Tracker_report_final_3-9-15.pdf [Accessed October 15, 2015]

S5. IEA. International Energy Agency. World Energy Statistics. 2016.

S6. Intergovernmental Panel on Climate Change. Climate change 2014: mitigation of climate change. Vol. 3. Cambridge University Press, 2015.

S7. Platts. World Electric Power Plants Database. 2017.