## Appendix A. Supplementary Material

**Table A1.** For the CRPS, pairwise Diebold-Mariano test statistic and corresponding *p*-values for all models for 1 day-ahead prediction. We use a one-sided test with the null hypothesis that the performance of the model named in the column heading is at most as accurate as the model named in the row. Hypothesis rejection (p < 0.05) is indicated in bold.

Models	Actuals	ECC Ensembles	EMOS Ensembles	Raw Ensembles	No Weather
Actuals ECC Ensembles EMOS Ensembles Raw Ensembles No Weather	$\begin{array}{c} 4.32 \ (0.00) \\ 5.85 \ (0.00) \\ 6.45 \ (0.00) \\ 6.83 \ (0.00) \end{array}$	-4.32 (1.00) 3.89 (0.00) 4.16 (0.00) 5.49 (0.00)	-5.85 (1.00) -3.89 (1.00) <b>1.94 (0.03)</b> <b>3.57 (0.00)</b>	-6.45 (1.00) -4.16 (1.00) -1.94 (0.97) <b>3.2 (0.00)</b>	-6.83 (1.00) -5.49 (1.00) -3.57 (1.00) -3.2 (1.00)

Table A2. List of all variables with a non-zero coefficient in the LASSO regression with  $\lambda = 9.46$ , where  $\times$  denotes interaction terms.

1	April	16	Lag Year $(t - 365)$	31	Spring Bank Holiday
2	Christmas	17	March	32	Summer Bank Holiday
3	day count $\times$ days	18	May	33	Sunday
4	$(day \ count \times days)^3$	19	May Day	34	Temperature at 2m
5	Cooling power of wind	20	New Years Day	35	Temperature $\times$ Weekend
6	day count	21	November	36	Total Cloud Cover
7	$(day \ count)^2$	22	October	37	Whit Monday
8	days per year $(days)^{a}$	23	Proximity Days (PD)	38	Winter
9	Easter	24	$PD \times Friday$	39	Wind Speed
10	February	25	$PD \times Saturday$		
11	Friday	26	$PD \times Sunday$		
12	$Heating^{b}$	27	$PD \times Winter$		
13	July	28	Special Days (SD)		
14	June	29	$SD \times Winter$		
15	Lag Week $(t-7)$	30	$\mathrm{Smooth^{c}}$		

<sup>a</sup> Days per year is an indicator for leap years and either 365 or 366.

<sup>b</sup> Heating is a dummy variable indicating the heating season from October to March.

 $^{\rm c}$  Smooth is a moving average over the past seven days of load.

Table A3. List of all variables with a coefficient of zero in the LASSO regression with  $\lambda = 9.46$ , where  $\times$  denotes interaction terms.

$\frac{1}{2}$	(days per year) <sup>2</sup> (days per year) <sup>3</sup>	6 7	Saturday September	$\frac{11}{12}$	New Years Eve SD $\times$ Summer
3	$(day count)^3$	8	December	13	Proximity Day $\times$ Summer
4	$(\text{count} \times \text{days})^2$	9	Summer	14	Effective Temperature
5	Eta	10	Ascension		

 Table A4. Oktas and the corresponding intervals used for quantization of total cloud cover.

Okta	Interval
$\begin{array}{c} 0\\ 1\\ 2\\ 3\\ 4\\ 5 \end{array}$	$\begin{matrix} [0, 0.01[ \\ [0.01, 0.1875[ \\ [0.1875, 0.3125[ \\ [0.3125, 0.4375[ \\ [0.4375, 0.5625[ \\ [0.5625, 0.6875[ \\ \end{matrix}] \end{matrix}$
6 7 8	$\begin{matrix} [0.6875, 0.8125 \\ [0.8125, 0.99[ \\ [0.99, 1] \end{matrix} \end{matrix}$