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Dynamic panel model in bioeconomy modeling

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Electronic supplementary material

Supplementary Tables S1–S2

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Table S1. Set of variables used for construction of the macroeconometric model

Variable	Designation of variable
*X*1	greenhouse gas emissions – total (CO_2, N_2O in CO_2 equivalent, CH_4 in CO_2 equivalent, HFC in CO_2 equivalent, PFC in CO_2 equivalent, SF_6 in CO_2 equivalent, NF_3 in CO_2 equivalent); unit: thousand tonnes
*X*2	greenhouse gases by sector: energy
*X*3	greenhouse gases by sector: industrial processes and product use
*X*4	greenhouse gases by sector: agriculture
*X*5	air pollutants – particulates < 10 µm
*X*6	energy from renewable sources
*X*7	supply, transformation and consumption of renewables and wastes – primary solid biofuels
*X*8	supply, transformation and consumption of renewables and wastes – biogases
*X*9	total environmental taxes
*X*10	environmental taxes by economic activity – energy taxes
*X*11	recycling rate of municipal waste
*X*12	generation of municipal waste *per capita*
*X*13	circular material use rate
*X*14	recycling rate of packaging waste by type of packaging – plastic packaging
*X*15	recycling rate of packaging waste by type of packaging – wooden packaging
*X*16	recycling of biowaste
*X*17	recycling rate of e-waste
*X*18	trade-in recyclable raw materials – exports extra-EU
*X*19	trade-in recyclable raw materials – imports extra-EU
Y	GDP *per capita*

Source: Eurostat (2021)

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Table S2. Descriptive statistics for variables used for construction of the macroeconometric model

Variable	Arithmetic mean	SE	Median	SD	Variance	Kurtosis	Skewness	Min.	Max.
*X*1	10.9094	0.0961	10.9469	1.4118	1.9933	–0.6085	0.0015	7.5745	13.7350
*X*2	10.7678	0.0936	10.7085	1.3758	1.8928	–0.2913	–0.0295	7.2458	13.5946
*X*3	8.6699	0.0976	8.8988	1.4345	2.0578	–0.7304	–0.3742	5.1618	11.0918
*X*4	8.7373	0.1041	8.8381	1.5306	2.3427	1.1597	–0.8610	4.1708	11.2542
*X*5	10.4684	0.0985	10.4499	1.4477	2.0960	1.2260	–1.0100	5.9349	12.6321
*X*6	2.7379	0.0472	2.7525	0.6931	0.4804	0.7236	–0.7163	–0.0212	3.9927
*X*7	10.8768	0.1406	11.3272	2.0670	4.2725	3.7480	–1.8522	3.4012	13.3027
*X*8	8.0438	0.1274	8.1888	1.8725	3.5062	0.8906	–0.1529	1.6094	12.6862
*X*9	8.2932	0.1006	8.3218	1.4785	2.1859	–0.8007	0.0646	5.2503	10.9895
*X*10	8.0244	0.1002	8.0717	1.4720	2.1667	–0.4169	0.0206	4.5296	10.8050
*X*11	3.3405	0.0402	3.4766	0.5906	0.3488	0.1536	–0.8221	1.3863	4.2077
*X*12	6.1334	0.0182	6.1431	0.2678	0.0717	–0.2586	–0.1766	5.5094	6.7593
*X*13	1.8371	0.0535	1.9315	0.7856	0.6172	–0.8658	–0.1881	0.1823	3.3979
*X*14	3.6365	0.0209	3.6376	0.3070	0.0943	–0.6002	0.0542	2.9549	4.4031
*X*15	3.3326	0.0721	3.4812	1.0599	1.1234	4.7077	–1.9233	–0.9163	5.1192
*X*16	3.5642	0.0720	3.6243	1.0577	1.1188	–0.9364	–0.2930	0.6931	5.2781
*X*17	3.4858	0.0289	3.5553	0.4248	0.1805	0.8418	–0.5644	2.2721	4.6559
*X*18	12.5638	0.1523	12.8316	2.2389	5.0127	10.8111	–2.6321	0.0000	15.6243
*X*19	11.1022	0.1671	11.3878	2.4556	6.0301	0.7578	–0.9589	3.6889	14.6571
Y	10.1056	0.0249	10.0637	0.3661	0.1341	1.0502	0.6706	9.3099	11.2518

Source: Author's calculation based on Eurostat (2021)