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SOME MORE "STYLIZED FACTS" ABOUT DEVELOPED COUNTRY ENERGY USE AND CARBON EMISSIONS IN RELATIONS TO GDP AND POPULATION GROWTH, 1990-2001

1. IN VIRTUALLY ALL OF THE DEVELOPED COUNTRIES THE RATIO OF ENERGY TO POPULATION ROSE, 1990-2001 (COL. 2). ONLY IN SWEDEN DID IT (SLIGHTLY) DECLINE.

2. IN FIVE COUNRIES (U.K., SWEDEN, FINLAND, GERMANY, AND SWITZERLAND) THE RATIO OF CARBON EMISSIONS TO POPULATION FELL, 1990-2001 (COL. 3).

3. IN THE TWO COUNTRIES WITH THE LOWEST ENERGY INTENSITIES IN 2001 (JAPAN AND SWITZERLAND) THE RATES OF GROWTH OF GDP PER CAPITA (GDP/p) WERE CLOSE TO ZERO FOR THE PERIOD 1990-2001. (COLS. 7 AN 6) BOTH COUNTRIES EXPERIENCED A RISE IN ENERGY INTENSITY, 1990-2001. (COL. 1)

4. THE CARBON INTENSITY OF ENERGY DECLINED IN MOST COUNTRIES, 1990-2001 (COL. 4). BUT UNLIKE THE RATE OF ENERGY INTENSITY DECLINE, THERE IS LITTLE OR NO INDICATION OF A "KYOTO EFFECT" IN THE RATES OF CARBON INTENSITY DECLINE FOR 1997-2001. (COL. 5)

5. RELATIVE TO OTHER DEVELOPED COUNTRIES, THE U.S. FARES (SURPRISINGLY?) WELL IN TERMS OF MOST OF THE ENERGY AND CARBON INDICATORS FOR 1990-2001, THE MAIN EXCEPTION BEING DECARBONIZATION OF ENERGY (C/E).

6. NOT SHOWN IN THE TABLES, IS THE RELATIVELY STEADY RATIO OF GLOBAL CARBON EMISSIONS TO GLOBAL POPULATION (C/P) SINCE AROUND 1970. IN 1970, THE C/P RATIO WAS 1.1, HAVING RISEN FROM .65 IN 1950. IN 1999, 2000, AND 2001, THE RATIO WAS ALSO 1.1. THUS, AFTER GROWING FOR TWO DECADES (1950-70) AT AN AVERAGE ANNUAL GROWTH RATE OF 2.6%, THERE HAS BEEN NO (ZERO) GROWTH IN THE C/P RATIO FROM 1970 TO 2001. (THIS SURPRISING (TO ME) STATISTIC WAS BROUGHT TO MY ATTENTION BY A CANADIAN ECONOMIST, ROSS MCKITRICK.)

AVERAGE ANNUAL RATES OF CHANGE
[COL. (1) – (6)]

COUNTRY	(1) E/GDP 1990-2001	(2) E/P 1990-2001	(3) C/P 1990-2001	(4) C/E 1990-2001	(5) C/E 1997-2001	(6) GDP/P 1990-2001	BTU/$ (1995) (7) E/GDP 2001
UNITED STATES	-1.63	+0.07	+ 0.06	-0.01	+0.29	1.71	10,736
CANADA	-1.38	+0.10	+0.62	+0.52	+1.37	1.48	17,425
U.K.	-1.77	+0.18	-0.84	-1.02	+0.20	1.96	7,349
NORWAY	-1.47	+1.16	+1.30	+0.14	-1.73	2.59	11,024
NETHERLANDS	-0.97	+1.43	+0.80	-0.63	-1.31	2.40	8,419
SWEDEN	-1.37	-0.07	-0.46	-0.39	-1.04	1.30	7,896
IRELAND	-2.34	+3.76	+3.36	-0.40	-0.62	6.10	5,396
FINLAND	-0.98	+1.04	-0.48	-1.52	-2.05	2.01	7,640
BELGIUM	+0.18	+2.00	+1.10	-0.90	-0.69	1.82	8,625
GERMANY	-1.43	0	-2.06	-1.48	-1.82	1.17	5,312
DENMARK	-1.20	+0.63	+0.22	-0.41	-5.54	1.83	4,316
AUSTRIA	-0.24	+1.35	+1.14	-0.21	+0.04	1.56	5,284
FRANCE	-0.24	+1.22	+0.14	-1.08	-0.54	1.47	5,805
ITALY	-0.25	+1.14	+0.45	-0.69	-0.29	1.39	6,618
SWITZERLAND	+0.06	+0.28	-0.57	-0.85	-1.98	0.21	3,834
JAPAN	+0.59	+1.55	+1.17	-0.38	+0.42	0.31	3,879
PORTUGAL	+0.50	+3.20	+2.51	-0.69	-0.33	2.70	8,251
SPAIN	+0.85	+3.03	+2.32	-0.71	-1.48	2.29	7,880
GREECE	+0.15	+2.16	+1.73	+0.43	+0.04	2.08	9,623
NEW ZEALAND	-1.46	+0.03	+0.60	+0.57	+1.21	1.49	11,893
AUSTRALIA	-0.55	+1.55	+1.64	+0.09	+0.16	2.10	10,974
ICELAND	+1.86	+3.38	+1.97	-1.41	-3.90	1.52	15,066
Number of (-) out of 22	15	1	5	17	14	0	
U.S. is	4TH HIGHEST	4TH LOWEST	6TH LOWEST	7TH LOWEST	4TH LOWEST	12TH HIGHEST	6TH HIGHEST

C = Carbon Dioxide Emissions; P = Population; E = Energy (BTU's); GDP = Gross Domestic Product
Source: Calculated from tables at: www.eia.doe.gov/iea