

Eco-Efficiency Indicators: Energy Requirement (TJ)

Energy purchased	2004	2005	2006	2007	2008
Natural gas	8'109	8130	7266	7010	6525
Diesel+light oil	132	210	235	74	36
Heavy oil	279	376	263	267	159
Electricity*	6'704	6856	5877	6425	6338
Steam	2'591	2957	2485	2700	2607
Purchased Waste				101	361
Renewable				247	389
Others	252	309	318	116	93
Total energy purchased	18'067	18838	16444	16940	16508
Energy sold					
Steam and gas	-941	-945	-885	-1014	-1012
Electricity	-135	-140	-137	-170	-270
Total energy sold	-1'076	-1085	-1022	-1184	-1282
Total energy requirement	16'991	17'753	15'422	15'756	15'226
Net Value Added [million CHF]	2'587	2'412	2'154	2'158	1'881
Eco-efficiency Indicator "Energy requirement/Net Value Added" [TJ/million CHF]	6.57	7.36	7.16	7.30	8.09
Net Value Added [million CHF] at 2000 exchange rates	3'273	3051.0	2668.0	2572.0	2681.0
Eco-efficiency Indicator "Energy requirement/Net Value Added" [TJ/million CHF] at 2000 exchange rates	5.19	5.82	5.78	6.13	5.68
*Electricity purchased in GWh	858.8	903.1	757.8	836.5	813.4

The UNCTAD guideline on energy use asks to report the total energy requirement in terms of work equivalents. For the reporting of the energy requirement indicator, we have chosen to report the primary energy requirement, not the energy requirement expressed in work equivalents as defined by the current version of the UNCTAD guidelines. However we also report the electricity purchased in GWh, so the energy requirement figures can be converted to work equivalent as required by the UNCTAD guidelines. The conversion of purchased primary energy (oil, natural gas etc.) to terajoules (TJ) is done using the net calorific value of the respective fossil fuel.

For the conversion of purchased electricity to primary fuels, we have used the national statistics on the fuels used to generate electricity. For thermal electricity generation, we have assumed a conversion efficiency of 35%, i.e. 1 TJ of oil fed into an oil-fired power station produces 0.35 TJ of electricity. For hydroelectric power we recognise primary energy after conversion (energy output at the generator). For steam, which we purchase on some sites and sell on others, we have used conversion efficiency factors based on our knowledge of each individual site.

For the year 2006 energy requirements of former TE sites are subtracted. Consequently Net Value Added 2006 does not include TE.

