



Prepared by	UNIDO
Example	WWDR3, Chapter 7, Map 7.6 WWDR2, Chapter 9, Table 9.6 See annexed table
Rationale	In many countries, hydropower is already well developed but still growing, while in others it has the potential to expand greatly.
Position in DPSIR chain	State
Definition of indicator	Gross theoretical capability of hydropower generation, technically exploitable capability and economically exploitable capability, in TWh/year (tera watt-hours per year)
Underlying definitions and concepts	Hydropower generation is measured on a large scale in TWh/year. The gross theoretical capability expresses the total amount of electricity which could potentially be generated, if all available water resources were turned to this use. The technically exploitable capability expresses the hydropower capability which is attractive and readily available with existing technology. The economically exploitable capability is that amount of hydropower generating capacity which could be built, after carrying out a feasibility study on each site at current prices, and producing a positive outcome.
Specification of determinants needed	Gross theoretical capability Technically exploitable capability Economically exploitable capability
Computation	Dependent upon a wide range of variables. Details available from International Hydropower Association (IHA).
Unit(s) of expression	TWh/year
Data sources, availability and quality	International Hydropower Association (IHA) Hydropower and Dams World Atlas Good quality data.
Scale of application	National
Geographical coverage	Global
Interpretation	Current deployment of hydropower is already high in much of the developed world, but is still growing in order to satisfy growing energy demand. In many less developed countries, there is enormous potential for hydropower

	development, as well as fast-expanding demand for electricity due to rapid urbanisation and industrialisation. However, the economically exploitable capability is often only a fraction of the gross theoretical capability, for technical, political and financial reasons.
Linkage(s) to other indicators	This indicator links to the indicator on access to electricity, which relates to the pressure which exists in certain developing countries to generate more electricity by means of hydropower.
Alternative methods and definitions	Various scenarios of policy choices and social, economic and technological changes allow for different interpretations of the economically exploitable capability. While for the past 10 years environmental concerns put the brake on many large hydro projects, the pendulum has now swung back and there are many large hydro projects in the pipeline. However, many environmental NGOs such as Friends of the Earth predict that it will be increasingly difficult to bring large hydro projects to completion due to organised resistance. This may make the technology increasingly expensive, thereby reducing the economically exploitable capabilities of various countries as shown here, which do not reflect the socio-political aspects of hydropower projects.
Related indicator sets	World Development Indicators (World Bank) Earthtrends (WRI) World Commission on Dams World Energy Outlook, International Energy Agency (IEA), OECD
Sources of further information	International Hydropower Association