

Assessment of future water quantities available

Power Plant (Natural Gas)	MW	Expiration Year	Location	Latitude	Longitude	Major Basin	Projected Water Stress								
							2030			2050			2080		
							Pessimistic	BAU	Optimistic	Pessimistic	BAU	Optimistic	Pessimistic	BAU	Optimistic
Ratch Cogeneration	150.95	2038 & 2048	Pathum Thani, Thailand	14.0867982	100.6016246	Chao Phraya	Medium-high	High	High	High	High	High	High	High	High
Ratch Pathana Energy	153	2052	Chon Buri, Thailand	13.0979635	100.9612407	Gulf of Thailand Coast	High	High	High	High	High	High	High	High	High
Ratch Energy Rayong	98	2047	Rayong, Thailand	12.7888148	101.2451492	Gulf of Thailand Coast	High	High	High	High	High	High	High	High	High

Note: - 40–80% (High): Substantial pressure on local water systems, resulting in acute competition among agriculture, municipalities, and industrial users.

- >80% (Extremely high): Severe structural water deficit where users withdraw more than four-fifths of the natural renewable supply.

Optimistic:

The "optimistic" scenario (SSP1 RCP2.6) represents a future that limits the rise in average global surface temperatures by 2100 to 1.3°C to 2.4°C compared to preindustrial levels (1850-1900). SSP1 is characterized by sustainable socioeconomic growth: stringent environmental regulations and effective institutions, rapid technological change and improved water use efficiencies, and low population growth.

Business as usual:

The "business as usual" scenario (SSP3 RCP7.0) represents a middle-of-the-road future where temperatures increase by 2.8°C to 4.6°C by 2100. SSP3 is a socioeconomic scenario characterized by regional competition and inequality, including slow economic growth, weak governance and institutions, low investment in the environment and technology, and high population growth, especially in developing countries.

Pessimistic:

The "pessimistic" scenario (SSP5 RCP8.5) represents a future where temperatures increase up to 3.3°C to 5.7°C by 2100. SSP5 describes fossil-fueled development: rapid economic growth and globalization powered by carbon-intensive energy, strong institutions with high investment in education and technology but a lack of global environmental concern, and the population peaking and declining in the 21st century.