



How has Japan's specialization on SDG-related topics evolved since 2012?

Japanese researchers are publishing more on nuclear fusion and radioactive waste management than would be expected, relative to global averages. Japan's output on nuclear fusion is nearly twice the global average (SI = 1.89), with 1 456 (2012–2015) and 1 279 (2016–2019) publications. Japan is a member of the project building an International Thermonuclear Experimental Reactor in France, which will be used to develop nuclear fusion technology.

Japan's push for alternative energy sources is not yet spawning a sizeable specialization in photovoltaics (SI = 1.21), hydrogen energy (SI = 1.21) or geothermal energy (SI = 0.58). Output on geothermal energy has risen most among these but from a low starting point: from 170 (2012–2015) to 251 (2016–2019). For comparison, over 2016–2019, China produced 1 339 papers on geothermal energy, the USA 1 323, Germany 612 and Turkey 246.

Among the selected topics with at least 100 publications during the period under study, the fastest-growing topic was that on the impact on health of soil, freshwater and air pollution, with the number of publications nearly doubling from 424 (2012–2015) to 690 (2016–2019), even though the topic is underrepresented in Japan relative to global averages (SI = 0.35).

SI = specialization index
For details, see chapter 2