

# Energy - IMAGE

The IMage Energy Regional model, also referred to as TIMER, has been developed to explore scenarios for the energy system in the broader context of the IMAGE global environmental assessment framework (De Vries et al., 2001; Van Vuuren, 2007). TIMER describes 12 primary energy carriers in 26 world regions and is used to analyse long term trends in energy demand and supply in the context of the sustainable development challenges. The model simulates long-term trends in energy use, issues related to depletion, energy-related greenhouse gas and other air polluting emissions, together with land-use demand for energy crops. The focus is on dynamic relationships in the energy system, such as inertia and learning-by-doing in capital stocks, depletion of the resource base and trade between regions.

Similar to other IMAGE components, TIMER is a simulation model. The results obtained depend on a single set of deterministic algorithms, according to which the system state in any future year is derived entirely from previous system states. In this respect, TIMER differs from most macro-economic models, which let the system evolve on the basis of minimising cost or maximising utility under boundary conditions. As such, TIMER can be compared to energy simulation models, such as POLES (Criqui et al., 2003) and GCAM (Thomson et al., 2011).

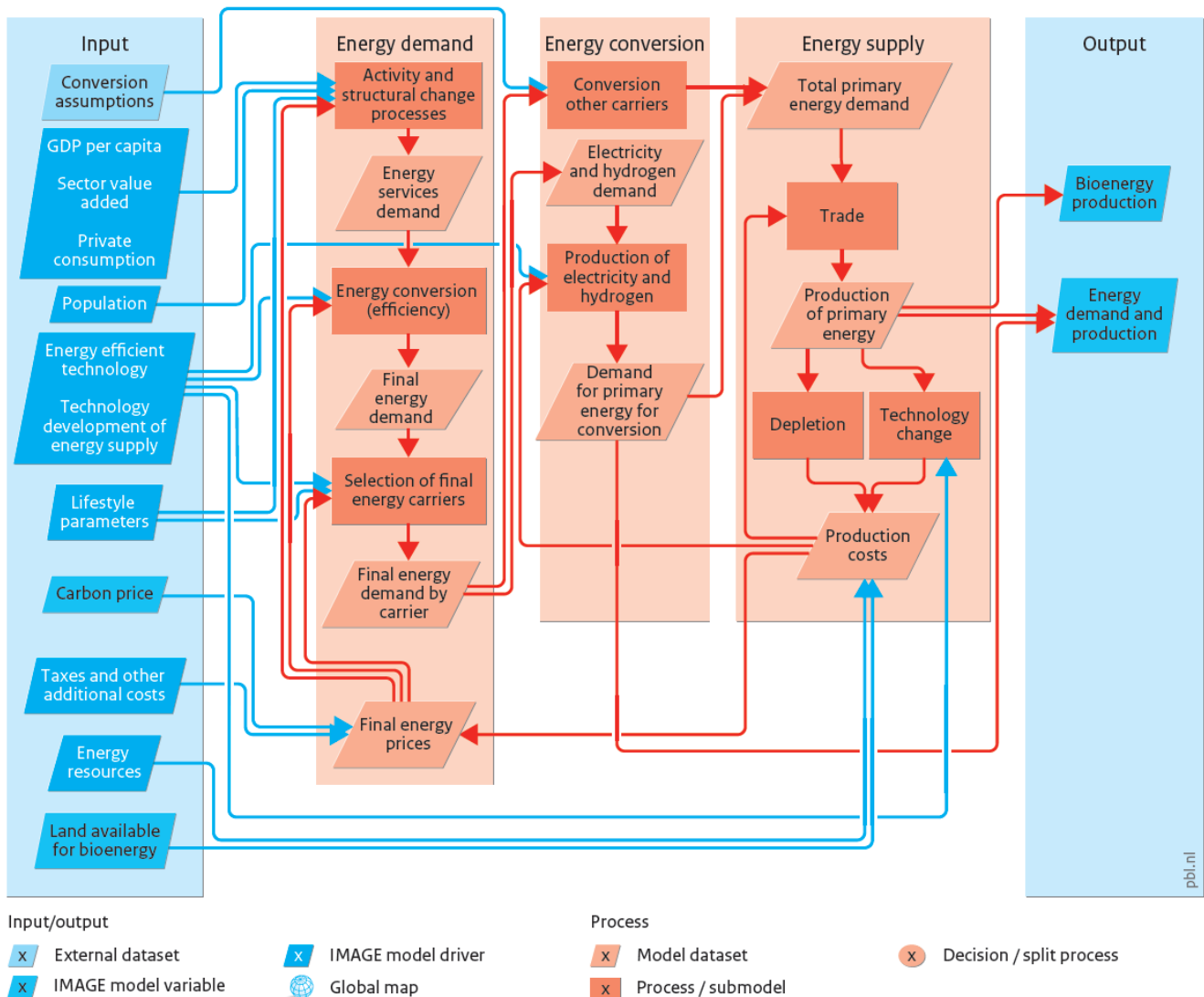


Figure 3.1: TIMER, the energy demand and supply model in IMAGE 3.0 (from the IMAGE 3.0 documentation)

This Wiki covers the summer 2014 version of the IMAGE model. A dedicated description can be found on the [IMAGE 3.0 webpage](#).