How the Earth as a cooling star created abiotic fuel.

Ivo van der Rijt.

28 April 2021.

Abstract: This paper describes the Fischer-Tropsch process that occurred naturally on Earth from the perspective of Earth as a cooling star.

In the Fischer-Tropsch process fuel is created due to gasification of an organic substance. The released carbon monoxide is then converted with a metal catalyst such as Iron or Cobalt and hydrogen gas into fuel.

![Figure 1. Fischer-Tropsch synthesis creating higher carbon chained molecules.](image)

The temperature and pressure that is described in this process was present when Earth was a younger star than it is now. Iron was introduced through meteorites. Carbon monoxide and hydrogen gas were a huge part of Earth's early atmosphere.

The formed higher carbon chained molecules (as well as alkenes and other carbon compounds) play a big role in Earth's prebiotic chemistry.
Figure 2. Fischer-Tropsch process creating many (by) products in the late stage of Stellar evolution.

Reference source: