

Integrated system and method for the flexible use of
electricity

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Abstract

The present invention relates to an integrated plant
which comprises a plant for the electrothermic
production of ethyne and a plant for electricity
10 generation, the plant for the electrothermic production
of ethyne being connected to the plant for electricity
generation via a conduit and electricity being
generated in the plant for electricity generation from
a product gas obtained in the plant for the
15 electrothermic production of ethyne. This integrated
plant affords flexible use of electricity by a method
in which, at times of a high electricity supply, the
plant for the electrothermic production of ethyne is
operated and at least some of the hydrogen and/or
20 gaseous hydrocarbons obtained in addition to ethyne is
stored and, at times of a low electricity supply,
stored hydrogen and/or gaseous hydrocarbons are fed to
the plant for electricity generation.

25 (Fig. 1)