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FACT SHEET to the research project THERMOCLUSTER BBT

SHORT TITLE / ACRONYM

ThermoCluster BBT

LONG TITLE

Geothermal heat recovery from tunnels using the example
of the Brenner Base Tunnel

DESCRIPTION

The content of the FFG funded project is the investigation of
selected tunnel sections of the Brenner Base Tunnel regard-
ing the geothermal use for heat generation as well as cooling.

The most important prerequisite for the geothermal use of
underground structures is the presence of a customer in the
immediate vicinity. This is not only for cost reasons, but
above all to keep thermal losses low and the efficiency of the
system high. The proximity of the city of Innsbruck and the
surrounding municipalities to the Brenner Base Tunnel (BBT)
meets this requirement.

Furthermore, the Brenner Base Tunnel provides a third tube
which drains the entire tunnel structure and allows subse-
quent installations to a certain extent.

Thus, the example of the BBT offers perfect conditions to find
out how much natural geothermal potential, which is found
above all in the drainage water, is in this tunnel structure and
how this potential can be sustainably increased beyond this
natural level.

In addition knowledge about topics such as the effects of
heat generation on the technical components and on the tun-
nel lining in the instrumentation sector is generated. Also the
question of the length of tunnel meters which must at least
be instrumented in order, for example, to bring the city of
Innsbruck long-term savings in supply costs. Supplementary
to tunnel constructional knowledge, geological and hydroge-
ological parameters are determined.

PROJECT COORDINATOR

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Brenner Basistunnel BBT -SE

AIT - Austrian Institute of Technology

GBA- Geological Survey of Austria

BOKU - University of Natural Resources and Life Sciences

IKB – Innsbrucker Kommunalbetriebe AG (municipal com-
pany of Innsbruck)