

Act. 3.1 Assessment of existing techniques and best practices for the utilization of NSGE

TASK 1 – questionnaire to be filled out until the 23.05.2016

Partner	
Country	

A) Existing techniques of utilization of NSGE

	Sources		
	Groundwater	Natural ground source	Artificial ground source
Withdrawal (heating only)	<input type="checkbox"/> single well <input type="checkbox"/> doublets <input type="checkbox"/> multi well <input type="checkbox"/> _____	<input type="checkbox"/> single BHE <input type="checkbox"/> BHE field <input type="checkbox"/> heat collector <input type="checkbox"/> _____	<input type="checkbox"/> energy piles <input type="checkbox"/> tunnel walls <input type="checkbox"/> _____
Withdrawal (cooling only) <input type="checkbox"/> direct <input type="checkbox"/> indirect <input type="checkbox"/> both	<input type="checkbox"/> single well <input type="checkbox"/> doublets <input type="checkbox"/> multi well <input type="checkbox"/> _____	<input type="checkbox"/> single BHE <input type="checkbox"/> BHE field <input type="checkbox"/> heat collector <input type="checkbox"/> _____	<input type="checkbox"/> energy piles <input type="checkbox"/> tunnel walls <input type="checkbox"/> _____
Seasonal (heating & cooling)	<input type="checkbox"/> single aquifer usage <input type="checkbox"/> _____	<input type="checkbox"/> single BHE <input type="checkbox"/> BHE field <input type="checkbox"/> heat collector <input type="checkbox"/> _____	<input type="checkbox"/> energy piles <input type="checkbox"/> tunnel walls <input type="checkbox"/> _____
Storage	<input type="checkbox"/> single aquifer usage <input type="checkbox"/> multi aquifer usage <input type="checkbox"/> _____	<input type="checkbox"/> BHE field <input type="checkbox"/> _____	<input type="checkbox"/> abandoned mines <input type="checkbox"/> thermally activated building elements <input type="checkbox"/> _____

For any of the techniques of utilization (feel free to add as many as appropriate), tick those commonly used in your country.

For those you ticked, **copy/paste and fill out the table on the next page so we can get an overview of the data accessibility**. If you can state Yes/No/Partly for the whole country, just mark the appropriate one. If you can't, please use the Alpine Space REGIONS (see map below) to specify. Feel free to add comments if you wish!

For Slovenia – as your country is not divided into any AS Regions, specify to an extent that makes sense to you, e.g. regarding to provinces or regions.



Example: Groundwater – single well	Data has to be reported to authorities [1]			Access to the data is possible [2]			Access to the data in a database-format is possible [3]			Would you have the allowance to publish the data [4]		
	YES	NO	PARTLY	YES	NO	PARTLY	YES	NO	PARTLY	YES	NO	PARTLY
Number of installations	Salzburg Vorarlberg Tirol	Steiermark Kärnten Oberöster. Burgenland	Wien Niederö.	Salzburg Vorarlberg Tirol	Steiermark Kärnten Oberöster. Burgenland	Wien Niederö.	Wien Niederö. Tirol Vorarlberg	Salzburg Steiermark Kärnten Oberöster. Burgenland				The interpret. of data is usually allowed for publishing but not the dataset itself
Locations of installations	Salzburg Vorarlberg Tirol	Steiermark Kärnten Oberöster. Burgenland	Wien Niederö.	Salzburg Vorarlberg Tirol	Steiermark Kärnten Oberöster. Burgenland	Wien Niederö.	Wien Niederö. Tirol Vorarlberg	Salzburg Steiermark Kärnten Oberöster. Burgenland	X			X With extra permission for selected sites
Users of installations [5]	Salzburg Vorarlberg Tirol	Steiermark Kärnten Oberöster. Burgenland	Wien Niederö.	Salzburg Vorarlberg Tirol	Steiermark Kärnten Oberöster. Burgenland	Wien Niederö.	Wien Niederö. Tirol Vorarlberg	Salzburg Steiermark Kärnten Oberöster. Burgenland	X			X
Operating / Performance data		X				X From some single sites the data can be accessed		X				X With extra permission for selected sites
Monitoring data		X				Hardly any monitoring data is existing but the existing ones can be accessed		X		Usually yes as monitoring data is gained only for research activities		

In grey: example on how the result could look like for Austria.

[1] Does the data have to be reported to local/regional/national authorities in any kind of format and extent? [2] Can your institution get access to the data? [3] Can your institution get access to the data in a database-format like an Access/Excel/ArcGIS/etc. Database? [4] Would you in general be allowed to publish the data (maybe you can state whether you would be allowed to publish exact numbers, only very general summaries, nothing at all, etc.). [5] Do you have data about which kind of user runs the geothermal system (e.g.: Detached houses, housing estate/ multi-storey dwelling, commercial centres/ industry or other special applications).

B) Best practice examples from existing plants

PROPOSAL: Every participating country provides a **maximum number of 10 best practice** case studies **from a technical or economical point of view**. The most interesting case studies will be afterwards selected with respect to the involved countries / regions and utilization techniques. Please consider also, that existing best practice examples do not have to be geographically limited to the selected case studies / pilot areas. **However, the existing sites should be located at an Alpine environment or should reflect a clear benefit for Alpine regions!**

As the result should present a concise compilation of current best practice techniques, it would be great to get as many different techniques and/or topic-related best practices (where topics could be: NSGE in elevated topographic locations, NSGE combined with traffic or touristic infrastructure, NSGE in agriculture, etc.).

Every country provides a list of their best practice examples (max. 10, see list below). After GBA has received those, GBA will choose one for every country (these will be described in more detail, a proposal for the parameters will be sent out until the next teleconference in the end of May).

Country	Technique and/or topic	Brief description – why may this site be selected for a best practice example?

C) Case Study / Pilot area

Please fill out the subsequent table in order to get a first overview about the aimed Case Study:

Country	
Name of Case Study	
Specification of geographical extent <i>E.g. Single site, community or region.</i> <i>Please also provide a vector shape file of the location or outline of the selected site.</i>	
Objective of detailed investigations <i>Please explain:</i> <i>Why has the Case Study been selected?</i> <i>What are the scientific questions that have to be answered at the Case Study?</i>	

Please return the questionnaire to GBA (mail to Magdalena.bottig@geologie.ac.at) by May 23rd latest!!