

Results of the GSHPA Borehole and other geological data questionnaire

Background

GSHPA has been made aware of potential further cuts to NERC funding which would impact on the British Geological Survey (BGS) and their ability to maintain a high quality of Geoscience data provision. BGS provides many services including world-leading, free-to-use geological data such as their 'Geology of Britain viewer', free borehole scans, open loop screening tool, and mobile-based apps; iGeology and MySoil.

To maintain design standards for borehole and shallow ground arrays, the GSHPA considers it imperative that BGS are able to continue their work in the management and development of geological and borehole data.

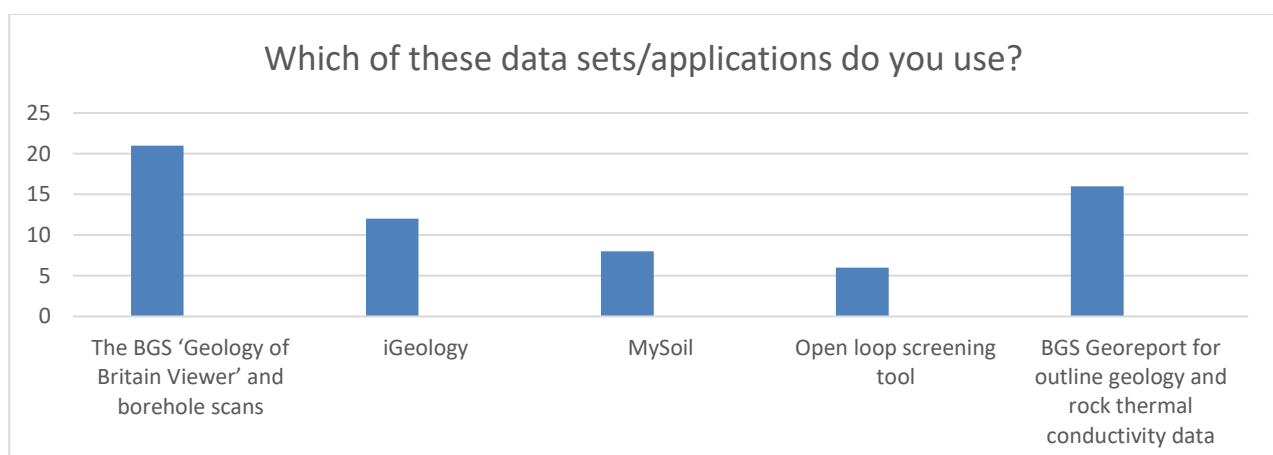
Methodology

A short questionnaire was developed and sent out on Friday 14 October to all GSHPA members to establish how important these data sets are to the GSHPA membership and to develop an evidence-based response to the proposed cuts.

The deadline for responses was 5pm on Thursday 20th October 2016 and 21 responses were received.

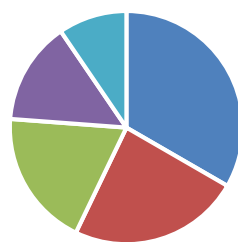
Results

When asked which data sets/applications do you use, all 21 respondents stated they use The BGS 'Geology of Britain Viewer' and borehole scans. 12 use iGeology, eight use MySoil, six use the Open loop screening tool and 16 respondents use BGS Georeport for outline geology and rock thermal conductivity data.



When asked on average, how frequently since 1st January 2016 have you used the 'Geology of Britain Viewer' and/or BGS borehole scans, the majority of respondents stated they use it daily (seven responses), five more than twice a week, four weekly, three more than twice a month and two respondents use it monthly.

On average, how frequently since 1st January 2016 have you used the 'Geology of Britain Viewer' and/or BGS borehole scans to develop carbon saving ground-source heat pump projects?



■ Daily ■ More than twice per week ■ Weekly ■ More than twice per month ■ Monthly ■ Never

When asked on average, how frequently since 1st January 2016 have you used the iGeology application, the majority of six respondents stated monthly, four more than twice a month, three weekly and four more than twice a week. Four respondents stated they never use the iGeology application.

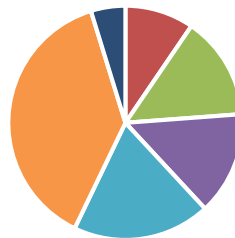
On average, how frequently since 1st January 2016 have you used the iGeology application to develop carbon saving ground-source heat pump projects?



■ Daily ■ More than twice per week ■ Weekly ■ More than twice per month ■ Monthly ■ Never

When asked on average, how frequently since 1st January 2016 have you used the MySoil, the majority of eight respondents stated they never used MySoil, four stated monthly, three more than twice per month, three weekly, two more than twice a week and there was one no response.

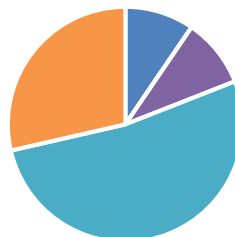
On average, how frequently since 1st January 2016 have you used the MySoil to develop carbon saving ground-source heat pump projects?



■ Daily ■ More than twice per week ■ Weekly ■ More than twice per month ■ Monthly ■ Never ■ No response

When asked on average, how frequently since 1st January 2016 have you used or purchased a BGS Georeport to obtain geology and rock thermal conductivity information, the majority of 11 respondents stated monthly, with two more than once a month and two daily. Six respondents stated they never used or purchased a BGS Georeport.

On average, how frequently since 1st January 2016 have you used or purchased a BGS Georeport to obtain geology and rock thermal conductivity information to develop carbon saving ground-source heat pump projects?

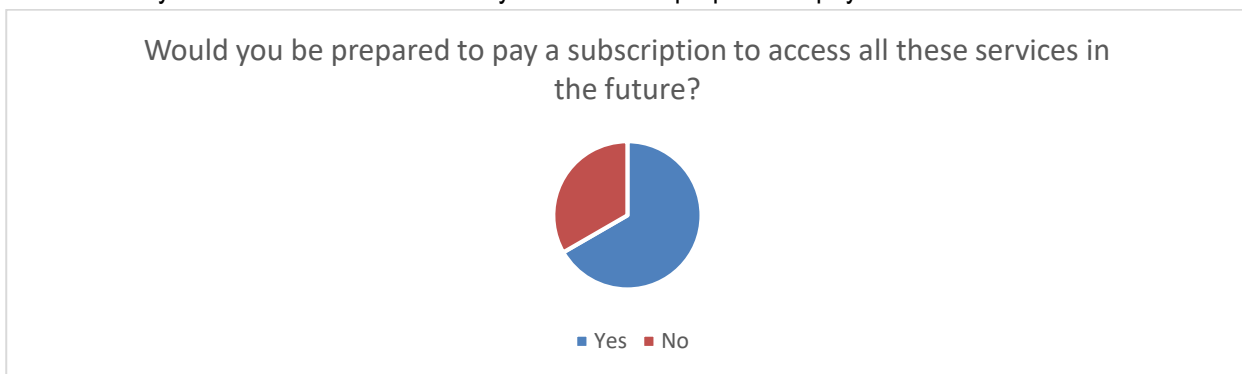


■ Daily ■ More than twice per week ■ Weekly ■ More than twice per month ■ Monthly ■ Never

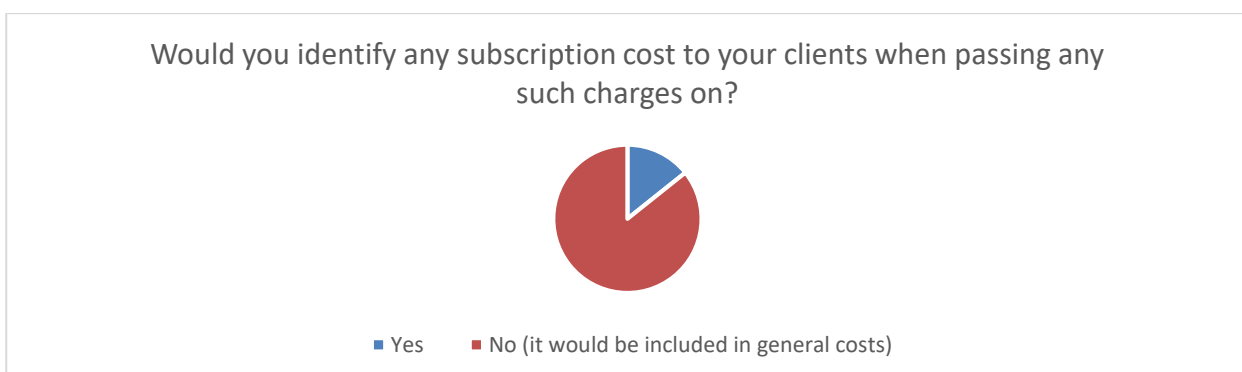
When asked to estimate the total ground-source heat pump capacity that respondents have installed since 1st January 2016 using any of the data sets listed to inform activities (in kW), the following responses were received (with 12 non-responses, one stating not an installer and one noted 'confidential kW'):

150kW
200kW
300kW
300+ kw over 12 No projects
500kW
800kW
Estimate - 3- 4MW

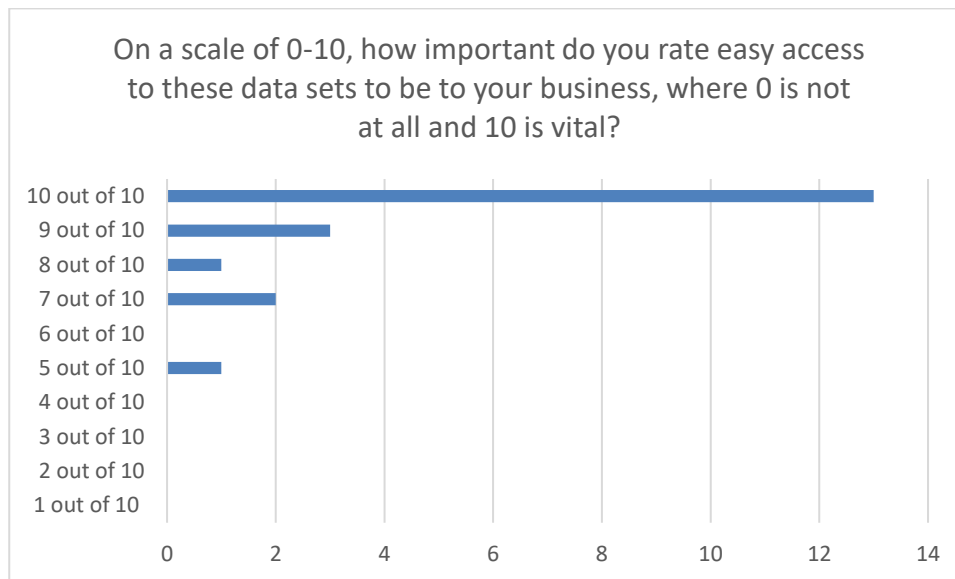
When asked would respondents be prepared to pay a subscription to access all these services in the future, 14 stated they would and seven stated they would not be prepared to pay.



When asked would you identify any subscription cost to your clients when passing any such charges on, 18 stated no, it would be included with general costs and three stated they would pass the charges on.



When asked on a scale of 0-10, how important do respondents rate easy access to these data sets to be to their business, where 0 is not at all and 10 is vital, 13 respondents consider it vital with 10 out of 10, three consider it 9 out of 10, one consider it 8 out of 10, two consider it seven out of ten and one considers it five out of ten.



Conclusion

The level of response (17%) is at a level that can be expected from any questionnaire exercise. It does not suggest that the remaining 83% choose not to use BGS data. Some members do not use BGS data as they are not involved in ground array design.

The results show that all of the relevant data services are used routinely and frequently by GSHPA members. The web viewer, MySoil and iGeology Apps are used as 'quick-look' assessments for the potential for closed or open loop technologies prior to more detailed assessment. The ability to make this quick-look assessment is vital as it provides a designer and potential GSHPA user with the facts needed to proceed to more detailed design – or to quickly ascertain that a site is not suitable for open loop, but might be suitable for closed loop. It should also be noted that the majority of respondents value the data to a degree that they would be willing to pay for access if necessary.

Respondents have stated that over 5.5MW of renewable heat from GSHPs has been installed in 2016 for which BGS data was used in the design process. It is likely that a significant additional capacity is in the process of design or feasibility for installation at a later date.

Heating and hot water for UK buildings make up around 40% of our energy consumption and 20% of our greenhouse gas emissions. In order to achieve our carbon reduction targets, and meet our obligations under the Paris climate agreement, the UK must greatly increase uptake of heat pump technologies powered by low (and ultimately zero) carbon electricity. If BGS data provision services were to reduce or stop, then it is clear this would have an immediate negative impact on the ability of GSHP providers to design systems – and ultimately greatly impact on the UK's ability to meet carbon reduction targets.

Next steps

This report will be sent to NERC alongside the response from Ground Forum, of which GSHPA are members.