To: The British Geological Survey’s (BGS) stakeholders  
Subject: The BGS core science programme

Dear colleagues,

I thought it would be timely for me to write to you and outline some recent developments at the BGS.

Royal assent has allowed the passage into law of the Higher Education and Research Act (2017). It is expected that UK Research and Innovation (UKRI) will be properly established in April 2018, following an implementation period. A UKRI Executive Committee, comprising the CEOs of the research councils has been created that will ensure overall strategic coherence and maximise effective working across the entirety of UKRI. Through this transition, the BGS will seek the freedoms to allow it to flourish as a survey and as you will see in this letter, we have already made significant progress in this.

We are in a period where BGS funding is relatively secure (Figure 1), although the funding we receive from government, currently via the Natural Environment Research Council (NERC), is increasingly targeted (Figure 2). This does mean that we will have to suspend some activities or reduce them, while increasing others. This is of course an ongoing activity, but is more acute this year than in the past.

Figure 1  BGS total projected income by source – £47.6 m
The BGS has agreed with the NERC that our core budget will be ring-fenced and clearly directed to national and public good (NPG) activities, including the research lines that underpin these activities and ensure that we retain our excellence as a geological survey. This explicit recognition of our NPG role is powerful for us. We will continue to compete for research council grants and will have a strong industrial and innovation portfolio in addition to having our own commercial interests. To oversee the core budget spending and activities in general, the NERC will create a BGS board and will be appointing the members in the coming months.

Our projected annual expenditure is forecast at £47.6 million in 2017/18 together with capital investment of £10 m. Our staff levels have been managed down to about 580 in recent years, although associated with the development of a major infrastructure activity (see UKGEOS) we will be increasing our headcount this coming year for the first time in a decade.

**Official Development Assistance (ODA)**

The budget for the UK research councils was inflated in the current comprehensive spending review (CSR) settlement by a significant amount for Official Development Assistance (ODA). Some of this has been earmarked for the NERC, and an amount that corresponds to about 15% of the BGS core NERC budget has been identified for us to spend over the current CSR period. This means that we will need to reassign some UK national activities to overseas activities.

We are developing three platforms to respond to this, one around east African geoscience and resilience, one on south-east Asian megacities and their hinterland catchments, and one on global geological risk. These will allow us to position the BGS for additional competitive funding streams in the Global Challenges Research Fund (GCRF) where the majority of these ODA funds reside inside UKRI.

**UK GeoEnergy Observatories (UKGEOS)**

The Department for Business, Energy and Industrial Strategy (BEIS) has now approved this capital project and £31 m will be invested over two years to create world-class, subsurface energy-research test centres operated by the BGS:

UKGEOS will provide scientific energy-related test beds in two geologically different locations in the UK. Each site will comprise a network of deep and shallow boreholes, enabling geoscientists to undertake long-term observation of the subsurface for the first time and in unprecedented detail. They will deliver new information to interpret, model and monitor the environment from the surface down to more than 1500 m.

The BGS will target about 15% of its core funding to operate these sites.

Innovation funding

The BGS is an institution that sits in an applied science space between fundamental research, innovation and commercialisation. In the future we will explicitly map our innovation funding to science directorates with clear key performance indicators and evaluation of outcomes. We will provide internal flexible funding to respond to opportunities, developing our innovation pipeline in a timely way. At the same time, we will invest in an innovation hub that will include machine-technology capabilities. We expect this strategy to align with future UKRI industrial strategy and regional development. The yearly investment corresponds to approximately another 15% of the core budget for the coming three years.

Figure 3  BGS competitively won income by source – £25.25 m*

EU funding

About 5% of BGS funding comes from the EU and a significant part of this is associated with infrastructure development (field laboratories and data) and in some cases we lead the core services in these infrastructures. We are hopeful that the UK will continue to invest in EU infrastructure, especially as some of these facilities are key to UK international competitiveness.

BGS staff and programme reorganisation

The overall budget for the BGS is shown in the pie charts. It is evident that once the costs of information development and management are taken into account, the balance of core budget that can be assigned to other NPG tasks is limited.

To be more effective the BGS will restructure its directorates. We will reassign staff in the Geology and Regional Geophysics, and Land, Soils and Coast directorates and embed them in key directorates, thus bringing our activities closer to partners, users and markets.
Across the BGS there will be focus on three challenges: (1) decarbonisation of power production, heat, transport and industry; (2) environmental change adaptation; and (3) natural geological hazard and risk. Our major science effort will be in harnessing our new infrastructure including UKGEOS; our activities in sub-seafloor science; catchment observatories; and global hazard observatories.

In general, there will be a reduced focus on rocks and sediments as indicators of past events and a corresponding increase in focus on rocks as conduits for processes that affect lives and livelihoods. Improved methods of storing and delivering information within the BGS will allow greater efficiency and an ability to do ‘more with less’. We will also seek new ways of funding our activities through interaction with government and the private sector.

At the same time, we will enhance our regional delivery for England, in addition to that which is already specific for Wales, Scotland and Northern Ireland. We have created a Wales and south-west England focus from the Cardiff office, which has recently relocated to the Cardiff University campus. Our move to the Lyell Centre on the Heriot-Watt campus along with our marine infrastructure facility, has brought a new focus to BGS Scotland. From England we will deliver a south and south-east England regional geology hub; a Midlands (including East Anglia) hub and a northern England hub. All of these regional and devolved administration activities will have a presence in regional partnerships.

Most importantly, the BGS will continue to have geologists with feet on the ground to ensure that we develop a more dynamic geological map, including real-time data acquisition. We will thus enhance our training and continuous professional development for field geologists.

Overall, the BGS is about to undertake its biggest transformation since joining the NERC in 1965. It will gain more independence than it has had in 50 years. Technological development in sensors, high-volume computing, and visualisation and modelling are driving us to a new form of geological survey, and we are leading the world’s surveys in many of these activities. At the same time, international opportunities are growing through GCRF funding, an expanding DfID programme, and more global impact in general.

The BGS will greatly benefit from the new freedoms and flexibilities afforded to it in a new governance structure. We will continue to forge partnerships in the UK and globally with institutes, universities and industry, while maintaining our independence and social responsibility.

Prof John Ludden
Executive Director