

# The Earth Science Education Forum (England and Wales)

## Minutes of the twenty-fifth meeting

Held at the Institute of Materials, Minerals and Mining, 1 Carlton House Terrace, London, at 1.30 p.m. on Tuesday 19 June 2007.

**Present:** Allan Rogers, Chairman  
Chris King, Co-Chairman (and Earth Science Education Unit)  
David Bailey, Secretary (British Geological Survey)  
Cally Oldershaw, ESEF(EW) Executive Officer (Association for Science Education)  
Martyn Bradley (Geology Trusts and UKRIGS)  
Chris Carlon (Anglo American)  
Peter Warren  
Maggie Williams (Earth Science Teachers' Association)

### 1 Apologies for absence

Apologies for absence were received from representatives of the following organisations: the Committee of the Heads of University Geoscience Departments; the Geographical Association; Geological Curators' Group; Geological Society of London; Mineral Industries Research Organisation; Royal Geographical Society with Institute of British Geographers; Royal Society of Chemistry; STEMNET.

### 2 Chairman's introduction

Chairman welcomed everyone. He reminded members that the meeting would be followed by a meeting of the All-Party Parliamentary Group for Earth Sciences on wave and tidal power.

### 3 Minutes of the twenty-fourth meeting, 20 March 2007

The minutes of the twenty-fourth meeting were accepted as a true record. D Bailey to upload a copy to the ESEF(EW) website. **Action: D Bailey**

### 4 Matters arising

*[Numbers in square brackets are paragraph numbers from the minutes of the previous meeting.]*

4.1 *[4.1] Forum members' subscriptions:* The following member organisations have paid a subscription so far:

Anglo-American  
Earth Science Teachers' Association  
Quarry Products Association  
Royal Meteorological Society  
University of Plymouth (GEES)

4.2 *[4.3] Groundwater project:* CO reported that the groundwater group had not managed to agree a date for a meeting, but would continue to seek one.

4.3 *[4.5] International Polar Year:* The All-Party Parliamentary Earth Sciences Group (APESG) felt it worthwhile to hold a meeting on this subject. Chairman reported he had attended a meeting at the Parliamentary Office of Science and Technology (POST). POST had invited ESEF/APESG to be involved. APESG wished to discuss the political aspects of Polar Science: the social, economic and political impacts of developing the Antarctic and Arctic regions. POST felt this would be too 'political'. However, Chairman had received invitations to attend a meeting at the Houses of Parliament, hosted by Lord Oxburgh with input from the British Antarctic Survey. Chairman said it would be worth suggesting to APESG that they hold one of their regular meetings on the impact of the extraction of raw materials.

4.4 *[5.3] Geological Society 'first destinations' survey:* CK reported that the Forum's Working Group had met about 18 months earlier with major employers. However, there were no recent

employment statistics for earth science graduates. The Geological Society had agreed to carry out a 'first destinations' survey and this was now in hand. Oil & Gas UK were carrying out their own survey. CK hoped these surveys would be published in the next few months and the Working Group could then move forward. CK agreed to write a short status report for CO to distribute.

**Action: C King and C Oldershaw**

- 4.5 [7] *STEM report*: Action outstanding. **Action: C Oldershaw**
- 4.6 [10] *Finance report*: IOM3 had prepared an end-of-year report on behalf of the Forum.
- 4.7 [15] *Annual Conference*: Nothing to report.
- 4.8 [16.3] *Science and the Assembly Meeting*: Chairman reported that this meeting had taken place, unfortunately very few Assembly Members had attended.
- 4.9 [17] *Rockwatch Book*: Several Forum members were contributing, it would be a joint publication between the Geological Society of London and the Geologists' Association.

## **5 WJEC GCSE Geology proposed withdrawal**

- 5.1 CK reported that WJEC had decided to withdraw from GCSE Geology. However, following representations, they were now prepared to look at reducing the costs of the examination, rather than withdrawing it completely. Apparently, WJEC did not realise that they were now the sole body offering Geology at GCSE. Further representations could be made by the Forum, or members could wait until the Chief Examiner had given his response.
- 5.2 Chairman felt that the Forum should put forward a case to WJEC. ESEF-Cymru would also be dealing with this issue at their next meeting. He did not agree with the view held elsewhere that there was no need to teach earth science in school.
- 5.3 CC said that professional geologists would support earth science education in school but most were not aware of the problem. As a group, professionals were an ageing population and universities were unaware of the growing demand for geologists in industry. Earth science was an excellent vehicle for teaching science but most school students didn't know how to pursue a career. Science and Engineering Ambassadors (SEAs) could be used to promote the subject.
- 5.4 PW said that we need a scientifically literate population. This might require a new syllabus. CO asked whether the Forum should be fighting for geology as a separate subject, or for the inclusion of earth science content in the syllabus.
- 5.5 There was some discussion about whether A-level Geology was useful to university entrants. MW said that the A-level was welcomed at Liverpool University, but it was felt that students were often advised to sacrifice geology for another science. Earth science is a much more analytical and mathematical subject than was the case 50 years ago and the A-level needed to reflect this. Science as a subject generally was declining because it was not recognised by students as a career and was poorly taught. However, geology can be related to real world problems which was an advantage.
- 5.6 PW pointed out that many adult learners sat the GCSE Geology examination.
- 5.7 MW reported that the ESTA A-level working group were compiling a leaflet to help support teachers starting to teach GCSE. University collections were being used to support and encourage teachers.
- 5.8 Summing up, CK said that the Qualifications and Curriculum Authority had recommended that the revised National Curriculum should retain four strands: chemistry, biology, physics and earth science. The programme of study for KS3 would also retain these four strands for the next five years. Some geologists in university departments would prefer students not to study geology at A-level, but 1500 students pass A-level Geology each year of which about one third went on to study earth science at university. SEAs were helping to promote the subject at several university departments (as well as through organisations such as BGS). The Geological Association were trying to broaden the use of SEAs across the UK. Schools often find it difficult to teach GCSE in their 'normal' timetable so it is often taught in sixth-form colleges or where there is a local

'enthusiast' teacher. The Forum should encourage these pockets of activity. Both WJEC and OCR intend to continue offering A-level Geology. New changes in the curriculum meant that school students, after doing Year 10 core science, could either continue to do double science or opt for a single science subject; this might provide a new niche for geology teaching in the timetable.

5.9 CK said the main issue for WJEC appeared to be the cost of administering the practical papers which required maps and specimens to be mailed to schools. However, losing the practical paper at GCSE might encourage the boards to cut it from the A-level.

5.10 Chairman said that ESEF-Cymru should take the matter forward and he would expect Welsh universities to back an initiative. He asked CK to email an argument that could be put forward at the next ESEF-Cymru meeting. Other members were also asked to forward their views.

**Action: C King, All**

5.11 Chairman suggested that the Forum should set up a Study Group that would work towards presenting a one-day conference focused on the issues that have been addressed. PW said that the conference could form part of the evidence submitted by the Study Group to policy makers. Chairman asked PW to draw up a paper setting out the remit for the Study Group and how this could lead to a one-day conference, and circulate it to members. This would provide a framework for the Forum to move forward.

**Action: P Warren**

## **6 Finance report**

CO reported that some income had been received from members. Some expenses had yet to be finalised. Chairman asked CO to write to all members listing those subscriptions received so far.

**Action: C Oldershaw**

## **7 Executive Officer's report**

7.1 CO reminded members that the next meeting of ESEF-Cymru on 26 June would include a visit to the Cardiff barrage. Some AMs and their representatives were expected to attend. Chairman said there was renewed interest in the Severn barrage.

7.2 CO gave notice of forthcoming APESG meetings [NB the dates were provisional and some were subsequently postponed or altered so are not reported here].

7.3 CK asked if a future APESG meeting might be held to celebrate the International Year of Planet Earth.

## **8 ESEF(EW) website ([www.esef.org.uk](http://www.esef.org.uk))**

Information for the APESG pages had now been received and revisions to the site were expected soon.

## **9 SESEF update**

CK reported that SESEF used to hold plenary meetings of about 20 members regularly, but recent meeting had mainly involved only the Executive Officers. He reminded members that 40% of the SESEF Executive Officer's time was paid for by the Earth Science Education Unit (ESEU). A debate on the Curriculum of Excellence, which SESEF was trying to influence, was ongoing.

## **10 Government policy issues**

CO said she would be looking into the Sainsbury Review.

**Action: C Oldershaw**

## **11 Annual Conference**

Discussed under Agenda Item 5.11 above.

## 12 Potential collaborative projects

- 12.1 CO reported that ESEU would be attending the ASE conference and asked any members interested in booking a 15-minute slot in the main marquee to contact her.  
**Action: C Oldershaw**
- 12.2 CK drew attention to Earthlearningidea. In the absence of the expected outreach funding for the International Year for Planet Earth, this initiative has been launched by a group of volunteers. The aim is to provide low- or zero-cost ideas and resources that teachers in developing countries can use in their earth science teaching. A new idea will be added to the website every week during IYPE. Chairman suggested there could be a 'launch' at an APESG meeting and said he would ask the Chair of the All-Party Group to invite the Chair of IYPE.
- 12.3 CC mentioned that Anglo American had a Student Technical Experience Programme which placed students on programmes all around the world. Last year there had been 109 candidates for 9 places. Students gain relevant experience very quickly from established staff. The programme is open to European students and runs annually for 6–8 weeks during the northern hemisphere summer. Students get experience as exploration geologists, usually after their second year.
- 12.4 The Geological Society were holding a careers day as part of their bicentennial conference, but early September was a poor time for many students. CK noted that the North-West Regional Group of the Geological Society had held their own careers day on a regional basis. DB added that the East Midlands Regional Group had also held careers events.
- 12.5 MW reported that ESTA were working on a careers CD-ROM which would be interactive with hot links. About 50 different jobs were featured. It will eventually be released on the website.
- 12.6 DB reported that BGS had organised a 'Diversity' day at the National Space Centre in Leicester, with the aim of encouraging community leaders to promote earth science careers to students from ethnic minority backgrounds within their own communities. Unexpectedly, there was strong interest from special interest radio stations.
- 12.7 BGS had also launched a UK Schools Seismology project which would allow schools to set up seismometers, record earthquakes from across the globe, and exchange their data via a special website ([www.bgs.ac.uk/schoolseismology](http://www.bgs.ac.uk/schoolseismology)).
- 12.8 Finally, a Schools Challenge Day called 'Quarry or Not' was held at Keyworth. Sixth-form students spent a day working in teams to prepare a case either for or against a new quarry development, balancing economic arguments against the environmental impact and other factors. The climax of the day was when the teams presented their cases to a tribunal of industry experts. Industry organisations provided generous sponsorship of the event, as did the Department for Communities and Local Government (DCLG) and sent representatives to act as facilitators on the day. One of the teams provided media coverage of the events as they unfolded, interviewing spokespeople and preparing a lunchtime TV news report. A DVD of resources based on the day has been prepared and a 'mini' version may be developed to offer schools as an 'enterprise' activity. The DCLG have already indicated they will support a repeat of the event next year.
- 12.9 CO mentioned that the ASE had a 'Science Across the World' website that allowed schools to swap data and aimed at pupils aged 14+. Members were asked to provide feedback — CO to forward the URL to members.  
**Action: C Oldershaw**

13 **AOB** — there was no other business.

## 14 Date of the next meeting

The next meeting was scheduled for **1.30 p.m. on Tuesday 16 October 2007** at IOM<sup>3</sup> in 1 Carlton House Terrace [NB this was later postponed until **Monday 10 December 2007**].

David Bailey, 27 November 2007