HM Treasury 16/07/01

# REVIEW OF THE SUPPLY OF SCIENTISTS AND ENGINEERS

## A Response By The Institution Of Environmental Sciences

As a body that deals specifically with one particular sector of science and engineering, i.e. the environmental disciplines, the comments that we have to make relate specifically to this area.

**A. Skills and skills dialogue:**

As a requirement of the internal validation processes, new University courses are required to show a demand level in employment related to the course content. Contact with employers is made and a dialogue takes place. This process has been observed in a number of new environmental courses accredited by the IES. For longer established courses, the process is more haphazard and dependant on the application of the particular Department and the amount of staff time available for the purpose. In our experience the situation is variable and capable of considerable improvement. Employers across a wide spectrum should be encouraged through Government initiative and their own organisations (CBI, IOD, etc.) to be more pro-active in their approach.

**B. Recruitment and retention of scientists and engineers:**

There is an increasing need for research into solutions for environmental problems but little evidence that this is occurring within the universities. Taught Masters courses in specialised subject areas (Pollution Control, etc.) are on the increase but Ph.D. students and active research departments are thin on the ground. Under the current arrangements the underlying reason has to be lack of financial investment. Because of the nature of research work, there is a need for a degree of permanence to attract staff and give assurance of employment at reasonable salary levels. A guaranteed programme therefore needs to be established.

It is possible that some involvement of an intermediary for co-ordinating/initiating action for investment would assist and this might be a professional body such as the IES acting with sponsorship.

**C. The education system:**

Education in environmental subjects exists primarily at H.E. level though improvements are occurring at secondary and primary level through 'greening' of the curriculum. There was a significant increase in the provision of first degree courses during the 1990's due to popularity amongst sixth form leavers. This resulted in over-provision. Popularity has now waned, partly due to the inability of the labour market to accommodate the large numbers of graduates into environmental jobs. In the late 1990's this was estimated at a take-up rate of under 20%! Salaries for environmental scientists were also seen as low in comparison with other sciences.

Courses are now closing down and there is a shift to specialism and Masters degrees. There is an urgent need to achieve stability, to balance supply and demand and to raise the status and thereby salary levels in this discipline. The IES is active and campaigning in this area but would welcome some support.

**D. Roles and responsibilities:**

See comments in C above.

**E. International dimensions:**

The global environmental market is expanding rapidly. Increasing demands are made both on universities and on commerce (especially utilities bodies) to provide skills in the developing countries. This is usually a lucrative exercise but whether it contributes to the growth of knowledge and research is doubtful. It is seen largely as a diversion of valuable resources in skill and knowledge which are still relatively scarce. Given the comment in C above about the loss of graduates from the discipline at employment stage, a good investment programme should enable this deficiency to be made good.

**F. Substitutes for scientists and engineers:**

The Institution has no comment to make on this issue at present.

IES/RAF
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