



**Concept Paper
(February 17, 1999)**

**APRU Advisory Role on
Science, Technology and Human Resources for APEC**

Background

Almost every nation is seeking expert advice regarding the increasingly important role of science, technology and human resource development in advancing economic development. While most economies have national scientific advisory boards or bodies to perform this function, it is now widely acknowledged that national science and technology policies must be integrated across regions if we are to optimize the opportunities for global economic development. Thus, the development of a regional approach to science and technology policy and human resource development, as it relates to the APEC economies, is required. It is well understood that research universities are key to any initiatives that involve the advancement of science, technology and human resource development. Accordingly, APRU, the association of presidents of 34 leading Pacific Rim research universities could serve as an ideal science and technology advisory body to the APEC leaders.

Mechanism

APRU presidents of 34 leading Pacific Rim research universities would annually provide APEC leaders with advice and policy recommendations, on regional science, technology and human resources issues. Key issues that require regional policy development or coordinated action would be identified. APRU would then develop expert panels, drawn from scholars within their universities, for the development of advice, recommendations, work plans and targets for each issue. Reports of these recommendations, along with progress on actions taken, would be provided to the APEC leaders at their annual meeting.

Examples of Key Issues

1. *Human Capital*: What are the human capital needs for the APEC region in terms of skilled labour for the year 2010? Given the population growth in the region, what are the predicted shortages in strategic fields such as computing engineering, health professionals, biotechnology, environmental scientists? What are the current barriers to linking educational training facilities and curriculums throughout the region? How might information technology and internet connections best assist in distance learning? How might the 34 universities better cooperate in meeting the human capital needs in the region? How might we ensure the mobility of people across the region?

2. *Technology Transfer*: How best can research universities support the development of the new knowledge based economy? What are the current regional barriers to the sharing of technology development, bundling of technologies, and commercialization of technologies? What policies have to be in place to attract capital from around the world or develop joint ventures in the region? Is it possible to contemplate an integrated "University Technology Transfer Office", linking the 34 universities, in the region?

3. *Sustainable Development*: What is the predicted rate of growth for the region, with particular reference to our urban populations, over the next decade? Given these growth predictions, what problems must be addressed in order to support sustainable development? How can we ensure the economic development of the region is environmentally sound? What measures need to be put in place to adequately plan for the population growth? How can we work to develop sustainable cities in the region?

4. *Big Science*: How will big science decisions be made for the region? What are the regional needs for particle accelerators, international space stations, environmental tracking systems, light facilities, or major telescopes? How can we ensure the affordable access to regional facilities? How can we best encourage regional scientific collaboration? How might we best develop networks of scientists addressing "big science" questions?

Course of Action:

APRU identifies a key issue(preferably the issue should be one that is viewed as being important to and supported by the host country, New Zealand) between now and the fall meeting in New Zealand. We would propose to the leaders, at the New Zealand meeting, that APRU would report back at the next APEC meeting on this specific issue, with key high level policy recommendations. APRU would then charge a small strategic "expert panel" of scholars from several of our institutions to develop a background document on the issue. This document would be based on our research expertise and would include specific high level policy recommendations as well as a work plan and regional targets. The document would then be discussed and eventually accepted by the APRU presidents and would form the basis of the advice APRU would provide the APEC leaders at the next APEC meeting.