



Notes of International Green Network (IGN) Meeting

Saturday, 4th November 2006

Biblioteca Comunale

Pietro Siciliani

Galatina, Italy

In attendance:

IGN Members: *Pietro Tundo (Italy) (Chairman)*, Kenneth R. Seddon (UK) (Vice Chairman), Howard Alper (Canada), Joan Brennecke (USA), Elena Golubina (Russia), Denis Neibecker (France), and Maggel Deetlefs (UK; Secretary).

Invited Observers: Janet Scott (Australia), Mohamed Tawfic (Egypt), Roberto Ballini (Italy), and Tao Jiang (China)

Apologies: Walter Leitner (Germany)

Meeting convened at 15:19

Pietro Tundo opened the meeting and welcomed all the observers to the IGN meeting. **Pietro Tundo** explained that the current representatives of the IGN (*viz.* Italy, UK, Canada, Russia, France and USA) were present. In addition, **Pietro Tundo** welcomed observers from other countries *viz.* Tao Jiang (China), Janet Scott (Australia), Mohamed Tawfic (Egypt). He explained that Prof. Roberto Ballini was attending the meeting as an observer from INCA (Consorzio Interuniversitario Nazionale 'La Chimica per l'Ambiente') in Italy.

Pietro Tundo then read and distributed the original Italian version as well as an English translation of a letter that he received on Wednesday, 1st November 2006, from Mr. Fabio Mussi, the Italian Minister of Education, Research and University. The letter detailed the Ministers unequivocal support for the IGN, which highlights the importance of the network on the domestic and international stage. The meeting attendees acknowledged receipt of the letter from Minister Mussi which potentially opens the way to future actions and encourages the start of IGN Activities. **Pietro Tundo** explained that the translation of the letter needed some improvement and Ken Seddon requested that an electronic copy of the letter be emailed to the IGN members.

Agenda for discussion was presented as follows:

- 1 Introductions and Personal Opinions of the IGN from the Country Representatives.
- 2 Discussion of Potential Input to the IGN by all Countries Represented at the Meeting.
- 3 Action Plan Construction for Delivery to IGN Science/Environment Ministers.
- 4 Any Other Business.

1. Introductions and Personal Opinions of the IGN from the Country Representatives

- **Ken Seddon** introduced himself as one of the UK representatives, and Vice Chairman of the IGN. He stated that the UK supports the IGN, but that Italy must take the lead so that the UK Government will follow. He went on to say that the recent publication of the Stern Report in the UK should lend further awareness of the urgency of the establishment on the IGN.
- **Howard Alper** introduced himself as the Canadian representative of the IGN. He said that he had been meeting with key officials in Canada about the IGN in recent months. He mentioned that



amongst others, he had recently met with the Assistant Deputy Minister for Environment Canada to discuss the concept and budgets for the IGN. He said that this had been a good meeting, but that it required follow-up. He also said that he had recently met with Kevin Lynch, Clerk of the Privy Council of Canada. A copy of the IGN plan was given to Kevin Lynch. He explained that Canada had recently announced its own Green Plan. He went on to say that during his meeting in recent months he had been asked if the lead country of the IGN *viz.* Italy had provided any funds yet. He also mentioned that there will be a meeting with the Canadian Minister of the Environment. On the whole, he felt that the IGN was well-received by very senior officials in for Canada.

- **Maggel Deetlefs** introduced herself as the second representative from the UK from Queen's University Ionic Liquid Laboratories (QUILL) in Belfast, Northern Ireland, and secretary to the IGN.
- **Roberto Ballini** introduced himself as a representative from INCA in Italy.
- **Pietro Tundo** introduced himself as the IGN representative from Italy, and Chairman of the IGN. He explained that the G8 Ministers endorsed the IGN proposal in New York City last year and that they changed the proposed name of the network from the Carnegie Green Network to the International Green Network. He explained that funds are needed for collaborative IGN efforts, not only for direct research funding, but for tasks such as management and administration. He explained that the Italian Ministry of Education, Research and University wants to know how IGN money will be shared between the IGN countries. He explained that it was felt that common IGN money was necessary for coordination efforts and preparing an asset inventory. He is waiting for an appointment to meet the Italian Ministry for the Environment and hopefully also the Italian Minister of Science and University. He further explained that the general feeling was that the Italian Government does not want proceed with funding for the IGN alone in the first instance. For this reason, he said he felt that it was important for strong bond establishment between scientists in the IGN and, in particular, it was necessary to decide what projects to proceed with first. Pietro Tundo stressed the importance of agreeing on preliminary activities in order for them to be possibly presented by Minister Mussi to the Carnegie Group at the next Carnegie Meeting to be held in Leipzig, Germany, on 8th December 2006.
- **Tao Jiang** introduced herself as the observer from China, who attended the meeting on behalf Prof. Buxing Han from China. She explained that the IGN was a good opportunity to develop Green Chemistry in China, which is becoming increasingly important in China due to its rapid development. She also explained that the Chinese Government is paying increasing attention to Green Chemistry, as evidenced by the amount of new projects put forward to and receiving support from the Chinese Government. She also mentioned that several Research Centers have been established in the recent several years in China. The world wide cooperation is very important to promote the development of green chemistry because every country has its own advantages. I am confident that IGN will contribute to the development of green chemistry significantly, which will definitely benefit the sustainable development of economy in the world.
- **Janet Scott** introduced herself as an Australian observer to the IGN meeting, but emphasised that she would not be acting in this role in the future. She explained that research collaboration with Australia is easy but that it is important to bear in mind that many Green Chemistry projects exist in Australia and that there may be opportunities to participate in collaborative projects. She mentioned that she was not aware of any funds specifically designated from the Commonwealth Government sources for Green Chemistry (all science based Federal funding is allocated *via* bodies such as the Department of Education, Science and Training (DEST)), but that Sustainability was identified as a "National Priority Area" and thus that the relevant Minister(s) would be expected to be sympathetic to the development of Green Chemistry. She suggested that a list of Green Chemistry researchers be requested before the next IGN meeting to make everyone aware of the existing Centres in Australia and elsewhere.



- **Joan Brennecke** introduced herself as the IGN representative from the USA. She said that the USA's White House Science Advisor, John H. Marburger, was responsible for the dissemination of IGN information to the Environmental Protection Agency (EPA). She explained that it was a bad budget time in the USA and that no appropriation bills had been passed. She further said that Tracy Williamson from the EPA could be contacted by telephone to participate in the meeting if required. She went on to explain that many groups in the USA were doing Green Chemistry research and mentioned the example of the Annual Green Chemistry Challenge Awards.
- **Mohamed Tawfic** introduced himself as an observer from Egypt, based at the Suez Canal University. He explained that Green Chemistry was a new concept in Egypt and therefore opportunities exist to promote Green Chemistry in the Arab Regions. He said that in 3-4 weeks time he will be attending a Ministerial Environment meeting where he will promote Green Chemistry and the IGN to the Egyptian Minister of State for Environmental Affairs. He mentioned that the Suez Canal University was the only University in Egypt with a Green Chemistry Unit but that a Clean Production Centre in Cairo is also expected to participate in promoting Green Chemistry. He mentioned the MEGREC (Mediterranean Green Chemistry) Network, which has been functioning for 2 years with the aim of promoting Green Chemistry in the southern Mediterranean regions. He explained that the founder members of the Network are Italy, Egypt, Morocco, Serbia, Greece and Spain but that other Mediterranean countries *viz.* Tunisia and Algeria are also involved and that requests have also been received from , Slovenia and Libya to join MEGREC.
- **Elena Golubina** introduced herself as the representative to the IGN meeting from Russia, standing in for Prof. Lunin. She explained the current situation in Russia *i.e.* that there is an attempt to encourage the Russian Minister for the Environment to support Green Chemistry. She further explained that at present, some progress has been made in the establishment of Green Chemistry in Russia since a grant was awarded by the Russian Environmental Minister to establish a Green Chemistry Centre at Moscow State University. She mentioned that a 1-2 year Green Chemistry course is planned at the Green Chemistry Centre and that efforts are currently in progress to establish and Green Chemistry Research Centre.
- **Denis Neibecker** introduced himself as a French observer to the IGN meeting acting on behalf **Isabelle Rico-Lattes** who would be the French representative. He would be the deputy French representative. Both are CNRS Research Directors based in Toulouse in France. He explained that France is starting to shape progress in Sustainable Chemistry. He went on to explain that CNRS and ANR funding were available in France to shape programmes and processes for Sustainable Chemistry Development, and that Green Chemistry plays a central role in these programmes and processes, for which an ANR budget of €8M for the year 2007 has been set up.

2. Discussion of Potential Input to the IGN by all Countries Represented at the Meeting

Howard Alper explained that his personal view of the IGN is that it should include diverse Green Science and Technology. He explained that the main issue was what a network like the IGN can do. He said that it was important to look at the assets within the IGN and identify themes where collaboration can occur. He explained that a network should be a catalyst and facilitator. He mentioned that before the Canadian Government will provide money to the IGN, it will be necessary to provide an action plan for the next 1-2 years. He explained that only then will the IGN be seen as value-added. He further explained that both the US and Canadian Governments contribute funds towards multinational collaborations that will benefit the global community and thus coordination is important, as well as knowing what the assets are in the collaborative team are and how to capitalise on them. He said that a list of year by year actions (*e.g.* R&D, outreach and teaching) planned by the IGN is needed and then he believes that politicians will support these plans.



Joan Brennecke said that a common pot of money for the IGN represented practical difficulties since it would be easier for each IGN country to keep their funds in their own country. She also proposed compiling an asset inventory. She suggested initially undertaking tasks that required little monetary input such as knowledge transfer, and that after successful execution of such events it might be easier to obtain money from the IGN countries.

Howard Alper said that he did not think that funds should be a major barrier, since the IGN proposal has already been approved and it was now up to each IGN country to obtain the money from their respective Governments.

Joan Brennecke said that according to Tracy Williamson of the EPA, the budget in the IGN proposal document had not been approved at last years Carnegie Group meeting.

Howard Alper said that this was not his impression.

Ken Seddon said that this was also not according to David King.

Howard Alper explained that the Carnegie Group do not normally make decisions, they only discuss issues – but that the formation of the IGN was an exception, and that this decision must have been recorded. He also explained that the amount of money suggested in the budget of he endorsed IGN proposal was not a lot of money. He suggested that it was more important to consider how the IGN can make its mark or brand itself. He said that this could be achieved by training activities and a Global Green Science and Technology Award, for example, and with such activities, the IGN will obtain meaningful recognition. He also said that compiling an asset inventory takes a lot of time, but that it is important to do. He therefore recommended that the IGN to concentrate on immediate activities.

Pietro Tundo said that the budget approved by G8 Ministers of Research was already defined and thus, each country will cope according to its own regulations.

Ken Seddon agreed that asset inventory compilation is time-consuming, but arranging and holding workshops is faster and more efficient.

Howard Alper said that in the near future, the Canadian Government has already contributed \$660M to Green Science and Technology.

Ken Seddon said that the IGN will obtain added value through arranging and holding international Green Chemistry training workshops and that the responsibility for the organisation of these workshops can be rotated amongst the IGN member countries.

Joan Brennecke agreed, but suggested that an asset inventory nevertheless remained an important task to perform.

Howard Alper again explained that training workshops and awards were easier and faster.

Ken Seddon agreed that training workshops and the establishment of a Global Green Chemistry Award were good starting point activities for the IGN.

Howard Alper said that he sat on the NATO Science Committee, and the latter may be supportive of training activities.

Mohamed Tawfic said that ASI workshops were excellent opportunities for information dissemination and suggested that an application be made to NATO to arrange such a training workshop.

Howard Alper said that he agreed with this and that an inventory is needed but in addition, immediate actions are important as well.

Denis Neibecker said that compiling an asset inventory will take at least a year.

Ken Seddon said that it was important to arrange a meeting or workshop as soon as possible while the Stern report from the UK is still receiving much publicity, but that funding for such a meeting was required.

Joan Brennecke mentioned that a CO₂ Utilisation and Mitigation Meeting will be taking place in July 2007 in Kingston Canada next year, and suggested having the next IGN meeting immediately after this meeting.



Howard Alper said that he thought that this was a good idea. He further suggested not using Climate Change nomenclature for the meeting, since this could place several countries in difficult positions. He suggested that the Stern report nomenclature be used instead. He also said that using Stern report nomenclature is desirable since Canada does not support the Kyoto Protocol goals although they have their own internal goals.

Ken Seddon said that a good window of opportunity currently exists for arranging a workshop due to the recent publication of the Stern report.

Howard Alper said that a short term goal such as an award will give good publicity to the IGN. He suggested an award similar to that given by Volvo in Sweden for environmental science would be excellent, but the award must be in the name of the IGN.

Ken Seddon said that branding the IGN was the most important immediate goal for the network and that, thereafter, other activities can follow. He explained that it was important to first cement the IGN's identity, and then for it to emerge with additional activities. He suggested that an IGN action plan for the next 12-24 months be drawn up to include conferences and training workshops, while in the background, asset inventory construction is undertaken. He further explained that the IGN cannot perform research and development activities until the IGN was a true G8 unit where all the G8 countries are represented. He said that while the remaining G8 representatives are sought for the IGN (*viz.* Germany and Japan), training and exchange visits can be undertaken and the outlines in the endorsed IGN document start being addressed.

Howard Alper said that outreach, especially to developing countries, would be an extremely important activity for the IGN to embark upon to achieve training and development in Green Chemistry worldwide. He also said that there were good prospects for obtaining corporate sponsorship without attribution for outreach activities.

Joan Brennecke asked if contributing corporations would have to be recognised.

Howard Alper replied that they would, but not in the name of the award. He explained that this was in order to achieve the branding that the IGN requires and thus that the IGN award for example, must be an IGN brand. He said that he would ask the National Science Advisor of Canada for the minutes of the Carnegie Group meeting (where the IGN document was endorsed) in order to confirm whether the budget therein had been approved or not.

Pietro Tundo said that he felt that funding for the IGN from the member governments will eventually be obtained but that, in the meantime, he agreed that training, awards and in the background, asset inventory compilation, were all important activities. The execution of the Executive Project will follow according to the available funds.

Howard Alper pointed out that only Ministers in the G8 have budgets while science advisors usually do not, for items such as support of the IGN.

Joan Brennecke added that science advisors also have no power.

Howard Alper said that the key issue was thus a lack of money, and that only some countries are capable of making immediate decisions.

Ken Seddon said that Lord Sainsbury, the UK Science and Innovation Minister, does have funds.

Mohamed Tawfic said he thought it was important to draw up a plan for IGN activities for the next 2-3 years.

3. Action Plan Construction for Delivery to IGN Science/Environment Ministers

Ken Seddon suggested that the initial (next 12-24 month period) IGN activities include the following:

- (i) To run a meeting under the banner of the IGN that will include approximately 150 students and researchers, consisting of two weeks of intensive training in Green Chemistry;



- (ii) To have the next IGN meeting after the CO₂ Utilisation and Mitigation Meeting in Kingston, Canada in July 2007;
- (iii) The establishment of an outreach programme to Africa, to be hosted in South Africa, which should include arrangements for student exchange;
- (iv) The establishment of a global IGN Green Science and Technology Award.

Ken Seddon also said that extensive media coverage would be important as well as lectures by world-renowned scientists (e.g. Nobel Prize laureates) to make the launch of the global IGN award for Green Chemistry visible. He finished by saying that specifics must be drawn up for his suggested list of activities for the IGN Action Plan for the next 12-24 months.

Mohamed Tawfic suggested that not only students be present at the proposed IGN ASI.

Ken Seddon suggested that a Green Chemistry meeting could be run in the future aimed at politicians.

Janet Scott said that this should work well and the Carnegie Group could be asked to nominate three people from their respective countries to attend a meeting aimed at politicians and that a similar type of meeting had been held in the past in Australia.

Joan Brennecke said that such a meeting if arranged well could pay for itself.

Ken Seddon said that it is simpler for such a meeting aimed at politicians to be run nationally, but that it would be more difficult to run it internationally.

Howard Alper said that if such a meeting was packaged and promoted well, governments will send key people to attend.

Ken Seddon agreed.

Pietro Tundo said that if such a meeting will be endorsed by the Ministers, attendance will be assured and IGN Members will do their best efforts to attain it.

All in attendance at the IGN meeting agreed to Ken Seddon's proposed IGN activities to be arranged over the next 24 months.

Joan Brennecke stressed that it was important for each IGN country not to forget to also compile an asset inventory while the proposed Action Plan activities are taking place.

Ken Seddon said that it would have to be decided when year 1 of the Action Plan starts.

Howard Alper suggested that the start of the Action Plan be delayed until the next Carnegie Meeting that will take place on 7th December 2006 in Leipzig, Germany.

Janet Scott suggested that the constructed Action Plan be presented to the Ministers and Science Advisors at the Carnegie Meeting on 7th December 2006 in Leipzig, Germany.

Howard Alper said that one Minister at the Carnegie Group meeting would have to ask the other Ministers if they approve of the Action Plan and suggested that the Italian Minister take the lead in this.

Joan Brennecke pointed out that even if the Italian Government supplies funding to the Italian IGN node, funding will only be obtained for the USA node in the next fiscal year budget.

Howard Alper said that this should not be a problem. He also said that the list of Action Plan activities must be ready before the Carnegie meeting on 7th December 2006 so that the Italian Minister can present it to the other Ministers and also so that the Ministers can be made aware of the Action Plan before the Carnegie Meeting.

Ken Seddon said that the list will be a simply half page document pointing out that at present the IGN has no funds, but that the IGN are nevertheless taking action.



4. Any Other Business

Howard Alper said that the IGN should wait until after the Carnegie Group meeting in December 2006 before beginning to arrange the next meeting of the IGN.

Janet Scott suggested that in future, permanent observers of the IGN meeting should provide funds towards the network.

Meeting concluded at 16h44.



APPENDIX 1

The email addresses of the meeting attendees are:

Pietro Tundo (Italy)	tundop@unive.it
Roberto Ballini (Italy)	roberto.ballini@unicam.it
Howard Alper (Canada)	howard.alper@uottawa.ca
Joan Brennecke (USA)	jfb@nd.edu
Ken Seddon (UK)	k.seddon@qub.ac.uk
Maggel Deetlefs (UK)	m.deetlefs@qub.ac.uk
Tao Jiang (China)	hanbx@iccas.ac.cn
Janet Scott (Australia)	janet.scott@sci.monash.edu.au
Denis Neibecker (France)	denis.neibecker@lcc-toulouse.fr
Elena Golubina (Russia)	golubina@kge.msu.ru
Mohamed Tawfic (Egypt)	motawfic@tedata.net.eg



APPENDIX 2

The English translation of the letter from Mr. Fabio Mussi, the Italian Minister of Education, Research and University

Ladies and Gentleman,

Today's event, that I consider of strategic importance on the present international scenario, represents the beginning of a new pathway in the scientific, technological, educational and informative field of the sustainable development. The main objectives that we want to achieve are highly ambitious, so they require scientific and technological knowledge that only a wide international collaboration can achieve. The matter is a fascinating subject and is very actual: together with the energy it characterizes a big challenge for our near future, not only for the countries represented in this meeting but for the whole world.

Nowadays environment and energy are, in fact, part of everyone conscience and our scope is to aspire to a wealthy future where a healthy and secure quality of life is a must.

Quite often the technology has produced, with its extensive development sometimes unscrupulous, results which are not always respectful to the environment where we live. It is now time to focus with great attention, certainly no more superficial but extensive and comprehensive, to all the problems of the present environment situation.

The IGN (International Green Network) and its Executive Project look suitable to give a coordinated respond to all these problems and requests, as the G8 Ministers of Research have already recognized.

Therefore I want to highlight the importance of this initiative and, with my frank appreciation I wish you to reach entirely the objective to provide wealth and prosperity both to us and to the whole world.