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# *The ANS Globe*

*...e-news from the ANS International Committee*

## **From the editors**

The ANS Globe is the Bulletin of the American Nuclear Society's International Committee. The ANS Globe has as its mandate the dissemination of news of international interest to International Committee members and to others. Please send us your letters, articles, and/or comments for consideration towards the next issue.

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## From the Chair



Dear friends,

### *Building on momentum...*

The last six months have seen a notable acceleration of the international nuclear momentum all over the world:

- In Asia, South Korea is ordering new plants; Japan is revising its National Energy Plan in order to reach the targeted 41% share of nuclear electricity production. India plans a new nuclear plant, while the Tarapur Unit 3 is in full operation ahead of schedule. China starts implementing its 5-year nuclear energy plan at Hongyanhe.
- In Europe, the UK Energy Review confirms the necessary role of nuclear energy in the country's electricity production with an increasing public opinion support. The new Swedish coalition is more positive about nuclear than its predecessor. Accelerating nuclear power funding, Russia is defining the needs and technical requirements for the new reactors of its ambitious nuclear program. The final agreement between Urenco and Areva has been signed to establish a new centrifuge enrichment plant in France...
- In the United States, reactor vendors order major components in anticipation of US orders for new reactors; more license applications are being sent to the NRC. Meanwhile, this Authority has licensed the construction of a new enrichment plant in New Mexico, the first major nuclear facility licensed in the US in the last 30 years. The DOE is pushing ahead with the GNEP initiative and proposing a two-phase development for fuel recycling.
- In Canada, the Ontario government has confirmed that new nuclear capacity will be an important part of its plan.

### *Building on partnership*

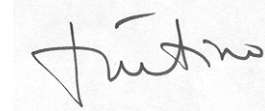
With this dynamic momentum as background, it is particularly worthy of note that nuclear-fuel-cycle strategies are currently discussed or revisited among specialist circles. Several new proposals have been made recently at the international level, in particular during the G8 meeting in July and in September at the IAEA General Conference:

- President Putin's Global Nuclear Infrastructure Initiative to establish a system of international centers aimed at providing nuclear fuel services under IAEA safeguards
- The US Global Nuclear Partnership to develop innovative nuclear reactors and fuel-cycle technologies
- In addition, Russia and China are about to join the 11-member Generation IV International Forum (GIF), which is developing 4<sup>th</sup>-generation reactor technology for deployment after 2020.

We should be proud of the relevant and pioneering contribution which the ANS brings to these developments through the successful series of GLOBAL Conferences initiated 13 years ago.

ANS next meetings in Albuquerque, in Nice with ICAPP, in Boise for GLOBAL 2007 should put a high priority on the international agenda. As President MacFarlane put it recently:

*“Out of these meetings has developed an international consensus of what the fuel-cycle of the future might become...”*



France Brès-Tutino

## **News from Sister Societies and International News**

- [The British Nuclear Energy Society:](#)

Keith Simm, of S and K Publishing Limited, and editor of the “Nuclear Future”, sends the following report on the changing nuclear scene in the UK:

“News that Westinghouse has signed contracts valued at more than M\$300 to provide equipment and technology for two APRs to be built in South Korea come as no surprise to those who have watched the company’s potential orders for its AP1000 increase substantially over the past few years. What was surprising, however, was the UK government’s decision to sell-off Westinghouse at a time when a nuclear renaissance was happening. The only consolation is that, while the UK’s loss is Toshiba’s gain, the sale did swell the UK exchequer’s coffers by some \$5.4 billion.

But the great sell-off doesn’t end there – the British Nuclear Group arm of BNFL is also up for sale. This Group was formed in 2004 as BNFL’s specialist clean-up business focusing on decommissioning nuclear sites. To date, it has successfully done so at fifty sites. In its first full year, the Group announced profits of M\$136. The sale has attracted much interest, with Fluor the latest bidder, with an offer in excess of M\$477.

Meanwhile, on August 31, some 40 protesters were arrested trying to gain access into the Drax coal-fired power station in North Yorkshire, the largest coal-fired power station in Europe, with a maximum output of 3,945 MW. It contributes 7% of the nation’s electricity. The protestors’ intention was to close the station to highlight its contribution to global warming (~21 million tons of CO<sub>2</sub>/year). But these are not the same “greens” who would have all the UK’s nuclear power stations decommissioned immediately. If they ever got their way, it would be a very cold winter indeed.”

- [The Canadian Nuclear Society](#) (CNS):
- Dr. Daniel Meneley, well known in the ANS, is the new Canadian Nuclear Society President, for the term 2006 June to 2007 June, succeeding Dr. John Luxat, who remains on the Executive as Past President. Other members of the Executive are:
  - 1<sup>st</sup> VP & President Elect: Eric Williams.
  - 2<sup>nd</sup> VP: Robert L. Hemmings
  - Secretary: Prabhu Kundurpi
  - Treasurer: James Harvie
  - Financial Administrator: Ken L. Smith
  - Executive Administrator: Ben Rouben

The CNS recently hosted and organized the ANS PHYSOR-2006 Reactor Physics Topical. PHYSOR-2006, held 2006 September 10-14 in Vancouver, British Columbia, was very successful. It attracted more than 390 of the world's leading reactor physicists and nuclear engineers, who presented work on a broad range of subjects in reactor physics and related topics. A Workshop on reactor-physics computer programs (TRITON, PARCS, and DRAGON) preceded the Conference proper and was attended by more than 90 registrants.



[PHYSOR-2006 Thunderbird Logo](#)

The Canadian Nuclear Society's 5<sup>th</sup> International Steam Generator Conference is coming up very soon, November 26-29, in Toronto, Ontario. Ahead of its spring course on CANDU Reactor Physics, the CNS will offer the following courses this coming January: "Chemistry of Preservation, Degradation, and Activity Transport" and "Eddy Currents for Engineers". In 2007, the CNS will be hosting the SmiRT-19 (Structural Mechanics in Reactor Technology) Conference, 2006 August 12-17, in Toronto, Ontario, and the 13<sup>th</sup> Degradation Conference, 2006 August 19-23, in Whistler, British Columbia.

- [France](#): Several members of both the [French Section](#) and the [Société Française d'Énergie Nucléaire](#) are busy getting ready for the 2007 International Congress in Nuclear Power Plants ([ICAPP-2007](#)), to be held in Nice, France, May 13-18, 2007.
- [The ANS French Section](#):

[President MacFarlane's visit to France](#)

The French Section invited ANS President [Harold MacFarlane](#) to its [General Assembly](#) held on 25 September at the Club "France-Amériques" in Paris. On this occasion, he gave a presentation on "A New US Nuclear Energy Landscape" to a large audience, including in particular, this year, many young nuclear engineers as well as senior executives from research, industry and international agencies.



During his visit, President MacFarlane had meetings with the French Section Board and with Areva senior executives. In addition, a one-day technical tour was scheduled at [CEA Cadarache Research Center](#), highlighting in particular nuclear fuel development with the lab scale fuel particle fabrication facility, [GAIA](#), the [LEFCA](#) (Laboratoire d'Etudes et de Fabrication de Combustibles Avancés) hot laboratory for TRU fuel fabrication, and the [MASURCA](#) (MAquette SURgénérateur de Cadarache) critical facility. This visit also included the [Helium Technology Platform](#) with high temperature helium-cooled systems technology test benches.

### [2006 General Assembly](#)

In addition to President MacFarlane's lecture and President Carré's French Section Annual Report, two items of the agenda were devoted to the [Young Generation](#):

- In the framework of the International Student Exchange Program ([ISEP](#)) sponsored by ANS, US DOE and the French Section, two French students, Pierre Hanania and Aurélien Bernard from *Ecole des Mines de Paris* had been selected in Spring amongst nine excellent candidates. Thus, in summer, they had the opportunity to spend a [three-month internship](#) in [Argonne Research Labs](#). Both invited to the General Assembly, they gave a very interesting and enthusiastic report on this fruitful experience from a scientific, cultural, and human viewpoint.
- The Young Generation was also well represented during the [Young Nuclear Engineer Award](#) ceremony. This award is open to French PhD students working in nuclear research or industry and interested in participating in ANS Topical or Annual meetings held in the US. This year, [three awardees](#), Pauline Gentner from *Ecole des Mines de Paris*, Paul Gauthé from *Ecole Centrale de Lyon*, and Sébastien Belon from the French Institute for Nuclear Science and Technology received this grant, which will support their travel expenses, accommodation and registration fee to an appropriate ANS meeting. For instance, Pauline Gentner has already chosen to attend the 2007 ANS Annual Meeting in Boston.

### [The new French Section Board](#):

Left to right: [François Wald](#), [Frank Carré](#) (French Section Chair), Boris Supiot, Alain Kavenoky, Edouard Hourcade, President MacFarlane, Jacques de la Ferté, France Brès-Tutino, Jean-Claude Gauthier and Rosine Couchoud (Vice Chair)



- [India:](#)

The 17<sup>th</sup> Annual Conference of the Indian Nuclear Society (INSAC-2006) will be held 2006 November 21-14 in Mumbai. The theme of the Conference will be “Energy Foresight – India 2050”.

- [The International Nuclear Societies Council:](#)

The INSC issued a statement on nuclear power to the G8 Heads of State in 2006 May, titled “**Providing for Our Energy Future While Protecting our Environment**”. The statement addresses the need to assure the sustainability of the world's long-term energy supply, and urges the deployment of thermal-neutron reactors as well as of a program to develop fast neutron reactors and advanced proliferation-resistant fuel cycle facilities. The following is a partial text from the INSC statement:

“To assure the sustainability and reliability of the world’s long-term energy supply, the International Nuclear Societies Council (INSC) calls upon the G8 Heads of States and Governments to encourage the deployment of advanced nuclear power stations and pursue an aggressive international development program of fast neutron reactors to assure future long-term uranium supply and efficiently manage nuclear wastes.

.....  
Countries that have the capability to use nuclear power safely and economically, but have elected to forgo this use, are actually emitting more CO<sub>2</sub> into the environment than needed, and consuming more fossil fuels than needed. They are depleting resources and putting pressure on fuel prices, to the detriment of those poorer and less industrialized countries for which nuclear power is not yet an option. The INSC calls on those countries to seriously reconsider their policies and priorities, to encourage greater development of safe nuclear energy, and to support strongly the efforts of other governments to do the same.

Today, nuclear power is devoted almost exclusively to generating electricity. New types of reactor design under development could open the field to non-electrical applications, notably transportation through clean production of hydrogen, and desalination. Currently 97% of the energy used for transportation comes from oil.

Today there are several new types of advanced reactor ready for deployment— designs that have improved safety and economic performance. In addition, there are smaller advanced reactors under development that are suited for developing nations that do not need large nuclear power stations. Should the deployment of nuclear power stations expand as expected, care must be taken that its development be sustainable, and not limited by uranium availability.

Nearly all current power reactors are “thermal” - they use thermal neutrons, and therefore extract less than 1% of the energy in the mined uranium. The remainder of the energy is left unused in the spent fuel and in the depleted uranium that remains after uranium is enriched for use in thermal reactors. With known fast-neutron

reactor technology, this unutilized energy can be harvested, thereby extending a hundredfold the energy extracted from the same amount of mined uranium. Spent fuel from thermal reactors and depleted uranium from the enrichment process can be utilized in fast-neutron reactors; the energy that can be extracted from this alone would be sufficient for several hundred years without additional mining.

Fast neutron reactors with advanced fuel-cycle facilities also can recycle transuranic elements, thus reducing significantly the long-lived radioactive waste and therefore facilitating the acceptability of radwaste disposal sites.

To assure the sustainability and reliability of the world's long-term energy supply, the International Nuclear Societies Council sees an urgent need to deploy safe and proven thermal-neutron reactors and to commit to an international program to develop fast neutron reactors and advanced proliferation-resistant fuel cycle facilities such that the long-term energy contribution from clean nuclear power can be assured."

- [The Israel Nuclear Society](#) has had a new elected Council since May: President Yigal Ronen, Vice-President (International Relations) Louis Tepper, Council members Zeev Alfassi, Yaakov Barnea, Ezra Elias, Barak Tavron, and Ilan Yair.

- [Italy:](#)

On account of the increasing cost of a kWh in Italy (roughly double the average in the EC countries and 3 times that in France and Spain), the further increase in demand (3-6% per year since the anti-nuclear moratoria of 1987), and the relevant environmental issues, the debate on nuclear and renewable energies is pressing. Presently, the 18% of electricity of nuclear origin is imported and distributed through the country. The University of Milano (UNIMI) and the National Institute of Nuclear Physics (INFN) are going to organize Workshops on this topic. The next will be in Milano, Nov 7-8 2006, "Energy for The Future: Nuclear and Renewable sources" ([www.mi.infn.it/energiaperfuturo](http://www.mi.infn.it/energiaperfuturo)), with speakers from the main Italian universities and energy companies (Ansaldo Nucleare, Del Fungo Giera Energia, ENEA-Roma, SoGIN, Polytechnic of Milano, University of Milano, University of Pisa). This event is devoted to the general public other than scientists and engineers, to high school students, politicians and journalists.

- [Japan Section of the ANS:](#)

Japan Local Section Steering Committee Executive from 2006 April to 2007 March are:

Chair:	Hisashi Ninokata (TIT)
Vice-Chair (Chair-Elect):	Kiyoshi Yamuchi (MHI)
Secretary of General Affairs:	Toshiro Mochiji (JAEA)
Secretary of Account:	Ryuichi Oshima (MHI)

The 37<sup>th</sup> General Meeting of Member will be held in 2007 March.

- [The Korean Nuclear Society:](#)

The new President of the Korean Nuclear Society is [Dr. Si-Hwan Kim](#), of the Korea Atomic Energy Research Institute.

The Third Annual World Nuclear University Summer Institute will be hosted by the Republic of Korea in 2007. Dr. Byung-Joo Min of KAERI sends the following report:

“After starting in the West, the Summer Institute is moving to the Far East, which means the WNU-SI will become world-wide both in name and reality. The Korea Atomic Energy Research Institute (KAERI) and Korea Hydro & Nuclear Power Co. (KHNP) are the host organizations, in cooperation with the WNU Coordinating Center. It will be exciting for nuclear professionals from around the world to visit Korea, once known as “the country of the morning calm” but now known as “the country of the morning rush”. Self-reliance of nuclear energy technology has been the backbone of the country’s economic growth. Starting with the first PWR in 1978, there are now 16 PWRs and 4 PHWRs in operation, and 6 PWRs are under construction. The capacity factor of the Korean nuclear power reactors has been maintained above a 90% level, which exceeds the world-average by 15% or more. Korea also participates in various international programs, such as the Gen IV International Forum (GIF) and the International Fusion Experimental Reactor (ITER) project.

The curriculum for the Summer Institute will include cutting-edge technology presentations on a full range of topics relevant to the future of nuclear technology: global setting, international regimes, technology innovation, and nuclear industry operations. Reflecting on previous experiences, considerably more time will be assigned to discussion and the issues forum.



Bulguksa  
in  
Gyeongju

The WNU fellows will have a great opportunity to visit various Korean nuclear facilities and enjoy a number of cultural and social events around Daejeon, a city of science, and Gyeongju, a city of history, which has several sites of World Cultural Heritage and also hosts a low- and intermediate-level radioactive waste disposal facility. They will also have the chance to shake hands with the WNU Chancellor & IAEA Director General-Emeritus, Hans Blix! WNU Fellowship application forms and detailed information are available on the WNU website ([www.world-nuclear-university.org](http://www.world-nuclear-university.org)).

- [Latin American Section of the ANS:](#)

Treasurer Jorge Spitalnik reported the composition of the Executive Committee for 2006/2007:

- Chair: Claudio Rodrigues, Instituto de Pesquisas Energéticas e Nucleares – IPEN ([claudio@ipen.br](mailto:claudio@ipen.br))



- Vice-Chair: Dario Jinchuk, CNEA ([jinchuk@cnea.gov.ar](mailto:jinchuk@cnea.gov.ar))
  - Secretary: João José Furley Dos Santos, IBQN ([furley@ibqn.com.br](mailto:furley@ibqn.com.br))
  - Treasurer: Jorge Spitalnik ([jspitalnik@las-ans.org.br](mailto:jspitalnik@las-ans.org.br))
  - Members (3 years): Gonzalo Torres Oviedo ([gtorres@cchen.cl](mailto:gtorres@cchen.cl)), Sergio Mathias ([mathias@eletronuclear.gov.br](mailto:mathias@eletronuclear.gov.br)), and Zieli Dutra Thomé Filho ([zielithome@ig.com.br](mailto:zielithome@ig.com.br))
  - Members (2 years): Jorge Fabián Calzoni ([vicepresidencia@cnea.gov.ar](mailto:vicepresidencia@cnea.gov.ar)), Angelina Díaz García ([angelina@aen.energia.inf.cu](mailto:angelina@aen.energia.inf.cu)), and Cecilia Martín Del Campo Márquez ([cecilia.martin.del.campo@gmail.com](mailto:cecilia.martin.del.campo@gmail.com))
  - Members (1 year): Alfredo Tranjan Filho ([tranjan@cnen.gov.br](mailto:tranjan@cnen.gov.br)), Gustavo Alonso Vargas ([galonso@nuclear.inin.mx](mailto:galonso@nuclear.inin.mx)), and Juan Luis François ([jlfi@fi-b.unam.mx](mailto:jlfi@fi-b.unam.mx))
- [The Mexican Nuclear Society:](#)

The Sociedad Nuclear Mexicana has nominated two of its members, Dr. Gustavo Alonso and Professor Juan-Luis François, for Non-US member of the ANS Board. At its meeting in Reno, the ANS International Committee endorses these nominations, and took an action to recommended the nominees to the 2006 ANS Nominating Committee for consideration.

- [Morocco: Upcoming Conference PHYTRA1](#)

The Moroccan Association for Nuclear Engineering and Reactor Technology, “GMTR”, is busy organizing the PHYTRA1 Conference, to be held in Marrakech, Morocco, 14-16 March 2007. PHYTRA1 will be a celebration for the operation of the first research reactor in Morocco, a TRIGA Mark II. Marrakech, founded about 1062, is considered the first tourist destination in Morocco. It boasts many monuments, e.g., the Saadian tombs, the Koutoubia mosque, the Badia and the Bahia imperial palaces, and the immense basins of Menara and Agdal. The Atlas Mountains are very close by.

- [OECD:](#) Information gleaned from the NEA Press Room on the Nuclear Energy Agency’s website (<http://www.nea.fr>)

Nuclear-electricity generation in the OECD area provided 2,236 TWh in 2005, about 1% less than in the previous year. This is due primarily to decreased production in the United States, coming off record production levels in the previous year, and to decreases in Germany and Sweden following the shutdown of reactors as part of their continued implementation of policies to phase out nuclear energy. In all, nine units are expected to be shut down over the next five years, all in the OECD Europe region. Five of them are in the United Kingdom. In contrast, at the start of 2006, ten nuclear units representing a total capacity of 8.6 GWe were under construction in OECD countries, with firm commitments for 17 more, representing a total capacity of 30.2 GWe. Four are being built in Korea, three in Japan, two in the Slovak Republic and one in Finland.

On 10 April 2006, the US Department of Energy (DOE) and the NEA signed an Arrangement for Co-operation in the Field of Nuclear Data and Computer Programs. Assistant Secretary for Nuclear Energy, Dennis Spurgeon, signed for the DOE and Director-General Luis Echávarri signed on behalf of the NEA. The arrangement extends the exchange of nuclear data and computer programs pertinent to civilian nuclear science and technology initiated under the Co-operative Arrangement in the Field of Nuclear Data and Computer Programs signed on 16 December 1985. The new arrangement runs for five years, automatically renewable.

The NEA is marking twenty years since the Chernobyl accident with two new publications: *Stakeholders and Radiological Protection: Lessons from Chernobyl Twenty Years After* demonstrates the importance of local involvement in addressing the needs of affected populations to reduce their radiation dose. *International Nuclear Law in the Post-Chernobyl Period*, jointly published with the International Atomic Energy Agency (IAEA), is a compendium of articles on international nuclear law initiatives since Chernobyl.

- [Romania](#)

The nuclear share of electricity in Romania will double in 2007, when the second unit of Cernavoda Nuclear Power Plant will come into service, joining Unit 1, which was commissioned in 1996. Both units are CANDU heavy-water reactors. It was also learned that Cernavoda Units 3 and 4 will be built at the same time. A feasibility study by SN Nuclearelectrica SA and financial consultant Deloitte Romania SRL revealed this option as the best technical and most economic solution.

- [Swiss Nuclear Society:](#)

The Swiss Nuclear Society will host the next ANS Reactor Physics Topical, PHYSOR-2008, which will be held 2008 September 14-19 in Interlaken, Switzerland. It will also host IYNC-2008, the International Youth Nuclear Congress 2008, which is scheduled 2008 September 20-26, to follow just after PHYSOR-2008.

## **Highlights from the 2006 June Reno Meeting**

In the area of co-operation with international societies, the International Committee heard from member Dr. Rolland Langley, who had been appointed to lead an ad hoc subcommittee with the mandate to evaluate the duties of International Committee Points-of-Contacts with Agreement Societies. The proposal put forward by D. Langley and the subcommittee was that the IC should take advantage of electronic communication to expand relations with ANS Agreement Societies, and, further that members of the IC be appointed annually by the IC Chair to electronically communicate with Agreement Societies in specific regions. This proposal was approved by the IC, and regional volunteers were immediately appointed by Chair France Bres-Tutino, as follows:

- Americas – H. Peter Planchon
- Europe/Africa – Mark Reinhart
- Asia/Oceania – Kiyoto Aizawa.

## The International Mini-Forum

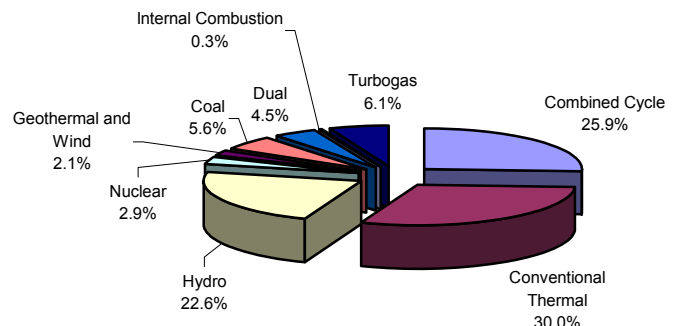
Chair France Brès-Tutino had invited [Dr. Gustavo Alonso](#), President of the Sociedad Nuclear Mexicana, to give a Mini-Forum presentation on “Mexican Nuclear Policy Status and Perspectives”.



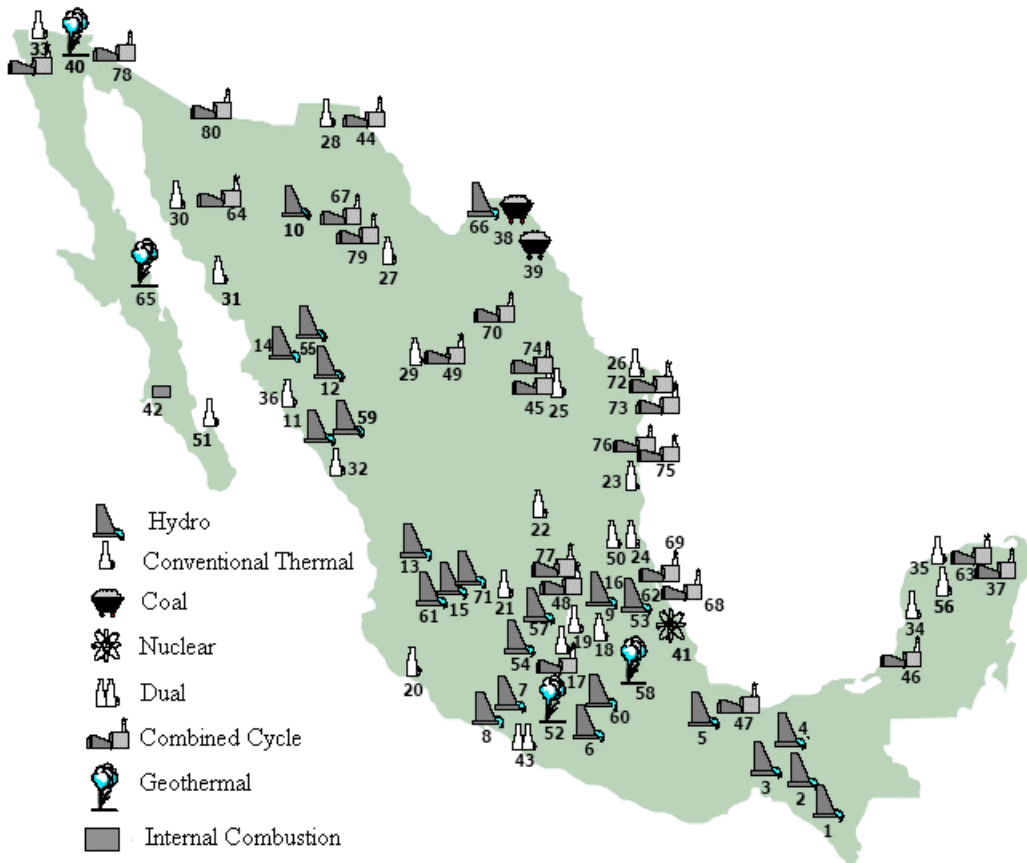
Dr. Alonso first gave a status report on the Mexican Nuclear Society (SNM). The SNM has 275 members, of whom 28% are from the universities, 26% are from national laboratories, 23% are staff from the Federal Electricity Commission, 12% are from service providers.

The installed electric generating capacity in Mexico in 2005 was 45,576 MW, distributed as in the illustration.

Electric output in 2005 was 216 TWh, 50% produced by fossil plants and 5.4% by nuclear generating stations.



The map below gives a good illustration of the different types of electricity generation in the various regions of the country:



The Laguna Verde Nuclear Plant consists of two BWRs, each with a generating capacity of 682 MWe (2027 MWth).

Unit 1 started up on 1990 July 29, and Unit 2 on 1995 April 10.

Laguna Verde's lifetime average availability and capacity factors have been 85.9% and 82.2% respectively.



Electricity consumption in Mexico is 2,209 kW.h/capita, which compares with a world average of 2,300 kW.h/capita, and an average of 8,500 kW.h/capita in industrial countries.

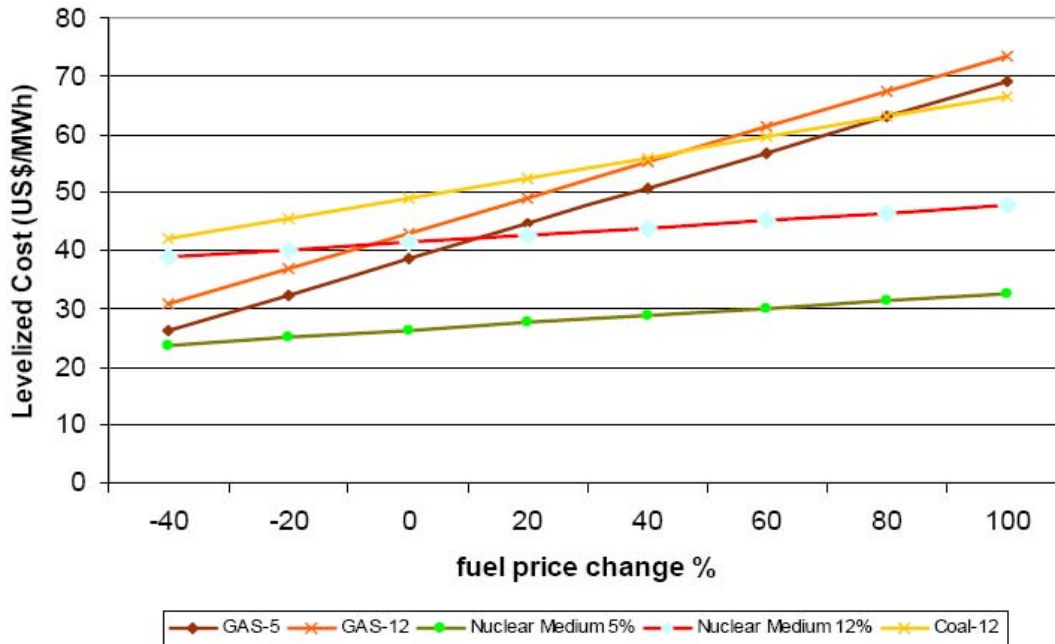
**Mexico needs to increase its electric generating capacity to provide better living conditions for its inhabitants!**

In the last 10 years, the Mexican installed capacity has grown at an average rate of 3.97% per year, and the actual electricity generation has grown by 4.28% per year. The plan (the annually reviewed “Mexican electricity prospective”) for Mexico’s infrastructure in the electric sector in the period to 2014 includes

- committed plants, which are already under construction, or plants for which financial commitments have been made, or for which bids have already been received, and
- plants which are not yet committed, or for which the finances have not yet been set.

Prospects are for an additional 22,126 MW of capacity in the next 10 years, 6,184 MW in the first category, and 15,942 MW in the second. In the uncommitted category, the energy source has been decided for 9,764 MW, and not yet decided for 6,178 MW. The choice of technology is based on minimizing investment and operation costs. On this basis, combined-cycle plants come first, the most economical choice for gas prices up to US\$4/mmBTU. However, the volatility of gas price means that the nuclear option is one which must be considered.

The effect of various fuel prices on the levelized electricity cost is shown in this figure (at 0%, gas price is \$4.44/mmBTU; 40% corresponds to ~\$2.50/mmBTU):



A National Committee on Nuclear Energy Issues has been instituted by the Ministry of Energy. The Committee may recommend nuclear technology to fill non-committed capacity, perhaps at least 2000 MW of nuclear plants.

More generally, a long-term-vision for a Nuclear Program for Mexico will be defined by the Committee on Nuclear Energy Issues.

## Young-Generation Corner

### IYNC2006

Lisa Stiles-Shell, the new IYNC Network President (succeeding Alexandre Tsibulya), sends this report on IYNC2006:

“If there were any lingering doubts about the power of a worldwide nuclear renaissance, they were put to rest this summer at the International Youth Nuclear Congress 2006 in Sweden and Finland. Over 350 young (and young at heart!) professionals from 48 different countries gathered in Stockholm beginning June 18. From the beginning, the enthusiasm and optimism of the youth in the nuclear industry was contagious as the IYNC Board of Directors, representing over 50 countries around the world, issued its Declaration on Nuclear Science and Technology [see further below].

Following the opening plenary session, at which leaders in politics and the nuclear industry addressed the attendees, there were two and a half days of technical presentations and workshops. Topics ranged from used fuel storage, transmutation, and materials enhancements to advanced reactor design and improvements in thermal hydraulic modeling. There was also increased interest in developing communication strategies to gain more public acceptance for nuclear. One of the most interesting papers

included a proposal for a 2 MW pebble-bed type reactor to support a Mars space station. All of the workshops were well attended and the IAEA workshop on Chernobyl was packed to overflowing.

Perhaps the most anticipated part of the conference was the technical tour at Olkiluoto where the first EPR plant is being built. Attendees were transported by overnight ferry from Stockholm to Turku in Finland. TVO was a fantastic host providing buses, meals, and knowledgeable tour guides. Following the technical tour, participants enjoyed the Farewell dinner at Turku castle, a 600-year-old fortress.

The Board was pleased to receive three high-quality proposals to host IYNC 2008 from China, France, and Switzerland. After an extremely close vote, Interlaken, Switzerland was chosen as the site for the 2008 Congress.”

The IYNC Declaration issued at IYNC2006 urged world leaders to embrace a nuclear tomorrow and to acknowledge the contribution that nuclear energy makes – as part of an overall energy mix that includes renewables – in combating climate change, and to recognise how nuclear science and technology can help meet the social, economic and environmental objectives that underpin global sustainable development. The Declaration emphasises the need to dispense with the ideological arguments, false assumptions and non-scientific approach that have hindered the nuclear debate so far. The IYNC hopes in this way to present a vision of a new nuclear tomorrow that - driven by science, technology and the irresistible energy of youth - can help meet the world’s energy needs while preserving the integrity of the environment. The Declaration can be found at <http://www.iync.org/cfp/declaration.pdf>.

### [A report on IYNC2006 from the French YG Delegates:](#)

A significant French Delegation of fifteen young and motivated engineers from AREVA (see photo below), CEA, EDF and ASSYSTEM France attended IYNC2006. It was a great opportunity to share international experience of nuclear knowledge and improve networking with nearly 400 International Young Generation members from 48 different countries all over the world. The French YG Network took this occasion to get further involved in IYNC activities and projects as the French team was one of the three applicants to host the next IYNC. They are now committed to help organize IYNC2008 in Interlaken with the Swiss YG.

[Edouard Hourcade](#)

Chair of the French YG Network

French Representative to IYNC and ENS YGN



## [IYNC2008!](#)

IYNC2008, the Fifth International Youth Nuclear Congress, will be held [September 20-26, 2008 in Interlaken, Switzerland](#), immediately following PHYSOR-2008.

## **Societies with Collaboration Agreements with ANS**

The following is a list of nuclear societies with collaboration agreements with the ANS, along with the corresponding website addresses. The Table contains also a few other entries of interest to ANS International Committee members.

<b>Society</b>	<b>Website or E-Mail Address</b>
Asociación Argentina de Tecnología Nuclear	-
Associação Brasileira de Energia Nuclear	<a href="http://www.aben.com.br">www.aben.com.br</a>
Association des Ingénieurs en génie atomique du Maroc	-
Atomic Energy Society of Japan	<a href="http://wwwsoc.nii.ac.jp/aesj/index-e.html">wwwsoc.nii.ac.jp/aesj/index-e.html</a>
Australian Nuclear Association	<a href="http://www.nuclearaustralia.org.au">www.nuclearaustralia.org.au</a>
Bangladesh Nuclear Society	-
British Nuclear Energy Society	<a href="http://www.bnes.com">www.bnes.com</a>
Bulgarian Nuclear Society	<a href="http://www.bgns.bg">www.bgns.bg</a>
Canadian Nuclear Society	<a href="http://www.cns-snc.ca">www.cns-snc.ca</a>
Chinese Nuclear Society	<a href="http://www.ns.org.cn">www.ns.org.cn</a>
Croatian Nuclear Society	<a href="http://hnd.zvne.fer.hr">hnd.zvne.fer.hr</a>
Czech Nuclear Society	<a href="http://www.csvts.cz/cns">www.csvts.cz/cns</a>
European Nuclear Society	<a href="http://www.euronuclear.org">www.euronuclear.org</a>
Hungarian Nuclear Society	<a href="http://www.kfki.hu/~hnucsoc/hns.htm">www.kfki.hu/~hnucsoc/hns.htm</a>
Indian Nuclear Society	<a href="http://www.indian-nuclear-society.org.in">www.indian-nuclear-society.org.in</a>
Israel Nuclear Society	<a href="mailto:alfassi@bgumail.bgu.ac.il">alfassi@bgumail.bgu.ac.il</a>
Lithuanian Energy Institute	<a href="http://www.lei.lt">www.lei.lt</a>
Malaysian Nuclear Society	<a href="http://www.mint.gov.my/mns">www.mint.gov.my/mns</a>
Nuclear Energy Society of Kazakhstan	<a href="http://www.nuclear.kz">www.nuclear.kz</a>
Nuclear Energy Society of Russia	<a href="mailto:ns@kiaer.ru">ns@kiaer.ru</a>
Nuclear Energy Society of Slovenia	<a href="http://www.drustvo-js.si">www.drustvo-js.si</a>
Nuclear Energy Society of Thailand	<a href="http://www.nst.or.th">www.nst.or.th</a>
OECD/Nuclear Energy Agency	<a href="http://www.nea.fr">www.nea.fr</a>
Polish Nuclear Society	<a href="http://www.ptn.nuclear.pl">www.ptn.nuclear.pl</a>
Romanian Nuclear Energy Association	<a href="http://www.aren.ro">www.aren.ro</a>
Romanian Society for Radiological Protection	<a href="http://www.ispb.ro/rsrp.htm">www.ispb.ro/rsrp.htm</a>
Slovak Nuclear Society	<a href="http://www.nuc.elf.stuba.sk">www.nuc.elf.stuba.sk</a>
Sociedad Nuclear Española (SNE)	<a href="http://www.sne.es">www.sne.es</a>
Sociedad Nuclear Mexicana	<a href="http://www.sociedadnuclear.org.mx">www.sociedadnuclear.org.mx</a>
Ukrainian Nuclear Society	<a href="http://www.ukrns.odessa.net">www.ukrns.odessa.net</a>
Women in Nuclear - Global	<a href="http://www.win-global.org">www.win-global.org</a>
<b>Affiliated National Societies</b>	<b>Website or E-Mail Address</b>
Belgian Nuclear Society	<a href="http://www.bns-org.be">www.bns-org.be</a>
<b>Associated Nuclear Organizations</b>	<b>Website or E-Mail Address</b>
International Nuclear Societies Council	<a href="http://insc.dyndns.org">http://insc.dyndns.org</a>
Pacific Nuclear Council	<a href="http://www.pacificnuclear.org">www.pacificnuclear.org</a>

<b>Non-U.S. Local Sections</b>	<b>Website or E-Mail Address</b>
Austrian Section	
French Section	<a href="http://local.ans.org/france/">http://local.ans.org/france/</a>
Italian Section	
Japanese Section	
Latin American Section	<a href="http://www.las-ans.org.br">www.las-ans.org.br</a>
Korean Section	
Swiss Section	
Taiwan Section	<a href="mailto:u805301@taipower.com.tw">u805301@taipower.com.tw</a>

## **Calendar of Events**

Some Upcoming International Conferences on Nuclear Topics  
(Please let us know your upcoming conferences for inclusion in this space)

### **2006**

- 12-16 November: ANS Winter Meeting, Albuquerque, New Mexico, USA – <http://www.ans.org/meetings>
- 12-16 November: 5th ANS International Topical Meeting on Nuclear Plant Instrumentation, Controls, and Human Machine Interface Technology, Albuquerque, New Mexico, USA – <http://www.ans.org/meetings>
- 21-24 November: 17<sup>th</sup> Annual Conference of the Indian Nuclear Society (INSAC-2006) “Energy Foresight - India 2050”, Mumbai, India – <http://www.indian-nuclear-society.org.in/>
- 26-29 November: 5<sup>th</sup> CNS International Steam Generator Conference, Toronto, Ontario, Canada (organized by the Canadian Nuclear Society) – <http://www.cns-snc.ca>

### **2007**

- 4-7 February: Conference on Nuclear Training and Education (CONTE), Jacksonville, FL, USA - <http://www.ans.org/meetings>
- 25 February - 1 March: Waste Management Conference, Tucson, AZ
- 11-14 March: Conference on Research Reactor Fuel Management (RRFM), Lyon, France; organized by the ENS



- 14-16 March: First Moroccan International Conference on Physics and Technology of Reactors and Applications (PHYTRA1), Marrakech, Morocco (organized by the Moroccan Association for Nuclear Engineering and Reactor Technology “GMTR”) - <http://www.fst.ac.ma/gmtr/phytra1/phytra1.html>



- 3-6 April: WORLDCOR’07, World Congress on Radiochemistry & the Nuclear Sciences, “Radiochemistry – The Universal Science”, Washington, DC, USA, <http://worldcor.radiochemistry.org/>
- 15-19 April: M&C + SNA 2006 Monterey, Joint International Topical Meeting on Mathematics & Computations and Supercomputing in Nuclear Applications, Monterey, CA – <http://mc-sna07.nuc.berkeley.edu>

- 22-26 April: 5th International Conference on Nuclear Engineering (ICONE15), Nagoya, Japan – <http://www.icone15.org>





- 22-27 April: International Conference on Nuclear Data for Science and Technology, Nice, France, organized by the Commissariat à l’Energie Atomique under the auspices of the OECD NEA – <http://www.nd2007.org>
- 30 April – 4 May: 17-th International Symposium on Radiopharmaceutical Sciences (ISRS2007), Aachen, Germany - <http://www.ISRS2007.de> [Chair Heinz H. Coenen, Forschungszentrum Jülich, info@fz-juelich.de]

- 13-18 May: ICAPP 2007, International Congress on Advances in Nuclear Power Plants, Nice, France – <http://www.sfen.fr/icapp2007>



- 28 May - 1 June: International Conference on Nuclear Criticality Safety (ICNC 2007), St. Petersburg, Russia
- 3-6 June: 28<sup>th</sup> Annual Conference of the Canadian Nuclear Society and 31<sup>st</sup> CNS/CNA Student Conference, Saint John, New Brunswick, Canada – <http://www.cns-snc.ca>
- 3-8 June: 13<sup>th</sup> International Conference on Emerging Nuclear Energy Systems (ICENES 2007), Istanbul, Turkey – <http://www.icenes2007.org>
- 24-28 June: ANS Annual Meeting, Boston, MA – <http://www.ans.org/meetings>
- July 30-August 2: 8<sup>th</sup> International Technical Meeting on the Applications of Accelerator Technology (AccApp’07), Pocatello, ID – <http://www.ans.org>

- 5-8 August: Utility Working Conference, Amelia Island, FL – <http://www.ans.org>
  - 12-17 August: 19<sup>th</sup> International Conference on Structural Mechanics in Reactor Technology (SMiRT-19), Toronto, ON, Canada – <http://www.engr.ncsu.edu/smirt-19>
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- 19-23 August: 13<sup>th</sup> International Conference on Environmental Degradation of Materials in Nuclear Systems – Water Reactors (DEG 07), Whistler, British Columbia, Canada
  - 9-13 September: Global '07, Boise, ID – <http://nuclear.inl.gov/global07>
  - 16-19 September: ANS Topical Meeting on Decommissioning, Decontamination and Reutilization (DDR) & Technology Expo, “Capturing Decommissioning Lessons Learned”, Chattanooga, TN, USA – <http://ddrd.ans.org>
  - 16-19 September: ENC 2007, Brussels, Belgium; organized by ENS in co-operation with BNS, in association with ANS and with the support of Vrije Universiteit Brussel – <http://www.euronuclear.org>
  - 16-21 September: 8th International Conference on Tritium Science and Technology, Rochester, NY
  - 24-28 September: Central and East European IRPA Regional Congress, “Regional and Global Radiation Protection Aspects”, Brasov, Romania (organized by the Romanian Society for Radiation Protection) – <http://www.ispb.ro/rsrp.htm>
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- 30 September - 3 October: 2007 International LWR Fuel performance Meeting, San Francisco, CA – <http://www.ans.org/goto/fuel07>
  - 30 September - 4 October: Twelfth International Meeting on Nuclear Reactor Thermal-Hydraulics (NURETH-12), Pittsburgh, PA – <http://www.nureth12.org>
  - 30-31 October: Advanced Safety Assessment Methods for Nuclear Reactors, Daejeon, Republic of Korea
  - 11-17 November: ANS/ENS International Winter Meeting, Washington, DC – <http://www.ans.org/meetings>

## 2008

- 24-28 February: Waste Management Conference, Tucson, AZ
- 3-7 March: 8<sup>th</sup> International Meeting on Facilities Operation, Portland, OR – <http://www.ans.org/meetings>

- 9-12 March: 2nd Joint Emergency Preparedness and Response & Robotics and Remote Systems Topical Meeting (12th Robotics and Remote Systems for Hazardous Environments/10th Emergency Preparedness and Response), Albuquerque, NM - <http://www.ans.org/meetings>
- 13-18 April: International Conference on Radiation Shielding/ANS Radiation Protection and Shielding Topical Joint Conference (ICRS-11/RPS2008), Calloway Gardens, GA - <http://www.ans.org/meetings>
- 1-4 June: 29<sup>th</sup> Annual Conference of the Canadian Nuclear Society and 32<sup>nd</sup> CNS/CNA Student Conference, Toronto, Ontario, Canada – <http://www.cns-snc.ca>
- 8-12 June: ANS Annual Meeting and ICAPP 2008, Anaheim, CA – <http://www.ans.org/meetings>
- 3-6 August: Utility Working Conference, Amelia Island, FL - <http://www.ans.org/meetings>
- 24-29 August: Seventh International Conference on Nuclear and Radiochemistry (NRC7), Budapest, Hungary, nrc7@mke.org.hu - Chair: Lazlo Wojnarovitz, Hungarian Academy of Sciences
- 14-18 September: PHYSOR-2008, ANS Reactor Physics Topical Meeting PHYSics Of Reactors 2008, “Nuclear Power – A Sustainable Resource”, Interlaken, Switzerland (hosted by the Swiss Nuclear Society) – <http://www.physor2008.ch>
- 20-26 September: IYNC-2008, International Youth Nuclear Congress 2008, Interlaken, Switzerland (hosted by the Swiss Nuclear Society) – <http://www.iync.org/>
- 19-24 October: IRPA 12, 12th International Congress of the International Radiation Protection Association, “Strengthening Radiation Protection Worldwide” – <http://www.irpa12.org.ar/>
- 9-13 November: ANS Winter Meeting, Reno, NV – <http://www.ans.org/meetings>

## 2009

- 19-22 April: Advances in Nuclear Fuel Management IV, Hilton Head, SC – <http://www.irpa12.org.ar/>
- 14-18 June: ANS Annual Meeting, Atlanta, GA – <http://www.ans.org/meetings>
- 8-12 November: ANS Winter Meeting and Nuclear Technology Expo, Washington, DC, USA – <http://www.ans.org/meetings>

## 2010

- 13-17 June: ANS Annual Meeting, San Diego, CA – <http://www.ans.org/meetings>
- 14-18 November: ANS Winter Meeting and Nuclear Technology Expo, New Orleans, LA – <http://www.ans.org/meetings>

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