

## New Year's Greetings

I wish you all the best of health and prosperity for the new 2004 year.

Last year, many things were done with a remarkable success, thanks to the support and efforts provided by the member companies.

The 8th APRCC was carried out successfully where more than 530 people took part in representing a wide spectrum of concerned institutions, including NGOs, government, academia, and others. The adoption of the "Seoul Protocol" for programming APRCC organization, and the launching of the "APRO (Asia Pacific Responsible Care Organization)" as an official regional network for the promotion of Responsible Care and APRCC in the region were two major activities that should significantly contribute to broadening the latitude of Responsible Care. We started off on the Outreach Program as an itinerary chemistry class targeted for the elementary school children, while at the same time visiting small-medium chemical companies across the nation for the expansion of Responsible Care awareness. The Responsible Care logo registration has also been complete during the year.

Korea Responsible Care Council will, with the member companies' continuous active support, step up its efforts to strengthen and widespread Responsible Care.

Business environment in the 2004 is expected to experience yet another difficult time, which would result in heightening up the pressures that the interested people would put onto the industry. Furthermore, the need is strongly felt to proactively respond to the international environment regulations which are becoming heavier and tighter than ever before.

The advanced companies, for a better corporate image in terms of their practice of the environment-friendly socially-responsible management, are focused on communications with the stakeholders and also on sharing information with them, not to mention putting in efforts to achieve a sustainable development.

The changes that are happening in the world advanced companies make us think whether it would be sufficient that the Korean chemical companies stick with the idea of maintaining the trust of the interested people simply by making it a point that we are keeping up with the environment/safety efforts. It is time that we put our policy of protecting the environment, health and safety into a real action, aggressively promote to win the public assurance, and seek ways to help them appreciate the value the chemical industry distinctly carries for their benefit.

In the 2004 year, Korea Responsible Care Council, under the slogan of promoting Responsible Care activity and cooperation with the world counterparts, will strive to achieve the following:

First, provide standard items for Responsible Care management practices, increase Responsible Care codes to 6, and raise the implementation criteria;

Second, make evaluation more systematic by introducing self-assessment and third-party audit;

Third, improve level of emergency response providing assistance to the operation of Chemical Emergency Information Center; and

Fourth, maintain "KRCC academy", a working level education program, to allow chemical industry to be better geared to the changing business environment, and provide member companies with substantiated services, including continuing on the promotion of Responsible Care logo.

We, chemical industry, have come to a turning point where we try to reinvent ourselves to be true to our name as an industrial leader. To achieve this it is necessary to set our mind to emulate the global advanced companies and reconstruct our knowledge and information on EH&S.

Let us join in these worthy efforts to make Responsible Care a more effective tool and to create sustainable management results out of it, all to ensure a sustainable development of chemical industry.

Thank you.

## ● Son, Jong-chae appointed as new KRCC Vice-Chairman

In accordance with the KRCC Articles of Incorporation(additional clause) Son, Jong-chae was appointed as the new KRCC Vice-Chairman, replacing H. Park, who retired as the KPIA Vice-Chairman. The new Vice-Chairman Mr. Son had served as judge at the patent tribunal of the Office of Patents, and commercial attache for the Consul General at Consulate in Chicago, after passing the higher civil service examination(14<sup>th</sup>).

\*According to the second clause(General Affairs) of the supplementary provision of the articles of KRCC, the standing officer of the Korea Petrochemical Industry Association shall concurrently serve as the standing vice chairman of this council.

## ● Itinerary "Environment, Health and Safety Academy for Small-Medium Companies" held

"Environment/safety/health academy for small-medium companies", which had commenced in June 2003 for the promotion of Responsible Care awareness and active involvement of small/medium sized chemical companies, was ended on December 19. The academy was held in cities across the nation, including Seoul, Busan, Incheon, Daegu, and Ulsan, on 10 occasions, and the final event took place in Daegu. Hosted by KRCC and Korea Chemicals Management Association and sponsored by the Environment Ministry and Korea Dow Chemical, the academy significantly raised the awareness about the need for large companies and small/medium companies to work together and use their own initiatives to enhance the industrial reputation and to restore public trust. About 900 persons attended the program, which was offered in two separate courses each for CEOs and working level people, and turned out to be an excellent opportunity for the attendees in raising their awareness about the importance of Responsible Care.

## ● The 2<sup>nd</sup> KRCC academy

The KRCC hosted its 2<sup>nd</sup> academy on December 17 and 18, 2003 at Gyongju Hilton Hotel. Participated by 61 coordinators and environment/safety/health representatives from the member companies, including chairman of the operating committee(Implementation Committee), M. Y. Hwang, the academy kicked off with orientation lectures on Responsible Care self-assessment, for which Lee, Chang-su, Director of Rohm and Haas Korea, Harry CY Heo, Manager of BP Korea, and Kim, Kyung-ok, Manager of BASF Company made the performance report, and Cha, Moon-guel, Assistant Manager of Tongsuh Petrochemical made a peer review, to be followed by group discussion on how to improve RC management codes. The participants in the group discussion shared their experiences in practicing the management codes, and also offered their ideas on ways to improve the codes.

## ● The 8<sup>th</sup> Asia Pacific Responsible Care Conference Held

The 8<sup>th</sup> APRCC was held from November 4 to 7, 2003 at Seoul COEX Intercontinental Hotel by the Korea Responsible Care Council.

The conference was held successfully in the presence of more than 530 participants from different parts of the world, including the Vice Minister Kwak, Kyul-ho of Ministry of Environment and Vice Minister, Thuy Xuan Nguyen of Vietnam's Ministry of Industry. Under the topic, "Responsible Care and the Community—toward a perfect partnership", the conference provided a wide variety of programs, featuring keynote speech, workshops, forum, and so on.

"Seoul Protocol" was drawn up as a framework for APRCC organization.

APRO(Asia Pacific Responsible Care Organization) was formed on November 5, immediately following the APRCC opening ceremony, as a regional body charged with the promotion of Responsible Care in the Asia Pacific region and a systematic support for APRCC.

"Seoul Declaration" as a sum up of the 2003 APRCC and future tasks, was pronounced in the name of the 12 APRO member countries and the first APRO chairman(KRCC chairman Ki-Ho No) during the closing ceremony.

It is highly hoped that the success of the 8th Seoul APRCC will make an indispensable contribution to the successful performance of the 9th APRCC to be held in Philippines. Following is a brief chronicle of the 8th APRCC organization. (Please refer to the Supplement for keynote speech and session summary)

|                |  |
|----------------|--|
| November 2000  | 6 <sup>th</sup> Singapore APRCC recommends Korea to host next APRCC  |
| September 2001 | KRCC Board meeting decides to host 8th APRCC   |
| October 2001   | 7 <sup>th</sup> Bali APRCC confirms Korea to host 8 <sup>th</sup> APRCC  |
| February 2002  | KRCC 3 <sup>rd</sup> general meeting appoints APRCC organizing committee chairmen  |
| March 2002     | KRCC international committee assigned as APRCC task force  |
| June 2002      | APRCC 2003 organizing committee formed & working staff operating plan drawn up   |
| October 2002   | Division chief and staff of the organizing committee formed  |
| December 2002  | 1 <sup>st</sup> general meeting of organizing committee draw up detail schedule  |
| January 2003   | Country Coordinator Network(CCN) and advisory group formed   |
| February 2003  | APRCC emblem created   |
| March 2003     | 1 <sup>st</sup> notice distributed; Homepage setup; APRCC protocol drawn up  |
| April 2003     | 2 <sup>nd</sup> general meeting of organizing committee discusses preparation items and related issues                                 |
| May 2003       | Conference program produced  |
| June 2003      | Request for speaker recommendation (CCN)   |
| July 2003      | Session chair, speaker, panel selection and request (by Technical team)  |
| August 2003    | APRO named for Asia Pacific Responsible Care body (at the 1 <sup>st</sup> teleconference)  |
| August 2003    | 3 <sup>rd</sup> general meeting of organizing committee selects session chairs, speakers, panel, Presentation Professionals appointed. |
| September 2003 | 2 <sup>nd</sup> notice distributed   |
| October 2003   | APRO inauguration ceremony, discuss staff organization (2 <sup>nd</sup> teleconference)  |
| November 2003  | The 8 <sup>th</sup> Seoul APRCC held   |
| November 2003  | APRCC organizing committee dismissed   |

## RCLG held – the Global Development of Responsible Care

In Park, International Relations Committee of KRCC  
Environment & Safety Team, LG Chem

The annual ICCA/RCLG meeting was held in Chiang Mai, Thailand from 9 to 12 of November 2003, immediately following the successful completion of the 8<sup>th</sup> APRCC.

With "the Global Development of Responsible Care – Enhancing Business Relevance and Raising the Reputation of Chemical Industry" as its theme, the 2003 meeting was attended by 32 Responsible Care experts from 20 countries, including RCLG chairman Mr. Jose Maria Bach who had taken part in the 8<sup>th</sup> Seoul APRCC. All the attendees actively participated in the discussions, and the executive office of KRCC and I, as a member of the international relations committee, also took part in the discussion.

The meeting started off with review and evaluation on the result of the CEO task force meeting, which was held in Barcelona, Spain in October 2003, and mainly dealt with the institution of the Responsible Care Charter. Review of the CEO task force meeting reflect the growing importance of Responsible Care in helping the chemical industry through significant services to the society, and in promoting discussions on chemical substance management.

Discussion on the agenda each presented by the 6 Global Task Force Working Groups followed. The representative of each group provided the activity report – Membership support and extension; Harmonization and Consistency; Verification and Performance; Business Value and Sustainable Development; Product Stewardship; and Communication.

Discussion was also made on capacity building of the member companies for the purpose of upgrading Responsible Care management, and on performance indicators which had recently been under review. General Secretary Mr. Chris van Lint of APRO, which was created during the 2003 8<sup>th</sup> Seoul APRCC, discussed matters related to the participation in APRO and Vietnam APRCC.

Mr. Brian Wastle from Canada, Vice-Chairman of the 2003 RCLG meeting, in the discussion on the issue of sustainable development, stressed "Society has a high hope for us, and it is our responsibility to meet this growing social expectation. And we need to respect diverse socia



Demands, including management/education of environment, health and safety, social development, and creation of wealth." He also emphasized that sustainable development and creation of wealth." He also emphasized that sustainable development is a social product and a representation of the philosophy of Responsible Care as a vehicle for achieving the sustainable development, allowing us to leap over the traditional boundary of simply securing environment, health and safety.

In relation to the use of the Responsible Care logo, discussion was made on ways to insure proper protection of the logo. Other related matters will further be discussed by the Harmonization and Consistency Working Group as part of the Global Review.

Thailand, Singapore, and New Zealand reported their main activities to the Peer Review participants, including business condition, 2003 activity review, and 2004 activity plan. Noteworthy were report on Ambassador Program of Thailand, and 24 hour emergency response service of New Zealand. The reports indicated that they made themselves ready with the established plans for expanding Responsible Care into small/medium companies and general public in the community.

The meeting was, as before, commanded largely by participants from the U.S., Canada, and Europe, in contrast to less active participation of Asian and South American representatives. The participants expressed much interest in incorporating Responsible Care with "sustainable development", a key word initiated by the advanced countries. It was also noted that in the advanced countries, government, industry, and industrial association have a solid understanding about the meaning and content of Responsible Care, and based on such high level of awareness they are continuing their development efforts. In-depth discussion was made regarding finding out ways to incorporate environment, health and safety management system into Responsible Care.

The next RCLG meeting is scheduled to take place in November 2004 after the European Responsible Care Conference. Review will be made mainly on the key issues related to Responsible Care, and on providing favorable treatment to the new member countries.

RCLG meeting proved to be an excellent opportunity to get familiarized with the issues in which the world advanced countries and chemical industry take keen interests. A continued participation and interest is highly encouraged.

# Business Implications of the European Union's New Chemicals Regulation

*(continued from Issue No. 10)*

## 6. Evaluation

Evaluation refers to two types of activities by national authorities. First, it would cover activities such as examination of testing proposals, and compliance checks of registrations and information submitted. They may result in decisions to require further information from registrants. Second, it would cover substance evaluation. If the authorities have "reason for suspecting the substance presents a risk to health or the environment," for example from "aggregated tonnage from registrations submitted by several registrants" (sic!), they may initiate a procedure to require further information from one or more registrants. Draft evaluation decisions are circulated to the European Agency and other national authorities; if amendments are proposed, the final decision will be made by a member state committee.

The Commission points out that evaluation "may lead authorities to the conclusion that action should be taken under the restrictions or authorization procedures in REACH, or that information should be passed on to other authorities responsible for relevant legislation." But evaluation is not a prerequisite for initiating authorization, restriction, or other regulatory procedures, since, as the Commission asserts, "it is not possible to establish a direct link from the REACH legislation for this purpose." Why that is not possible, remains unclear.

## 7. Authorization

Full pre-market authorization would be required for substances with certain hazardous properties.<sup>1)</sup> These substances include carcinogenic, mutagenic or repro-toxic substances ("CMR"), categories 1 and 2 under the current chemicals legislation, persistent bioaccumulative and toxic substances ("PBT"), and very persistent and very bioaccumulative substances ("vPvB").<sup>2)</sup> In addition, authorization would be required for substances, such as endocrine disruptors, which the authorities determine give rise to "an equivalent level of concern." Substances subject to authorization, as listed in an annex to the regulation, may not be used unless the use of the substance is exempt or has been specifically authorized. Generic exemptions from authorization apply to certain regulated substances such as plant protection products, food additives, and medicines, and to certain research

1) The number of substances subject to authorization is estimated at 1,400 (5% of the registered substances).

2) Definitions are set forth in an annex to the REACH regulation.

and development uses not exceeding one ton per year. All other substances are subject to an individualized authorization process.

Authorizations are granted by the Commission. An authorization will be given if the "the risk (...) from the use of the substance arising from the intrinsic properties (...) is adequately controlled." Even if the risk is not "adequately controlled," authorization may be granted if "socio-economic benefits outweigh the risk to human health and/or the environment (...) and if there are no suitable alternative substances or technologies." In both cases, the burden of proof is on the applicant. As noted above, substitution must be considered. Authorizations may be subject to conditions or review or expiry dates. A downstream user may use an authorized substance provided (1) they acquire the substance for an authorization holder, and (2) they stay within the conditions of that authorization. However, they would be required to notify the agency.

## 8. Restrictions

The draft regulation would also impose specific restrictions on the manufacture, marketing and use of certain dangerous substances and preparations, including bans or restrictions with respect to substances in articles. As the Commission explains, "[t]he restrictions provisions act as a safety net for the whole REACH system as well as for the Community legislation as a whole because any substance on its own, in a preparation or in an article may be subject to Community-wide restrictions if a risk needs to be addressed." The restrictions that exist pursuant to the Marketing and Use Directive would continue under the new regime, and be set forth in an annex to the regulation. In addition, the draft regulation provides a procedure for introducing new restrictions and amending current restrictions, irrespective of whether a chemical is subject to registration or authorization.

When a chemical is deemed to pose a risk that "needs to be addressed at Community level," the pertinent annex must be amended pursuant to a centralized EU comitology procedure. The draft Regulation grants broad discretion to the authorities in this regard. Opinions from the Agency on risk assessment and socio-economic impacts are required. Restrictions may also apply to the use of chemicals in products.

## 9. Substances in Products

As noted above, the REACH regulation would apply also to products (so-called "articles," as opposed to bulk chemicals). The Commission asserts that it is necessary to bring products, including imports, with REACH's scope "because of their potential impact on human health and the environment." In response to concerns raised by some of the EU's trading partners, the Commission hastens to add that "no declaration of contents in articles is required from importers. The provisions place the same duties on importers and EU manufacturers of articles." That is true as far as it goes; foreign manufacturers, who typically source their chemicals from manufacturers outside the EU, will have a much heavier burden and incur much higher cost (at least relatively).

Chemicals in products, including imports, would be subject to the following regime. The draft makes a distinction between chemicals intended to be released from the product and substances that are released incidental to the product's use:

- With respect to deliberately released chemicals, registration with the European Chemicals Agency would be required if (i) the chemical is classified as dangerous, and (ii) it is present in such products, with "each article type considered separately," totaling over 1 ton per producer/importer per year. Registration would involve a risk assessment (called "chemical safety assessment") and testing.
- With respect to incidentally released chemicals, a notification to the European Chemical Agency would be required if (i) the chemical is classified as dangerous; (ii) it is present in such products in quantities totaling over 1 ton per manufacturer/ importer per year, (iii) "the producer or importer knows, or is made known, that the substance is likely to be released during normal and reasonably foreseeable conditions of use, even though this release is not an intended function of the article," and (iv) the quantity of the substance released may adversely affect human health or the environment. A notification would require the reporting of information relating to the producer/importer and product, but not involve testing or risk assessment. However, upon receipt of a notification, the Agency may require that the producer/importer register the substance. No registration or notification is required with respect to substances that have already been registered for that use by an actor up the supply chain.

The regulation would not further specify these requirements, nor would it define the key terms. Instead, it would authorize implementing regulation or guidance from the European Chemicals Agency. Although the notification requirement is triggered by actual knowledge, it refers also to constructive, objective knowledge ("is made known" ) and where a manufacturer should have known, ignorance will probably not be a defense. To determine whether they are required to notify or register, manufacturers and importers of products will effectively be required to conduct an assessment of their products. This assessment should focus on determining whether any dangerous substances may be released during use.

In attempt to address the legitimate concerns of foreign companies and governments, the Commission suggests that "the enforcement activities of the authorities in regard to these provisions is largely expected to focus on cases where there is evidence that a substance released from articles is causing adverse effects on human health or the environment." Given the broad scope of these provisions and the enforcement authorities' discretion, however, this assurance is not likely to provide much comfort.

## 10. Duty of Care

Supplementing the registration and authorization requirements, a central element of the REACH program would be a broad "duty of care."<sup>3)</sup> Under that duty of care, all companies that manufacture, import, and use chemicals—regardless of the volume or any known risk—have a duty to use substances in such a way that human health and the environment are not adversely affected. However, the revised draft regulation specifies that manufacturers, importers, and downstream users meet their duty of care if they comply with the applicable chemical legislation; in other words, from an administrative law viewpoint, the duty of care would not add to the existing obligations. This suggests that a person who does not comply with a regulatory requirement, has not met his duty of care and could be held civilly liable for any harm caused thereby.

3) The Commission asserts that "the duty of care provisions help to ensure that substances are used safely at all stages in their life cycle. This is achieved by requiring all those manufacturing, importing or using substances to fulfil their obligations under the REACH system and under other related legislation."

## 11. Chemical Safety Assessment

Further, manufacturers, importers, and downstream users would be required to assess the risks arising from the manufacture, import or use of those chemicals and take the necessary measures to manage any risks identified. The assessment should address, among other things, the manufacturer's or importer's use and all "identified uses," and consider all stages of the life-cycle of the substance, including the waste phase. It should be "based on a comparison of the potential adverse effects of a substance with the known and reasonable foreseeable exposure of man and/or the environment to that substance." In carrying out the assessment, as a first step, the manufacturer must consider "all relevant available information."<sup>4)</sup> For registered substances, this is the information in the technical dossier (which is part of the registration dossier), and the "other available information." For unregistered substances, the manufacturer must use "appropriate default values or generate information as necessary." If there is insufficient data, testing may be required. However, if "risk management procedures which are necessary to control a well-characterized risk may also be sufficient to control other potential risks," it may not be necessary to generate the missing information. If, on the other hand, a manufacturer or importer considers further information necessary, he must submit a reasoned proposal for a testing strategy to the national authorities. Thus, where "necessary," even substances not otherwise subject to testing, must be tested. As in respect of registration, the draft REACH regime does not limit the duty of care and chemical assessment obligations to known hazardous substances posing known risks in certain applications. Rather, it employs a "shot-gun" remedy and imposes these obligations on all substances and uses,<sup>5)</sup> in case there might be a dangerous chemical or application among them.

Reflecting the precautionary principle, the draft REACH regime also sets aside sound scientific assessment and opens the door to a new kind of science, known as "precautionary science." In assessing the safety of chemicals, setting a Derived No-Effect Level and assessing environmental hazard, REACH requires that "if there are several studies addressing the same effect, then normally the study or studies giving rise to the highest concern shall be used." Such a preference for the most alarming studies, without regard to data quality, distorts the scientific process and creates incentives for scientists locked into the dogma of the environmental movement ("precautionary scientists") to generate "studies" giving rise to "high concerns." The bias that is thus introduced is an affront to the scientific process, which will mean that any objective scientist will want to stay away from it, leading, in turn, to the activist scientists running the whole assessment program. A recipe for surprises indeed.

4) The chemical safety assessment would have to cover at least (1) human health hazard assessment (which is aimed at determining the classification and labeling of a substance, and a "Derived No Effect Level, or DNEL); (2) human health hazard assessment of physiochemical properties; (3) environmental hazard assessment, identification of the Predicted No Effect Concentration, or PNEC, for each environmental medium; (4) PBT and vPvB assessment; and (5) exposure assessment, including risk management measures, during all relevant parts of the substance's life cycle, taking into account possible degradation, transformation, or reaction processes; and (6) risk characterization (for each exposure scenario, both for human populations and environmental media). Detailed procedures for conducting the assessment are set out in the annexes.

5) Given the complexity of these procedures, chemical safety assessment can be done only by experts. Other than large chemical companies, regulated entities cannot afford to hire staff with the expertise necessary to meet these requirements. How would one explain to a company that has used chemicals safely for many years that it now has to make substantial investments in producing chemical safety assessments only to provide evidence to the authorities that the chemicals can be used safely?

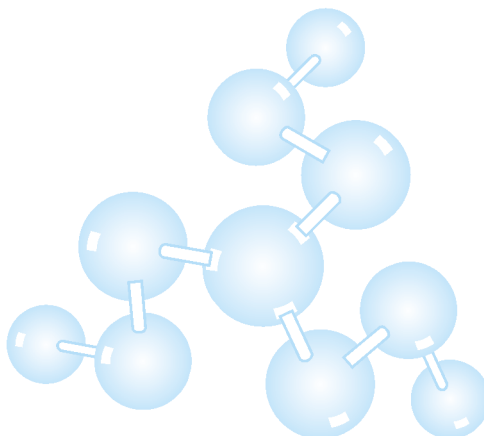


## 12. Conclusions

The brief analysis of the draft REACH regime presented above results in the following "big picture." The new regime would greatly expand the scope of the EC's current chemical legislation and transform it from a regime predominantly focused on occupational protection into an over-arching consumer protection, product safety, environmental protection, and occupational health regime. It would extend the EC chemical law's scope from chemical substances as such to products containing chemicals, require both laboratory testing and risk assessment, introduce use-specific registrations and authorizations, and impose a broad duty of care. Government authorities would be in a position to exercise significant control over the manufacture and use of chemicals from "cradle to grave." As such, the new regime would have significant implications not only for chemical producers but also (and, maybe, more so) for all manufacturers and importers of products.

Thus, subject to limited exceptions, REACH will expand government control to cover all chemicals in all uses. The Commission hopes to make the situation workable by tackling only the 30,000 "most dangerous" and most heavily used chemicals first, and phasing the work over 11 years, allowing most chemicals to continue to be used until the government decides otherwise. Given the fact that everything we use is made of chemicals, government registration, evaluation, and/or authorization of all uses of all significant chemicals prior to use, is a formula for potential government control over our entire system of production.

Given that the possible penalties for violations of the REACH regime include imprisonment and fines of up to 10% of a company's worldwide turnover, Korean exporters should keep a close eye on REACH.



# Letter of Thanks

On behalf of the 8th Asia Pacific Responsible Care Conference(APRCC) Organizing Committee, we would like to express our warmest gratitude to you for taking part in the 8th APRCC which was held on November 4-7 in Seoul.

APRCC 2003 was successfully held with more than 500 participants from different parts of the world and inside Korea as well. The range of participants including guest speakers, session chairs and panelists of APRCC 2003 covers not only Asia Pacific region, but also Europe, and North America.

The conference comprised a mix of keynotes, workshops and fora. And each workshop and forum comprised presentations from a wide range of participants including representatives from the International Organizations, Responsible Care Organizations, Industries, the academic world, NGOs, Government Authorities, etc. In particular, it was very inspiring to have presentation from scholars and representatives of environmental and consumer NGOs, who have continuously shown a great interest and concern in Responsible Care.

The delegates from industry discussed and explained the Codes of Management Practices (COMPs) of Responsible Care and industry's extensive implementation efforts, while those from NGOs, academia and government provided meaningful advice on the changing directions for Responsible Care's continuing development and corporate philosophy. These offered positive suggestions and new plans for the better understanding and cooperation between industry and its stakeholders.

Moreover, creation of the Asia Pacific Responsible Care Organization(APRO), and adoption of the Seoul Declaration to commit the concerned parties and communities to cooperate for mutual interest, was two of the most fruitful results of the 8th APRCC, which we believe makes the conference as worthwhile as ever.

As shown from the theme of APRCC 2003, "Responsible Care and the Community: Toward a Perfect Partnership," we will continue to seek effective means of achieving sustainable development by carefully listening to our stakeholders' opinions and making collective efforts towards continuous improvement in the industry's safety, health, and environmental performance.

We would like to record our sincere gratitude to all the participants again, and extend special thanks to speakers, chairs and panelists for the considerable time and effort that has been involved in preparing each session.

Sincerely,



Brian (Bum) Kim



John Jongkoo Jeong

Co-Chairmen of the 8th Asia Pacific Responsible Care Conference

# Welcoming Remarks

Honorable Mr. Thuy Xuan Nguyen, Vice Minister of Ministry of Industry, Vietnam,  
Mr. Kyul-ho Park, Vice Minister of Environment, Republic of Korea,  
Mr. Richard Robson, secretary general of Responsible Care Leadership Group,  
Marcos Gomez, chairman of the European Union Chamber of Commerce in Korea, and distinguished  
guests from home and abroad!

I'm very honored to be here to make welcoming remarks on behalf of the Korea Responsible Care Council.

Also I'm very pleased to see the successful opening of the 8th Asia Pacific Responsible Care Conference, and I'd like to express my gratitude to all of you who came here despite your busy schedules.

Taking this opportunity, I'd also like to express thanks to Responsible Care officials around the world and organizers who have not spared any effort in arranging this Conference.

The first Asia Pacific Responsible Care Conference was held in Hong Kong in 1995. Since then, China, Japan, Taiwan, Singapore, and Indonesia have all hosted conferences, and now Korea has the privilege of being the venue for the 8<sup>th</sup> Conference.

The Korean government's Ministry of Environment, Ministry of Commerce, Industry, and Energy, and Ministry of Labor, the KRCC and its 80 member companies, and a great number of companies from the Asia Pacific region, and from America and Europe as well, are participating in this conference. We also welcome distinguished scholars and people from related organizations who have a keen interest in Responsible Care.

This conference bears some differences from previous ones in the following ways.

First, Asian countries built a consensus to establish the 'Seoul Protocol' for the efficient preparation and arrangement of this Conference. This was a great opportunity for Asian countries to cooperate in the organization of the conference.

By providing a horizontal communication network to Responsible Care officials across the Asia Pacific region, the information sharing and dialogue mechanism between RC officials was strengthened.

The Advisory Council, as an expert group, helped decision-making in the preparation process of the APRCC.

The second reason this Conference carries special meaning is that, the APRO, the Asia Pacific Responsible Care Organization has been officially established through this conference with an aim to promote the continuous development of the APRCC.

As you all know, a systematic and well-organized Responsible Care movement has not been active in the Asia Pacific region even though it consumes more than 40% of world chemical products and produces considerable amount of chemical goods.

With the 'Seoul Protocol' and the 'APRO', I think we have laid a foundation for an effective Responsible Care conference and movement, and for a successful organizational structure that matches the size of the APRCC.

The Seoul Protocol and the APRO will contribute greatly to the Responsible Care movements in the region, and to the creation of synergy effects through cooperation between chemical industries in the Asia Pacific region.

Distinguished participants!

I sincerely hope that the RC program, a voluntary environmental, safety, and health protecting effort of the chemical industry, will develop further with this Conference, and that this Conference will serve as a great opportunity for you to share information and ideas. I hope for your active participation.

Finally, I'd like to express thanks once again to all of you who are participating in this Conference and I wish for good health and luck for you all.

I hope you will have a great time while staying in Seoul.

Thank you.



# Congratulatory Speech

Honorable Mr. Ki-Ho No, chairman of Korea Responsible Care Council, Mr. Brian Bum Kim and Mr. John Jongkoo Jeong, co-chairmen of Asia Pacific Responsible Care Conference Organizing Committee, Mr. Richard Robson, secretary general of Responsible Care Leadership Group, Mr. Thuy Xuan Nguyen, vice minister of ministry of industry, Vietnam, Marcos Gomez, chairman of the European Union Chamber of Commerce in Korea, and distinguished guests from home and abroad!

I am greatly pleased to see the opening of the APRCC Seoul, where chemistry industries in the Asia-Pacific region have gathered together to discuss strategies to accomplish both the development of chemical industry and the protection of the environment as well as action plans. I would like to welcome all of you, particularly those who came from a long distance to participate in this significant gathering.

The global village is faced with environmental degradation. The three most urgent and serious environmental issues the human race is faced with are climate change, shrinking bio-diversity, and the discharge of toxic chemical materials. As the Asia-Pacific region is showing rapid economic development and population growth, environmental degradation in this region is more serious than any other place in the world.

We are all aware of the fact that we cannot address environmental issues unless we transform our consumption and production patterns, which at present largely neglect the harmony of the environment. We also know that environmentally friendly consumption and production cannot be achieved without the dedicated effort of the chemical industry. Pollution which is generated in the process of not only manufacturing and producing materials and products but also consuming and disposing products can be largely reduced depending on the design of the process and the use of raw materials.

In this sense, the efforts and actions of industry are critical if we are to address environmental issue in a more effective way with less cost.



Distinguished guests from home and abroad,

Responsible Care is a voluntary movement within the chemical industry, which took initiative to protect both the environment and human health. We, citizens of the world, are delighted to see industries' voluntary efforts to respect global citizens' aspirations for a pleasant and clean environment. Further, we feel greatly relieved because Responsible Care is the promise made by industries to achieve sustainable development by addressing environmental issues.

We cannot deny that the chemical industry has greatly contributed to the human life in all fields including food, clothing, and shelter. At the same time, a number of chemical accidents around the world have contributed to the worsening of public sentiment towards the chemical industry. We are confident that the Responsible Care initiative will greatly reduce public resentment against the chemical industry and will establish a foundation where industries, citizens, and government can come together and cooperate.

I heard that the theme of the 8th APRCC is "Toward a Perfect Partnership". I don't think I have to emphasize the importance of cooperation in solving environmental problems. Cooperation between industries and citizens is, again, the most critical factor in the achievement of sustainable development of the chemical industry.

I truly hope that the 8th APRCC will be a huge success, serving as a stepping-stone for the further development of the chemical industry. I also hope the Responsible Care initiative around the world gains momentum through this conference.

Lastly, I would like to extend my special thanks to the Organizing Committee of the 8th APRCC for their efforts and energy to make this conference possible.

Autumn is deepening, with colorful trees in the street. I hope distinguished guests from abroad can enjoy the beautiful and unique culture and nature of this country as well as the friendliness of the Korean people during your stay in Korea. I wish all of you the greatest of prosperity and health.

Thank you.

# RESPONSIBLE CARE® – OUR GLOBAL CHALLENGE

Vice Minister of the Environment Kyul-Ho Kwak, KRCC Chairman, Mr. Ki-Ho No, Co-Chairmen of the Conference Mr. Brian Bum Kim and Mr. John Jongkoo Jeong, Honoured Guests and delegates it is indeed a great pleasure for me to be with you in this opening session of the 8th Asia Pacific Responsible® Care Conference.

Allow me on behalf of the worldwide Responsible Care Leadership Group to also welcome some of our most distinguished guests especially the Vice Minister of Industry from Vietnam Mr Thuy Xuan Nguyen and Mr. Marco Gomez, Chairman of the European Chamber of Commerce in Korea. Your presence is greatly appreciated.

Under normal circumstances you might have expected the Chairman of the RCLG, Mr. Chuck Walls\* to be making this keynote address to you today. Very sadly, Chuck has been in hospital since September and remains seriously ill and it would have been clearly impossible for him to have traveled to Seoul this week and then on to Thailand for the annual Responsible Care Leadership Group conference which will take place in Chiang Mai next week. Under normal circumstances Chuck would have handed over the RCLG Chairmanship in Thailand to his successor Jose Maria Bach. However it was decided at the ICCA board meeting in October that because of Chuck's poor health, Jose Maria should take over with immediate effect. You may therefore ask why Dick Robson and not Jose Maria? Unfortunately, because of other business commitments, Jose Maria could not get across to Seoul in time for the opening of this Conference so I am afraid that you will have to put up with me giving a short presentation on his behalf instead.

I am pleased to say however, that he will be here later in the week and he will make some comments in person at the end of the conference.

Let me first of all congratulate the organisers of this event for all the hard work they have put into making the conference a success. If last night's reception was anything to go by then I am sure it will be. I know that they have been burning the midnight oil to complete the arrangements and I am sure that we will all have a great time over the next few days, talking to each other, networking, sharing best practice and making new and lasting relationships and friendships.

I must also congratulate the organisers for selecting such an excellent venue for the conference. I have never been to South Korea before, although I saw a lot of it on Television while following the England football team's exploits at the world cup recently.

Even within the last day or so, my wife and I have found the Korean people to be very friendly and helpful and it is certainly a delight and a privilege to be here among you.

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\* Chuck Walls passed away on January, 2004. We pray for the repose of his soul. [Editor's note]

Yet more congratulations go to the organisers for although this is the 8th Asian Responsible Care Conference we are a part of history in the making with the establishment here at this Conference of the Asia Pacific Responsible Care Organisation. I am in no doubt that this will lead to a more concerted and coordinated approach to the management of Responsible Care in this Area than ever before and I congratulate all the countries in coming together in this way and taking part in expanding Responsible Care across the region.

As you are probably aware, Responsible Care started back in 1985 in Canada. It was the industry's response to the terrible incident in Bhopal, India in 1984 and which none of us who were working in the chemical industry at the time will ever forget. The initiative then moved to the United States of America in 1987. It then spread across the Atlantic to Europe in about 1990 and has since mushroomed across the world. Evidence for this can be seen by the fact that in 1992 there were just six countries running Responsible Care programmes. Today there are now 47 with Venezuela being the most recent to join the club in 2002.

From these numbers you can appreciate that it is a truly international initiative and covers almost all the countries of the world with major chemical industries.

We all know that Responsible Care is the major voluntary initiative of the global chemical industry. Responsible Care is really quite simple. It is a public commitment to improve in everything we do and to listen and engage with key audiences both inside and outside the industry.

Responsible Care is the real voice of chemistry of that I am in no doubt. It is the major tool in our hands that enables all of us to provide data and inform society, both the supporters as well as our critics that we are a professional and credible industry that takes its safety, health and environmental responsibilities very seriously indeed and seeks to continuously improve performance.

The incredible growth over the last ten years is clearly a testament within the industry to the fundamental strength of the initiative and the contribution we are making towards the sustainable development of local communities and of society as a whole.

I am pleased to say that Responsible Care is also recognised by the outside world. Most notably has been the recognition it received at the recent World Summit on Sustainable Development in Johannesburg last year, where UNEP, the United Nations Environment Programme and the International Chamber of Commerce commended the initiative as making important contributions to sustainable development since the Earth Summit in Rio de Janeiro in 1992.

There are a number of key aspects of Responsible Care which set it above all other initiatives and makes it unique to our industry sector.

Firstly, it is an initiative which encourages companies together with their national associations, to commit themselves to continuously improve their safety, health and environmental performance.

Secondly it encourages companies and associations to share best practice to enable better improvements to be made more effectively and more efficiently than would have otherwise have been achieved if each company was left to its own devices.

This together with the recognition that there is no competitive advantage to be gained by having better safety, health and environmental performance than others has enabled the chemical industry to be one where it is safer to work in than ever before, one where we have reduced our impact on the environment more than ever before and one where we manufacture and distribute our products more safely and with greater care than ever before.

This has clearly been a positive evolution and it must continue for the industry to maintain its credibility with outside audiences.

This leads me on to the third essential component of Responsible care and that is engaging with its stakeholders whom I describe as groups of people who have an interest in one way or another with the activities of the chemical industry. There is an almost an unlimited list of stakeholders that you could compile, so I will not speak about all. Rather I will speak about a few that I consider to be the most important.

The first group of stakeholders I want to mention are the CEOs of the chemical companies. Responsible Care depends one hundred per cent on their full commitment and involvement to the initiative and the way it is implemented within their companies. Employees look to their leaders for direction in what they do and how their company should be run. Responsible Care is an excellent platform to help the employees become their best ambassadors. They can listen to and engage with other stakeholders and talk about how they are continually adapting and improving products and processes to meet concerns and address health and environmental issues.

It is perhaps fitting to note that at the present time there is a major global strategic review being carried out by the ICCA RCLG at the request of a group of CEOs from companies around the world who recognise the value that Responsible Care has brought in the past and who want to see it adapt and improve so that it continues to bring value in the future.

This Review will be a key part of the discussions at the RCLG meeting in Thailand next week. Exactly what the outcome of the review will be is difficult to say at the moment but there is clearly a need to ensure that there is good harmonization between the 47 different programmes around the world without blotting out the freedom the national associations have in developing their own specific programmes to deal with their own local and national cultures, concerns and aspirations.

So CEOs give us and all your employees your support. Drive the initiative by giving it your leadership from the top.

Another important stakeholder group is the people who are elected or employed in national governments, and national regulatory authorities. One of the strengths in the past of Responsible Care has been that it took the chemical industry to levels that exceeded the regulations of the day. In the early days up to 80 per cent of the initiative was focused on going beyond regulation. However, as time has passed more and more regulation has been put in place so that today most of our efforts are focused to meet them rather than to go beyond them.

We are always looking to improve performance and we look for recognition in what we are trying to achieve. We are not against change – in fact we are all for it but changes in regulations should not be carried out for the sake of it. They should be there to improve performance and drive towards and more sustainable future. We might not be perfect but there is a strong case I believe to work in partnership with you to achieve our common goals.

Another set of stakeholders I would like to mention is the NGOs. NGOs are immensely important in today's democracies. They help to represent the general public and should be seen as an ally of good progress. It is absolutely right that when a company or organisation does something wrong it should be brought to task. Equally important, and here is my plea, is that when a company is doing something right it should receive appropriate recognition. Again, there is a real opportunity to have a healthy respect for one another and to work in a constructive way rather than in a confrontational one.

Finally I would like to mention the value of building links with our local communities; those who live and work in the proximity of our plants and operations. It is they who give us our License to Operate. It is they who will blow the whistle if we do something wrong. We have to earn their support, involvement and understanding.

I am therefore delighted that the title of this conference is "Responsible Care and the Community – towards a perfect partnership".

My experience from Europe has been that the development of links with local communities and other stakeholders has been a lot less difficult than had been originally feared. Being more open and transparent about what we do has helped to allay fears and concerns of what goes on behind the plant gates and there is a genuine interest in what we are doing to improve our performance. There is no doubt that this is a much more acceptable type of behavior than keeping quiet. Silence breeds doubt and suspicion and reinforces the view that we are a secretive industry or even worse that we do not actually know what we are doing.

I would like to stress the importance of a two way dialogue. In the past the chemical industry has been very good at telling people about how good and successful we are and that what we do is good for them. But sadly, we have not been good listeners. If we are to build up perfect partnerships then we must be prepared to listen and to respond to our stakeholders' concerns and expectations.

Today, concerns are less to do with manufacturing and more to do with products – their potentially adverse effects and the way in which they are distributed, handled and used down the value chain. And today we are facing a host of new issues not least global chemicals management and the effect of chemicals on childrens' health. Responsible Care is an essential tool for the industry. It is the voice of chemistry.

At the ICCA meeting in October, Dan Sanders, CEO of Exxon Chemicals and President of the ICCA said that "Responsible Care is at the core of who we are and what we do".

This conference is a major step in reaching this ideal and I look forward to the debates over the next two days.

Thank you.



# Sustainable Development at Bayer— Our Commitment and Responsibility

Your Excellencies, Mr. Chairman, distinguished guests, ladies and gentlemen, aniyong 'hasseio' – good morning.

It is indeed a great honor for me to be given the opportunity today to address this gathering of dedicated HSE specialists here in the land of the morning calm.

The concept of preserving the environment and safeguarding the health and safety of our employees, our customers and the public is not by any means new to Bayer and you might be interested to know that already more than 100 years ago Bayer created a Wastewater Commission at its Leverkusen works, thus beginning the long chronicle of industrial environmental protection at the company.

Many of you will be aware that our company has recently been restructured into 4 separate operative legal entities. My presence here today should be ample proof that as far as our attitude to HSE and sustainable development is concerned, whether at the level of individual subgroups or whether at corporate level, we are as committed as ever to these principles.

This commitment naturally extends to all regions where we are active and Asia Pacific is no exception. I think that many of you are aware of the considerable efforts Bayer makes to implement and promote the acceptance of Responsible Care in the Asia Pacific region.

I am particularly pleased that the Korea Responsible Care Council (KRCC) has chosen "Responsible Care and the Community – toward a Perfect Partnership" as their theme for this conference, as it addresses an issue which is very close to our hearts.

I think that this particular Asia Pacific Responsible Care Conference (APRCC) in many ways represents a turning point in the format of such conferences – one could almost say the start of a new generation of APRCC and I am happy to be a part of it.

We at Bayer are very conscious of our responsibilities to stakeholders and the need to conduct our affairs with Sustainable Development in mind and it is about our activities in this area that I would like to say a few words today. Before starting my presentation as such, allow me to observe that I am most impressed with the enormous interest this conference has generated.

The presence here today of so many high-ranking officials and the large number of participants, both local and from overseas, is a convincing indication of how seriously you take HSE issues, proving that in this region Responsible Care is indeed alive and kicking.

Commitment and Responsibility – words that show clearly that we, as a company, are not living and operating in isolation, but are corporate citizens in our "one world".

The Secretary-General of the United Nations, Kofi Annan, summed up the joint responsibilities and opportunities for industry and governments very aptly with the words: "Let us choose to unite the power of markets with the authority of universal ideals. Let us choose to reconcile the creative forces of private entrepreneurship with the needs of the disadvantaged and the requirements of future generations." Fortunately, we are not just about to set out along this road, but have already made considerable progress down it. Nevertheless, the chemical industry in particular is exposed to appreciable criticism and must fight for fair competitive conditions when political programs are being developed and regulations drafted.

Chemicals and life sciences have, over the course of only a few generations, become a constant companion in our everyday life – so much so that they are now taken for granted. Whether we are preparing a cup of tea or coffee, making a phone call, working on the computer, driving a car, eating a snack, or treating an infection – the products from health care, agriculture and chemical companies are always present. They bring comfort and prosperity, and our life expectancy has risen significantly as a result. Major existential problems in the fields of nutrition, hygiene and health have been eliminated or defused – although I do not dispute that many challenges still exist or are being newly created.

At the same time, people are concerned that their health could be impaired by chemicals. In chemistry and health care, benefit and risk are two sides of one and the same coin. The chemical industry has responded to this situation with its Responsible Care initiative. Product stewardship, occupational safety and health protection are key elements of Responsible Care. But sustainable development means more than that. We must handle natural resources sparingly, and we must opt for product-integrated and in-process environmental protection wherever possible.

But how do we define responsibility from our stakeholders' point of view? Our investors want transparency and want attention paid to Corporate Governance, our customers want excellent quality with maximum product benefit, our employees want secure jobs and good payment, the supervisory authorities want laws and regulations adhered to, and international organizations want companies to assume greater responsibility for the protection of human rights. Non-governmental organizations cover a broad spectrum of interest groups with very different expectations. We willingly discuss and work together with those groups that are genuinely interested in constructive solutions.

Due to the diversity of the stakeholders, it is obvious that individual interests do not necessarily match up, and they also tend to change dynamically. We are thus faced with the challenge of identifying future expectations at an early stage, and to take these and the way they change into account in what we do. One trend we take very seriously is the ethical aspect, and in this context, the company's responsibility towards the environment and society.

Ethical criteria are becoming increasingly important in considerations for capital investment. Rating agencies devote a great deal of attention to this subject and scrutinize the companies' ethical approach. The main indices are the Dow Jones Sustainability Indexes and the so-called FTSE4Good from the Financial Times and London Stock Exchange.

Bayer was recently listed in the Dow Jones Sustainability Index for the fifth time in a row, and has thus been in this index continuously since it was established in 1999.

At present, the financial markets of the United States are pioneering ethical and ecological investments. Over 14 percent of fund investments are already being made on the basis of ethical criteria and the principles of sustainable development. In Europe, we are experiencing strong growth, too.

And in Asia?

The world's first sustainability fund for the Asian region was set up in 1998. The presentation of an award put the spotlight on this fund in the Fall of 2003: it is not just that since 1997 Tessa Tennant founded this fund, she has been focusing on the Asian markets. A few days ago, she was presented with a particularly important honor, the Sustainability Leadership Award, which is sponsored every year by Sustainable Asset Management and Sustainable Performance Group and awarded on the basis of research by a board of consultants.

One interest group that is vital for any company, of course, is the consumers.

When asked about the importance of a company's Responsible Care policy, the degree to which that company observes its social and ecological responsibilities, and the ethical profile of a product manufacturer, the majority of consumers said that these three aspects matter a lot when they decide whether or not to buy a particular product. Business customers, too, are looking increasingly at the company's attitude to ethical, social and ecological aspects along the supply chain.

Companies that have become the subject of public criticism on this count – mainly in the textiles and sports goods industries – have responded to it in a big way. But how far should our responsibility go? And, at least as important, should it be based on voluntary actions or on binding obligations and controls?

This direct comparison illustrates starkly the alternatives when companies are forced to take on obligations. Regular assessments by the UN, auditing by NGOs, and commitments by the companies to maintain human rights in the communities in which they are located is the one side.

The principle of voluntary initiative, on the other hand, implies that entrepreneurial action cannot be a substitute for measures adopted by national governments and government institutions. It is this voluntary quality that allows companies to develop appropriate company-specific and industry-specific initiatives and models. Specific local needs can be taken into account better, and the competitiveness of companies allows faster adaptation to changing social needs. International principles are of course welcome and serve as a guideline for the companies.

With the founding of the "UN Global Compact", the main principles of human rights, work standards and environmental protection were brought together under one roof. The Global Compact Initiative of the United Nations is a unique project supported by the global organization itself and representatives from international industry. Bayer, one of the founder members, stands by the principles of Global Compact. In the meantime, over 1,200 companies have committed themselves to its goals.

"Equipped for Tomorrow" was the title of our 2002 Annual Report. It communicates the fact that Bayer has changed over the past year – faster and more profoundly than ever before in the company's history. The result is an organization that is more flexible and more effective and above all more strongly focused on our core competencies. The stockholders approved the strategic development, which takes the form of a management holding company. It is based on four operating business companies, or subgroups: Bayer HealthCare, Bayer CropScience, Bayer Polymers and Bayer Chemicals. Their legal independence allows the integration of acquisitions and provides greater flexibility for partnerships and cooperations. In addition, we have created three independent service companies: Bayer Business Services, Bayer Technology Services and Bayer Industry Services. These support the business companies by providing them with their specialized know-how. The Corporate Center supports the Group Management Board in all main strategic functions, including Finance, Communications, Investor Relations and HSE Management.

The Asia Pacific region represents one of the most important markets of the future for the Bayer Group and one that will increase in importance and dynamism. In Asia, the company markets the full range of its portfolio of some 10,000 products from all business companies. In 2002 we achieved total sales from continuing operations of 4.7 billion, which makes Asia Pacific the third largest region for Bayer after Europe and North America. About 80 companies are employing more than 15 thousand people. Reflecting the build-up of new production sites and the acquisition of Aventis Crop Science, the workforce has grown by about 3,000 compared with the previous year.

The expansion of business has been accompanied by significant investments. Since 1990 the Group has spent about two and a half billion euros on property, plant and equipment as well as acquisitions and research and development activities in the region. Among the largest individual projects is the build-up of a world-scale production base for thermoplastics in Thailand, which went on stream in 1996. A second focal point is the development of a broad production base in the People's Republic of China. Following a comprehensive co-operation agreement with the then Ministry of Chemical Industry in China, Bayer started an initial investment program 9 years ago. We are now entering into the second phase of investments, where the group has started to realize plans to build up world-scale plants for polymer production. The construction work for an integrated production site started in the Shanghai Chemical Industry Park in Caojing in November 2001. Completion of the complex is targeted around 2008 to 2010.

In Japan, the second largest health care market worldwide, the priority is on strengthening Bayer's pipeline of innovative products in the life sciences field. Centered on its two major research centers in Kyoto and Yuki, Bayer has spent about 900 million euros for health care and agrochemical research since 1990.

So how do we at Bayer define sustainability in Asia Pacific – and throughout the world for that matter?

The Earth Summit in Rio in 1992 defined sustainability as the guiding principle for man's future development. The dimensions of sustainability – economy, ecology and social responsibility – are equal targets of Bayer's corporate policy. The challenge lies in reconciling these targets with one another. They must be pursued in our day-to-day activities and they must be an integral part of our corporate culture. Decision-makers must orientate their decision-making criteria to them. Companies need a code of behavior that ensures that all dimensions are observed even if no one is watching. To implement this, we have therefore developed and launched major initiatives throughout the Group.

These show you that we pursue the same values at Group level as in the individual subsidiary companies. HSE Management Systems are established in all parts of the Bayer Group. With our Eco-Check, we have developed a tool that helps us with our product stewardship. We report HSE data regularly, for example in our Sustainable Development Report that is published every two years. It contains various objectives against which we measure ourselves.

The Responsible Care initiative also represents a cornerstone that guides the way we work, encourages constant improvements and involves all our employees. There is good reason why it is being cited in Agenda 21 as a model example. Finally, we have always carried out a variety of projects to meet our social responsibilities. I will give you a few examples...

But before I do, let us look once again at the importance of dialogue with the stakeholders.

Only if we involve all the different groups – each of which have a specific interest in our company, its development and its activities – can we succeed in achieving mutual understanding and developing solutions that are generally acceptable. Such dialogue is not always easy, especially with the general public and the wide variety of NGOs. We are, however, convinced that most people will listen to good arguments, which is why we nurture frank and open dialogue with selected interest groups.

Recently, for example, we held a two-day workshop on the subject of "Sustainable Agriculture", bringing together representatives from all kinds of groups like NGOs, scientists, the food industry and international organizations. The workshop generated considerable interest both internally and externally. This kind of exchange of views is of great value both for the company and for the external participants, and will be continued.

The second major milestone for sustainable development was the World Summit in Johannesburg a year ago. Ten years after Rio, it focused on initiatives and measures directed at sustainable development that had since been launched or even completed. Four years before Rio, in fact, the Brundtland Report from the World Commission for Environment and Development at the UN General Assembly had pointed out the importance of the chemical industry for sustainable development. At the same time, however, the chemical industry was also deemed to be fully responsible for its products – a justified demand to which, for example, the Responsible Care initiative is an apt response.



I would like to look in more detail at one of the resolutions from Johannesburg I find particularly important: the decision of the UNEP Global Ministerial Environment Forum was endorsed to develop a strategic approach to international chemicals management – "SAICM" in brief. This approach is intended to be an element of sustainable consumption and production. Unfortunately, there is still a great deal of confusion and uncertainty as to the meaning of this strategy. Through SAICM, the chemical industry wants to bridge the gap between developed and developing countries. We are convinced that decisions must be based on risk assessment. We do not need to invent new regulatory systems but make better use of existing ones and support industry's voluntary initiatives.

Global climate protection – another big topic since Rio. At that time, the greenhouse gas emissions of 1990 were fixed as the upper limits. The Kyoto Protocol is now endeavoring to achieve a five percent reduction for all industrialized nations by 2012. The reduction targets are not distributed equally: the European Union for example promised a reduction in emissions of 8%, the USA 7% and Japan 6%. However, the USA got off the Kyoto Protocol. So when will the Kyoto Protocol come into force? It is linked to two conditions. Firstly, at least 55 percent of industrial nations must have ratified the Protocol. This has already been done. Secondly, the ratifying countries need to represent 55 percent of the total emissions – and here we are still 10 percentage points short – because the USA are not ratifying and Russia hasn't ratified yet. There are, however, a number of other projects involving climate protection. For example, the European Union intends to regulate the trading with emission allowances in order to reach its target of climate protection. In the United States, on the other hand, there are voluntary trading initiatives by some international companies.

Other national initiatives have been or are being introduced as a result of agreements between industry and government. We as a company have committed ourselves to halve global emissions of greenhouse gases by 2010. The figure is based on 1990.

In order to systematically take into account the various dimensions of sustainability for products and processes, Bayer has developed the Eco-Check – I touched on it briefly before. Apart from scientific findings, it also takes into account the expectations and perception of society, politicians, customers and consumers. The selection, collection and evaluation of data is carried out in interdisciplinary project teams. The Eco-Check has proved particularly valuable in practice with issues where one product or process has to be weighed up against another. The example on the chart shows a comparison of two catalysts used in the production of textile coating products.

Bayer Korea has put considerable emphasis on the need to provide visible commitment to the Responsible Care initiative. Several awareness sessions have been conducted at different sites. In order to remind everyone that their commitment is binding, all persons who participated are required to sign the Public Commitment Poster, of which you have a photograph and which is displayed prominently at the entrance to the office. The same has happened with third party contractors such as warehouses and transport companies. At the entrance of our offices in Seoul you can also see a poster with quotes from the Chairman of the Bayer Group, Mr. Wenning, proclaiming the strong commitment to Responsible Care.

The same applies for Dr. Oels, Board Member for Technology, Innovation and Environment, and Mr. Gomez, President of Bayer Korea.

In the following charts I would like to give you a few examples of our social commitment. I have chosen examples from various regions, including international activities.

To create unique learning experiences for youth in Asia Pacific, Bayer has developed a number of educational programs, ranging from environmental activities through science and research to sports.

The Education Outreach Program educates children in late primary to secondary schools about the basics of chemistry and teaches them how they must exercise extreme care when dealing with chemicals during their chemical experiments. The program also familiarizes them with the activities of the chemical industry.

In the environmental area, the "Bayer Young Environmental Envoy Program" aims to raise the level of awareness young people have of environmental protection. Envoys are selected from a nationwide competition and are invited on an educational field trip to Germany.

Following the success of our "Making Science Make Sense" Program in the United States, Bayer in Japan launched this program in 2002. It hopes to foster interest in science with experiments at elementary school level.

Belford Roxo is one of the poorest regions of Brazil. Here, the people still suffer from diseases like leprosy and tuberculosis as well as illnesses caused by a lack or shortage of food. Apart from relieving the acute food shortage with school meals, we also focus our activities on hygiene education and training. Our soccer school has enjoyed enormous popularity for 13 years now, but it is important to know that the precondition for attending this school – there have been more than 4,000 children and teenagers so far – is regular school attendance and satisfactory school reports. In the next four years, we will support the Brazilian Government with the so-called "Zero Hunger" program. For example, we provide tablets for water treatment to the communities of the Minas Gerais region to rid the water of infectious organisms and thus prevent disease. ,

On the next chart you can see three examples of our cross-national initiatives: sleeping sickness and malaria are diseases that still affect millions of people. In Africa, we provide medications against sleeping sickness free of charge. The increasing resistance of the malaria mosquitoes to present-day medications necessitates the development of new active ingredients. We are therefore developing a new drug together with the World Health Organization and the Hong Kong University of Science and Technology.



AgroVida is an advanced training program for farmers, highlighting the correct, responsible handling of crop protection products to the benefit of man and the environment.

Another example of a "Public Private Partnership" is the youth environment forum "Eco-Innovate". This involves educating young people in Asia on the subject of environmental protection. Some 1,000 young people attended national selection procedures this year, and 100 of the most gifted of them met in July for an environmental forum to discuss innovative project ideas on sustainable management. Under the leadership of the UNEP Executive Director Dr. Klaus Topfer, they had an opportunity to talk with representatives from industry, politics and research to develop joint approaches on questions of environmental protection and sustainability.

Why do we launch these initiatives? Why is the vision of sustainable development so important for us? Because we are convinced that sustainable development also pays off for us, as a business enterprise:

- Our image in public and our acceptance in society both benefit.
- We obtain access to the so-called "ethical capital market" and comply with customer wishes.
- With regard to our workforce, we increase our chances of winning highly qualified labor and, at the same time, we strengthen the team spirit of our employees.
- The following point is very important to me: political and regulatory conditions constitute a key competitive factor. Political programs and topics such as the chemicals policy, climate policy and biotechnology exert a considerable influence on our business. Our voluntary initiatives reflect on the one hand our values and our vision. On the other hand, they also give us an opportunity to improve our credibility and exert an influence on political projects. And these factors will certainly gain increasing importance in a growth region like Asia Pacific.

I hope I have shown you in my talk how we see our responsibility and how we fulfill our obligations. Corporate responsibility can only be performed on a broad basis if it is truly embedded in our day-to-day activities. It must be part of our corporate culture. I believe we are on the right path, and we will certainly develop it further in dialogue with our stakeholders.

Thank you for your attention!

# Sustainable Development, Responsible Care and Community Partnerships; Co-operation, Co-existence or Conflict?

Good morning ladies and gentleman! It's a great pleasure for me to be here in Korea today and see such a large turnout of people to the 8th Responsible Care Conference here in Asia Pacific.

Today, I'm going to talk about Sustainable Development, Responsible Care, and Community Partnerships are the cooperation, coexistence or conflict.

So let's first take the first question, Cooperation, Coexistence or Conflict... Can these three initiatives work together? Can they coexist together? Or do they not live in harmony? So is it a conflict? Yes, for anything, there are some areas of conflict, I don't know any marriage where there are any conflicts sometimes. In fact, a little conflict is healthy. It means that we are not really giving in. Someone is not giving in all of their time. So yes, a little conflict exists.

Can these concepts coexist together?

My answer to that is YES they can, but just wait! I will show it to you that there is more. And same with cooperation, Yes! These three concepts can cooperate with one another but in reality, it's really a lot more than that.

I am an engineer, and I know a lot of technical people out here as delegates to this conference. So I am going to try to put this in some math. I am going to start with old math which is the things that you and I were trained for. That's one plus one plus one equals three. So in the past, we've really looked at things that each one when we add them together equals to the sum of each individual part. But I think there really is today some new math. We've moved to a new century where we are looking at new ways of doing things so I invented so new math where one plus one plus one is now very very much more than three.

And how does this fit with these three concepts and initiatives?

When we take Sustainable Development, we include Responsible Care and a very important theme for this conference of Community Partnerships. We actually end up with something that is very much more than the sum of each one of these three.

But let's look at each part of this because you know, there parts aren't the same things. Sustainable Development has been around for a long time but it's really tough stuff. It's so generic, it's written for everybody. If you take the definition that was made at the environment development conference in Rio, it says that Sustainable Development is development meets the needs of present without compromising the ability of future generations to meet their own needs. That's a definition that none of us can disagree with but really when we take this and try to translate this into what does it mean to Dow Chemical? How do we implement that definition? And what does it mean to our industry? It really becomes quite a difficult, complex initiative.

But Responsible Care, I know some of you will disagree but it's easy comparatively speaking. It's written by the chemical industry, for the chemical industry. It's written in our own language and it's made to share. We need to remember this as we talk about this whole concept of partnerships. Why do we find Responsible Care, at least in Dow, easier than Sustainable Development? And the reason I believe is that it's written in our language. I am going to come back to the theme as I talk about Community Partnerships.

Community Partnerships, that's also tough stuff. It approach people like Dow where sites, facilities and offices in many countries around the world, more than a hundred. Our approach to Community Partnership varies by country.

In fact, let's take Korea. We have facilities and a few sites in Korea and I can tell you that our approach to Community Partnership is different in Seoul than it is in Yeosu than it is in Ulsan or it is in Gumi. And that's true of any other countries where we are doing business. That in fact, location and the concepts and the needs of that local community vary our Community Partnerships are set up.

And guess what? It's not the staff that you and I are trained for as engineers. Maybe some of the younger engineers in this audience would have had some training in Community Partnerships or Community Outreach Activities. But I remember as I went through engineering school, this was not something we were taught. It was not something we even thought of when I graduated. It's funny really because we all are part of the community when we go home but when we are at work, we seemed to turn off our community participation hat and become business people.

And what makes even more difficult is that how we work on our Community Partnership. It changes with time and it changes with the situation. You know, I started working in the environmental area longer than probably some of the people have been born in this room. I started back in 1978 and I can tell you what that's time how we thought about community is quite different to now and I guess it's quite different than just a couple years ago.

The other thing just happened is that we find it changes with time. If we are in a region where there has been a significant impact from an incident at one of the chemical facilities, I can guarantee you how you talk to your community tomorrow is going to be very different than how you did before the incident. It really impacts your relationship with your community. And I think one of the things I hear a lot from people is we've got to tell the community about stuff. Well, Community Partnerships isn't just about communications. It's not just about telling people things. It's about listening and responding to their issues as well as talking about our issues with them.

Dick Robson this morning mentioned the fact that this is not one-way communication. It must be dialogued two ways and we have to learn that new skill of listening. And sometimes that's pretty hard for us. I know in Dow, we've changed our behavior significantly to how we deal with community over the last 20 years. As Dow, a multinational company, we probably had a pretty arrogant approach to dealing with our communities. Over the years we have learned very painful experience that we need to learn to listen and respond and not think we know what is best for the community. That's really a mindset change. All of us are very comfortable generally dealing in technologies and processes but when it comes to emotions and feelings, it's not something we are comfortable in dealing with but we are going to have to learn if we as chemical industry are going to be trusted partner with our communities.

We need to stop talking in the language of chemical industry and start talking in the language of the people. Why did we find Responsible Care easier? because it was our language. So therefore if we want to go and partner with true partnerships in the communities, we have to learn to speak their language. And we have another mindset change that I think it is very critical.

I did public affairs as well as environment, health and safety for a few years and I remember a lot of managers coming to me and saying the media didn't do it right. They didn't report what I said. And reality was that's not true. The media do their job, and they do their job well but we have to remember that their job is to sell newspapers like our job is to produce chemicals. So if they are there, we have to learn to work with them to find a way where we supply them the information in a way that makes sense to them so that they can report about some of the good things we do as well as some of the bad things that have happened in the chemical industry.

We also have to stop condemning the NGOs. The NGOs are the people that we need to partnership with and I know that it is difficult and we are working hard at that in Dow.



A few years ago, one of my colleagues in the US started a program of partnering with the nation defense fund. This was really something very new for us to work with such a radical environmental group and take them inside of our plants. They worked as a team with the local community and with Dow to identify new opportunities for reducing wastes. Guess what? It was a very successful partnership. We found a number of projects that still had a positive return on investment and met all our criteria for investing. So it can work. It just takes some real vision by some people in your organization to be able to do that.

And lastly we really have to move from ignoring our community and hopefully, most of us have moved from that already to lamenting the fact that if only they knew how good we were to truly listening and responding and talking about them about their needs.

Now here in Asia Pacific, you know let's go back to my math theme. You know math, industry used to talk with government and industry would basically ignore the community. The government would talk with the community and you know what happens then? The community reacts to all the information that they are getting second hand.

I don't know how many people in the audience here have ever played a game of pass the message but you know, you start with one message here and you pass it through half a dozen people and then you try to hear what the first person said and what the last person heard and it could be extremely different to what the first person started with. And that's an issue we have it here so we end up with potentially with a conflict and that conflict can spread to the media and to new regulations and the government talks back to the industry and overall, you get confusion, you get conflict and you get no relationships and no partnerships.

So let's take a look at the new math. Here, industry talks and listens with the government and the community. And you what that leads to? It leads to much better cooperation, coexistence and harmony. And if you add to that response to those issues that have been identified from the community and you add in some good EH&S performance, here you come up with a sustainable license to operate and sell.

Now, when we talk sustainable license to operate, I know many people think of manufacturing facilities. The community holds more than that. They also hold our license to sell and more and more as people have pointed out, it is not just our operations that are our concern, it also the products we sell. So that's an important growth that we have not only license to operate but also our license to sell. And I only believe that that is Responsible Care, not all of Sustainable Development.

I've used my math theme, and used a word: it's a function or path of Sustainable Development.

So we are looking to change our ways. Here, I would like to talk about the different between Responsible Care and Sustainable development. And actually, Responsible Care addresses many of these issues. It addresses environment stewardship, it addresses many aspects of corporate social responsibility like health and safety, like community outreach.

But it doesn't address all of those aspects of social responsibility. It doesn't address the aspects of economic prosperity but I really want to ask you a question. Should it? Should Responsible Care be the Sustainable Development for the chemical industry? I've got to say that my answer is no. I know there are people out there, some of which I've discussed with who disagree with that. But why do I say that? Well, I say that because it will reduce our focus that we have in Responsible Care.

We have a priority of improving environment, health and safety, of dialoguing with our communities, of responding to their concerns and supporting one another, sharing. But Sustainable Development has been already spoken this morning in the previous keynote address, Sustainable Development may be seen as comparable advantage. If it is comparable advantage, we are not going to share the same way as we do with Responsible Care. And I think because, returning to my math theme, that together, if we would have the work together, they make the sum of each individual piece and actually much more. So remember my new math. That's one plus one plus one is very much more than three.

Now, I am going to just give you some examples from Dow. We've been working on the integration of Sustainable Development, Responsible Care and Community Partnerships. And we've been doing it at the highest level, down to countries, and sight levels and we've identified key stakeholders somewhat like Bayer have done. We've identified employees, our communities which includes a number of those stakeholders identified by the previous keynote speaker, and our shareholders because that's the economic driver. And what we done that with Responsible Care has been integrated into environment, health and safety and Responsible Care has been integrated into the Sustainable Development and all of these concepts have been integrated in our corporate, our business, our function and our site strategies.

Well, at Dow, we decided to take a look at Sustainable Development a number of years ago. And it's really been a long time in coming to conclusion of what we are going to do with Sustainable Development. We decided to adopt the triple bottom line of economic prosperity, environmental stewardship, and corporate social responsibility.

And then what we did, and we said, "That's all very nice, but that doesn't mean very much to our technicians sitting in our plant at Yeosu." We said we needed to translate those high-level concepts into things that we at Dow understand and do. And what we did first was we developed set of guiding principles and then we look at it and we said, "Gee, this is really closely linked to Responsible Care" and we formalized that link in our guiding principles.

I will show those in a minute. We then took those guiding principles and we translated them to 12 point operating plan. Now, I am not going to go through the details of that. That will be a speech all of itself but I think what is important about this is to look at the links between the two.

If you take a look, those with the blue printing(10, 11, 12), they are the ones with direct links into Responsible Care. Those in green(4, 5, 6) have a link to Responsible Care but they actually move a little outside of Responsible Care as well. So you can see that many of our Sustainable Development principles are directly linked to Responsible Care.

And then we took a look and we said, "Okay, got those principles and that's all very nice too but we need to get down so that people can incorporate these thoughts into the strategies. But not every business needs at the same way. Not every site in the Pacific needs to do the same way because we have different concerns and different issues.

So we developed a concept of painter's palette. You know when you are painting, you take a little bit of this and a little bit of that and you mix it together and you make your painting, you draw your picture. This painter's palette enables say Korea to take very a large portion on maybe EH&S improvement and they put that into their strategy. They looked out all of these 12 points and include what is most relevant to them as their priorities but what really is interesting in this 12 points operating plan is to look where Responsible Care links and if you take that see the hands they cover a great lot of what we are doing as part of Sustainable Development and our challenge is to continue to make sure that Responsible Care as program and initiative for the chemical industry does not get lost in the bigger concept of Sustainable Development.

One of the key things as we worn our journey down the road to Sustainable Development and fulfilling our requirements under Responsible Care was to development a set of environment, health and safety goals. And I was in a part of the team who did this back in 1994 and I can remember talking to some of my business colleagues as we going down this process and I wanted to know what we've been drinking as we did this because we didn't know how to get there. As we developed these goals in 94, we didn't know if we can achieve them. We talked about responsibility and accountability which really talks about Responsible Care and it implementation all around the globe and its promotion and working with the industry associations like KRCC to promote and support Responsible Care and in all the countries where we do business. And it's also to prevent environment, health and safety incidents and this is probably the area where people thought we are most crazy. We've got goals it says we are going to reduce our incident rates by up to 90% and for injuries it was 90%. No one thought we could do that.

But I can tell you today that we are well on our way to achieving that goal and if we hadn't set that goal way out there, I don't believe we would have achieved the improvement in performance that we are seeing today. And we also looked at increasing resource productivity: reducing our energy per pound per production, reducing our emissions and wastes.

And what's really has happened was we've had very much improved performance and it hasn't just been in the US or Europe, Asia has paid its part. When we started this back in 94 in Dow in the Pacific, we would have the worst performance the motor vehicle accidents in anywhere in Dow. We said, "Well, we are going to meet this goal. We are going to reduce our accidents by more than 50% in the Pacific. And today I can stand here and tell you that our accident rate is the best there is, we are less than our corporate average, so we do better in driving in the Pacific in countries like Indonesia, China, Korea than we do in the rest of the world. That shows that in fact you put that that target out there, people get very creative in how to meet that. So we've improved our performance.

Now 2005 is coming close so we are already working on our 2015 goals what would they look like. I can tell you that we are going to integrate all the aspects of Sustainable Development and Responsible Care. We've got a year or more we are going to develop that and our partners in our communities where we are part of this as we go forward.

So Sustainable Development brings value, Responsible Care brings value and equals much more than the sum of the three. In fact, if we put three concepts together, it goes beyond cooperation, coexistence, and conflict. In fact, Responsible Care, Sustainable Development and Community Partnerships equal our license to operate and sell. And it equals sustainable industry, partnering with our communities in harmony and cooperation to make a better world we all want.

Thank you.

# For a Responsible and Sustainable Chemical Company

Mr. Chairman, Distinguished guests, Ladies & Gentlemen, Good Morning.

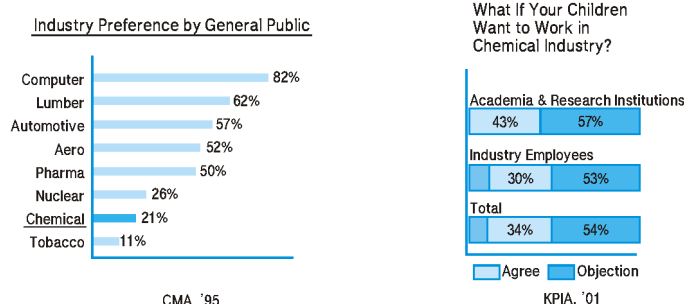
First of all, I would like to thank the Organizing Committee for the invitation to address at the 8th Asia Pacific Responsible Care Conference. It also gives me a great honor to have this opportunity to share with you some of our experiences at LG Chem on the sustainability and responsibility of chemical industry.

If we look back in the 20th century, we find that it has been full of revolutionary advances in the chemical industry and technology. The magnitude of these advances and their effects on our life is truly tremendous. I believe everyone in this room would agree with me that chemical industry and technology has been the very basis of modern civilization. Not a single day passes without using chemical products in one form or another. The chemical industry also provides products essential to a broad range of industries such as pharmaceuticals, automobiles, electronics, to name a few. Our society is also expecting so much from the chemical industry to improve the quality of life and to solve problems concerning the environment, food, natural resources and energy.

However, It is also true that, despite of the extensive contribution to the society and quality of life, the chemical industry tends to get very distorted image and is often blamed for a prime cause of pollution, health and environmental hazards. The indigenous nature of industry as well as series of infamous disasters in the past has also aggravated the negative image of chemical industry as a whole. In order to be prosperous and ensure the sustainable growth, the chemical industry thus has to secure the understanding and support from the other sectors of the society as well as the general public. In this context, the gathering like this conference would provide a timely platform to exchange new ideas and experiences which are helpful to us all.

I think it is now the moment to briefly introduce you who is LG Chem. Since its birth more than half a century ago, LG Chem has evolved into a leading provider of chemical products across the petrochemicals, industrial materials and materials for information technology and electronics. During this period, LG Chem had thrived with the booming Korean economy and built its presence mainly in the domestic market and partly in the global market. Thus, it could manage to expand its revenue of billions of US dollars and total employees of ten thousands. LG Chem is challenging again to attain the leading position in the global market through the sustainable growth which also commands us to comply with the Responsible Care to our society and environment.

I would like to continue my talk by showing you two of the interesting survey results recently conducted in the U.S. and Korea. The survey result on the left-hand side of this slide indicates the comparative emotional preference of the general public by industries. Chemical industry is sadly one of the least preferred despite of its importance and contribution to the economic prosperity. It may be understandable that the tobacco industry is least popular but it is rather surprising that chemical industry is even less preferred to the nuclear industry. The Fig on the right-hand side gives us much more disappointing message. The question was – "if your children are to work in a chemical company, what would you like to tell them?" The survey was to those professionals working at R&D laboratories in academia, national research institute and industry. Surprisingly, more than half of the answers were negative. The result implies that not only it will become more difficult for chemical industry to employ talented professionals but also our academic institutions will find it tougher to attract promising students to chemical science and engineering. We are losing them to other field, which will hurt chemical industry badly in the coming future.



What should we do, then? What are the solutions? The general public perceives that the chemical industry is inherently exposed to the hazardous problems and dangerous accidents which trigger the public concern to bring stricter regulations. More stringent regulations not only aggravate the business environment but also worsen the distorted image of the industry, which, in turn, gives another warning sign to the public, saying that those chemical industries are so dangerous and harmful that they should be kept in tight controls. A kind of chronic and vicious cycle, as shown in the slide, has evolved between chemical industry and the public over the past years. In order to earn the trust back to chemical industry from the general public as well as the stakeholders, we have to break the vicious cycle and get out of it. How? I think one of the solutions we have is Responsible Care which addresses our promise to society and stakeholders that we must make a long-term commitment to continuously improve occupational health and safety, and also comply with protection and enhancement of the environment.

Responsible Care at LG Chem in collective sense translates into Environmental Management(EM) which reflects the philosophy of our way of doing business for sustainable growth and encompasses a broad range of related initiatives, some of which I would like to share with you today. As the manifesto to our stakeholders and community, in 1997, we declared the Environmental Vision which reads "Harmonize Business and Environment for Both Human Beings and the Mother Nature". The vision clearly delineate that, in doing business, we will always care people, community and the environment, which also translates into the charter for all of LG employees.

Our goal for EM is simple and clear : "sustainability and responsibility". However, in order to attain the goal, environmental awareness and voluntary participation of our employees in all levels are imperative and the full commitment of top management is indispensable. There are roadmaps for waste reduction (to zero emission) and energy saving (energy management) which would be executed via reuse / recycle, process improvement and cleaner technology. Every progress is to be measured and recognized.



We do environmental cost analysis regularly in order to promote the efficiency and effectiveness of EM and to assess our activities concerned. This analysis includes the costs of prevention, treatment / disposal, stakeholder and other costs like tax, charge and penalty / fine, etc.

LG Chem has prepared LCA library across the entire product lines to identify adverse impacts of our products on environment and to be in response to our customer needs. An increasing number of customers these days require LCA data which are cumulative amount of energy consumption involved in producing the product from the very raw materials.

Energy management is an important part of our EM and also essential to reduce energy consumption and CO<sub>2</sub> emission. We have our own mandatory guidelines to be implemented on both individual and collective process and product. In order to comply with those mandatory milestones, we would probably restructure or abandon some of our businesses, if required.

We regularly publish "Responsible Care Report" which shows every activity LG Chem is doing for environment management and the performance results. We know the best way to earn the trust of stakeholders and society is to be open and transparent, which would be accomplished via active dialogue with them. Responsible Care Report is just a way of dialogue, so to speak.

Working with community is also important. We help people learn ways to see the environmental issues. It will provide the community with the right information and also help them correct misunderstandings and overly exaggerated environmental concerns related to chemical industry. We also help our business partners solve their own environmental problems by sharing our knowledge and experiences. LG Chem believes in that knowledge sharing is our responsibility to business partners and sometimes peers. All in all, we should conduct every effort or campaign to persuade and educate other sectors of the society including the general public and to correct the misleading perception about the chemical industry and products.

The chemical industry of tomorrow ever needs highly educated and trained work force. There is also growing concern that talented young people are deciding not to make careers in chemical science and engineering because it is too tough and of poor reputation. Chemistry / chemical engineering was once regarded as one of the most favorite disciplines for young students but these days, we lose them to other fields. Collectively we must work hard to attract these young people to chemical science and engineering and convince them that it will be very rewarding for their career. In this context, LG Chem is trying to put most emphasis on various outreach programs to attract young talents to their careers in chemical industry. CEO Lecture Program, for instance, has been one of the most successful programs : Senior executives including CEO, under mutual agreement between LG Chem and the university concerned, get a lectureship for either undergraduate or graduate class usually for a semester. Their professional experiences and skills on technology, technology / business management are usually more than welcomed by the class. I think this kind of program surely helps to persuade and educate talented students to take their careers in chemical industry and we should try to develop better programs which would activate and attract more young students to join us.

Now, I would like to show you some of the outcomes from our environmental management. The waste water from our plants has been reduced by a half since 1994. It was about two thousand kilograms of waste water per product ton in 1994 and has been reduced to about one thousand kilograms by the end of 2002. Other wastes have also been reduced more by almost 70% in the same period, from 14 to 4.6 kilograms per product ton. The number is still reducing and we will continue our efforts until we achieve our target, the zero emission. However, we are more glad to see the recognitions we have received from the outside, because I think those are the reflections of the outputs of our environment management. I believe that the more recognitions the society render to us, the more trust the general public put in us and chemical industry.

With what I have said so far, I would like to wrap up my talk with some concluding remarks. In this presentation, I have tried to illustrate some challenges to the chemical industry and to introduce our environmental management, LG Chem's version of Responsible Care. Business is getting tougher and our resources are limited. But I am optimistic about the future of the chemical industry because we are aware of the challenges ahead of us and what has to be done to meet these challenges. It is also clear, however, that if the chemical industry wants to ever succeed in sustainable development, we have to continuously dialogue with the society and the stakeholders and earn the trust from them. On the other hand, we have to be more than responsible for continuously improving occupational health and safety and complying with protection and enhancement of the environment. Those are all about Responsible Care and also why we gathered here today.

Ladies and gentlemen, This has been my story.  
Thank you for your attention.

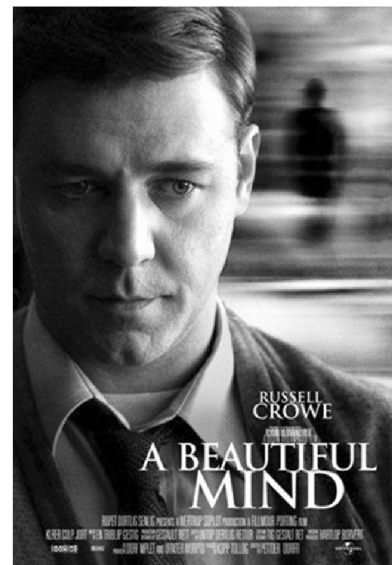
# Business, Community and Sustainable Development

## Introduction

There is a movie, recently popular, which is an important backdrop to my remarks. It is the movie "A Beautiful Mind" about the Nobel prize winning mathematician John Nash, whose theory on non-competitive games suggests that Adam Smith's statement of capitalism from the 18<sup>th</sup> century was at best limited.

(Adam Smith was of Scottish birth and lived between 1723 and 1790. He was a social philosopher and political economist who is best known for his book *An Inquiry into the nature and causes of the Wealth of Nations* (1776), which is often quoted as the first major treatise on capitalism)

For capitalism as stated by Smith, with all its benefits, if taken to its logical conclusion is a recipe for disaster. The notion that you or I should work only for what is in our best interests means at some point all of us will work for one of us—a highly unstable, unsustainable situation. Humanity in its very nature rebels against the idea that all of you should work for me. In fact the natural marriage of capitalism and democracy is that for one in economics and the other in politics, both systems assume this basic truth.



We all want to be free,

Yet unfettered freedom, unless there is only one or a few of us on earth, is a recipe for disaster as well. Asian cultures in particular have discovered this long ago and hence the traditions of responsibility and duty to family and nation; notions which exist everywhere to insure that humans living in any reasonable proximity to each other can do so in peace. Therein is the reason sustainable development makes sense as the next step in the evolution of capitalism. John Nash's stroke of insight is that the ultimate economic solutions going forward will be those in which I realize that the most advantageous economic solutions for me will be those which generate the maximum good, or return, not just for me but for you and the rest of the world as well.

## History

Ever since the 18<sup>th</sup> century, when the world population was about half of what it is now, people like Malthus have thought human society would destroy itself by over using and thereby destroying the natural resources for food, shelter and clothing upon which we all depend.

(Thomas Robert Malthus was an Englishman who lived between 1766 and 1834. He is best known for his work entitled *An Essay on the Principle of Population as It Affects the Future Improvement of Society, with Remarks on the Speculations of Mr. Godwin, M. Condorcet, and Other Writers*, in which he argued human hopes for social happiness must be vain, for population will always tend to outrun the growth of production.)

Calculations in Malthus' time when carried forward suggested that the rates of consumption would not allow the human race to sustain itself for more than another century. And yet clearly Malthus was wrong. We are here nearly two centuries later with twice as many people. What did he and his compatriots get wrong? Perhaps many things; but one was they could not foresee all the changes in technology that have since allowed many more people to live much more comfortable lives with the use of far fewer resources. An example is the use of wood.

In the 19<sup>th</sup> century wood was used for energy, construction and thousands of other applications. Continuing in that fashion, the forests in US were expected to be totally depleted before the middle of the 20<sup>th</sup> century. Some investors thereby bought huge tracts of forests expecting to make a killing when excess demand exceeded supply and drove the price for wood beyond all reasonable expectations. Yet those investors lost their money because, as with Malthus, they could not foresee the importance of new technologies such as generators for converting oil, gas and coal for energy, furnaces for the production of tempered steel for construction and plastics for use in many small applications. They could not foresee advances that thereby vastly reduced the amount of wood needed by society.

The failure of Malthus and the wood investors to be right in the short or medium term does not mean there was, or is, no truth to their concerns. The Easter Islands are the most glaring examples of places where a thriving population destroyed the natural resources around them without the concomitant development of new technologies and thereby drove themselves into extinction. The fact that in the main, humanity has not suffered the same fate as our brothers and sisters in the Easter Islands may be because: not enough time has passed; in the whole we have been more enlightened than they were; the Grace of God, or God knows what. But it would seem foolhardy for us not to learn from their, from our mistakes.

A quick digression: it is important to keep in mind that notwithstanding our various differences in appearance, culture and outlook, all humans currently alive are estimated to be no more than 50<sup>th</sup> cousins distant from each other. Said another way, the best current understanding of our genetics suggests we are all related to each other through one set of ancestors. The fact that such thoughts are consistent with the metaphysical understandings of the great religions of the world is probably no coincidence. In many ways we are all one and we would do well to understand that the errors of some of us can easily be the errors of all of us, unless we appreciate our connectivity and learn from each other.

Current concerns about air and water pollution, destruction of the ozone layer, global warming, the depletion of fish and fresh water supplies and non-renewable resources can easily sound like the misguided musings of Malthus and the wood investors. But let us not forget the lessons of Easter Island; without thoughtful sustainable development now, the fears of the present can become the realities of the future.

In the 1920's and 30's in the US and Europe, chemistry and chemical production were the high tech wonders of the the age. The development of plastics, pharmaceuticals, synthetic materials for clothing and molecules for crop protection brought unparalleled levels of prosperity to millions. And yet, the unfettered effects of capitalism allowed, if not forced, the tragedy at Bhopal (India).

Another digression: let us not look at what happened at Bhopal and imagine these were people totally different from our selves, bent on evil, who then generated a tragedy that killed and injured thousands of people. Capitalism in its base forms, undergirded by traditional accounting, does not allow managers to easily see the costs to the firm of deferred maintenance, stagnant process safety, environmental degradation and indifference to the community. The habit of not quantifying the costs and benefits will allow any enterprise to make the same mistakes made at Bhopal—sooner or later. But there is another way.

### Working with the Community

Remember the essence of sustainable capitalism is figuring out how to account internally for those depletions of resources and other costs which have generally been left external to the enterprise. Not only is it essential to appreciate and manage what should be the obvious internal and traditional capitalist advantages of proper maintenance and improved safety around processes, but equally important, to appreciate and manage how economic activity minimizes, if not reverses, environmental degradation and improves the general welfare of society.

There are, of course, the explicit demands on companies for societal benefit reflected, at least in part, in environmental, health, safety and consumer laws and regulations. Though some of these demands can, through the political process, become tedious, inane, strainings at details which have little or no ability to produce the desired societal benefit and may, through unintended consequences, cause significant lessening of societal welfare, as has happened through the Superfund law in the US and is feared will occur through the proposed REACH system in the European Union, they, never the less, are our best attempts to insure economic development does generate a better life for all.

The fact that governments err should not be a surprise to us. For God knows what reason, we all, as individuals and as institutions, have the propensity for error. Though true for companies as well, companies have the advantage that they can learn quicker and move faster than governments. Hence it is an error for us to wait until there is a law or regulation forcing the behavior of looking out for the betterment of all. Because, if nothing else, doing so is wasting the optimal use of opportunity and resources. And it is exactly that kind of waste that companies are so well honed at eliminating.



That said, we must understand, that for all the expertise and energy that companies can bring to the effort, most lack, in the main, the education and sensibilities to fully understand and appreciate what might be in the greater good. It seems to be true, for instance, that no business school in the world has a set of required courses on environmental, health, safety or sustainable development. It is, however, possible to compensate for this lack of expertise by bringing onto the staff of an enterprise people with training in public health or the social sciences as well as talking with the community, both around the production sites and to those who are the potential users of the company's products and services.

A common technique, in the present, is to gather people from different stakeholder groups, such as environmental activists, academics, community leaders—generally called a community advisory council or CAC—and meet with them on a monthly basis, allowing the group to set its own agenda as well as to be available for requested input on items of interest to the company. While there are cultural differences which make starting a CAC in some locations impossible, Rohm and Haas Company has sponsored or participated in more than 20 Community Advisory Committees, in various regions of the world. The work and emphasis of these groups varies by site and by local needs and expectations, but in general the CAC's provide input and advice on plant operating practices. They work as important links with local residents to assure there are effective emergency response plans, and shelter in place procedures are established and well understood in the community, identify important social needs of the community where the company can make a difference, and sponsor worthwhile projects that improve the quality of life for local residents.

A few examples of CAC and company joint initiatives include identifying a city-wide block in Philadelphia, Pennsylvania to coat flat roofs of elderly residents with a white elastomeric coating that will reduce the energy impact and maintain a cooler living environment for these residents in the heat of the summer; sponsoring shelter in place education and training programs for residents around our Cincinnati, Ohio facility; sponsoring after school programs in math for students in nearby communities of our Spring House, Pennsylvania Research facility and Dewsbury, United Kingdom manufacturing facility; sponsoring scholarships for local students in communities in Louisville, Kentucky and Shanghai, China; and working together as community and employees to participate in the construction of several homes for economically distressed families in Knoxville, Tennessee.

Whatever the project, or issue being addressed by these CACs, the common thread is that the area of need for the community is developed from input by local citizens, and the expectations for our relationship is defined through an open and deliberative process.

In doing work with the community, it is important to understand that there are different expectations around environmental, health, safety and sustainable development (EHS & SD) performance worldwide. This is certainly reflected in the different regulatory schemes in different countries. That said, we at Rohm and Haas have found it best to maintain the same high level of expectation around EHS & SD performance everywhere in the world with the understanding that, some times for scientific and some times for political reasons, there will be more stringent local requirements in one region or country.



Of particular importance is the need to engage with academic groups and non-governmental or activist organizations. Academic groups often have new insights on scientific developments that will assist in the quest to reduce risks associated with production and products, while activist groups are in touch with concerns that may be of importance to the society, but not generally known at a point in time. Thereby as difficult as developing such relationships can often be, doing so is, none the less, exceedingly important.



## Hopes for the Future

The point of sustainable development is, of course, development. The concept of sustainable development, besides acknowledging the importance of economic progress, social and environmental responsibility, also acknowledges that the nature of humankind appears to be to continue to strive for a better way of life. This suggests the need for new products, new work and new markets. One of the problems in the present global economy is the vastly uneven concentration of wealth in a relatively small percentage of the world's population while risks and the less desirable effects of development are very much more wide spread. Such a state, as mentioned before, is not sustainable. But how to move forward?

There are some current, some older products and services that need to be maintained, because of either a special need or a cultural preference. We need to make sure they can exist with, hopefully, no impact on the environment and without further distorting the current balance of risks and benefits. Generally though, we need to understand that we have to find ways to bring food, shelter, clothing, education, health, safety and security to all humans. We need to move inexorably toward the day when the only reason anyone is dissatisfied with their life is because of their own choices, not because we as a society have not tried to help them meet their needs and desires. We need to do this in a way that not only provides greater benefits and fewer risks to all, but also actually makes the world better: fixes the ozone layer, balances the carbon dioxide cycle, insures clean clear water, preserves the oceans, re-establishes fisheries, eliminates blight—urban and rural—and makes the world a place of joy for all.

This all sounds quite utopian I realize, and I do not suggest we know how to do it all at the moment. The only things we have to agree on now are the direction and working peacefully and respectfully together.

# Sustainability at BASF: Community partnership in Responsible Care Asia Pacific

Ladies and gentlemen,

It is a privilege for BASF to share our approach on community partnership in Responsible Care, and more broadly in Sustainable Development in Asia Pacific.

Sustainable development is the guiding principle of our global business philosophy. It means to generate benefit for the people today without limiting the options of future generations. For us it is to invest in more than just steel and pipes. Sustainability and Responsible Care with all their codes uphold the guide and standards to be measured against.

## From Secondary Issue to Business Case

Among the world's developed economies, Sustainability has gained tremendous importance, and has become a key focus of senior management in recent years.

Discussions with environmental and other interest groups were minor issues in 1995, now, they are considered as global governance discussions and have become important aspects of corporate reputation.

Sustainability previously stood mainly for environmental protection. It has evolved much further and is nowadays the yardstick for the economic assessment of companies.

What does it mean to BASF to develop our business in a sustainable and responsible manner?

To us it means that we strive to achieve the appropriate balance between commercial, ecological and societal interests. This guarantees the basis for our long-term business success, a success that is sustainable only if it is based on social stability and responsible behaviour.

### Sustainability – Issues and Stakeholders

Sustainability is examined from these three dimensions, and the influence of the different stakeholders goes far beyond the concerns of product viability and profitability. Without their consent, the implementation of a company's strategy is hardly feasible. Indeed, the stakeholders make the final judgement on the fate of the whole company – it is these people who decide on the company's licence to operate.

Dialogue with the stakeholders does not mean that a company needs to involve all parties in every decision or that every request of any interest group has to be met. However, the input of these groups must be acknowledged and thoughtfully considered. Dialogue is about giving stakeholders a voice, listening to what they have to say and being prepared to act or react accordingly. Sustainability has garnered a worldwide movement, and the public and media are watching it.

### Sustainability – The Global View

The Sustainability and Responsible Care commitment of a company is clearly reflected in the Dow Jones Sustainability Group Index, which is the world's first global index that tracks the performance of the leading sustainability-driven companies worldwide.

Under the United Nations' Global Compact initiative, NGOs, international business and labor organizations work closely with the aim of forging a global economy based on the principles of Sustainable Development. As a founding member, BASF is committed to promoting and implementing the Global Compact's nine principles.

In our dedication to support corporate responsibility and sustainable investment practice in Asia Pacific, BASF became a founding voting member of the Association for Sustainable & Responsible Investment in Asia (AsrIA).

Let me now show you how we organize and communicate Sustainability.

### Sustainability within BASF Group

At BASF, the Sustainability principle is firmly anchored in our organizational structures and management processes. In this way, it is guaranteed that it is properly implemented within the entire BASF Group. Our Sustainability Council – chaired by a member of the Board of Executive Directors – sets the global policy and gives guidance. The International Steering Committee Sustainability draws up the strategies and manages their worldwide implementation using appropriate tools. A number of interdisciplinary project teams liaise with and report to the Steering Committee, coordinating also with project teams, specialist units and our sites.

### Our Presence in Asia Pacific and Communication Network

In 2002, we posted sales of 32 billion Euros worldwide, thereof 13 % in Asia Pacific. In fact, the contribution and the importance of this region for BASF's business have strongly increased during the past years and will further grow.

As a major investor in Asia Pacific, we maintain over 50 sites and are prepared and dedicated to delivering world class, most modern technologies and products which offer the best eco-efficiency. Our integrated production and know-how philosophy which we call Verbund strives for the optimal utilisation of the resources and a minimum of waste.

It is exactly this Verbund concept that we followed to set up our communication organization in the region. Meanwhile, we have in place a well-functioning network of local communication support which implements and maintains our Sustainability and Responsible Care efforts in the various countries, and around our sites. Thus, from the global principle, we are in the position to adopt our Sustainability message efficiently to Asia Pacific.

### Communicating Responsible Care in Asia Pacific

The major focus of our communication Verbund is bridging the gap between BASF and the community, and this gap is constantly being narrowed through dialogue and involvement.

Ladies and gentlemen,

- we are here in the region to stay long-term and to develop our business,
- but our mission is to conduct it in a sustainable manner as responsible corporate citizens

### Commitment and External Reporting

Our commitment to Sustainability is integrated in the Values & Principles of BASF Group. Whether in Tokyo, China, Malaysia, India or Ludwigshafen in Germany – all our business activities are guided by the same principles which are available in all local languages. And every employee has a personal copy.

Sustainable Profitable Performance is the very first of our values. "Ongoing profitable performance in the sense of Sustainable Development is the basic requirement of all of our activities. We are committed to the interests of our customers, shareholders and employees and assume a responsibility towards society." This may sound ambitious, but it clearly reflects the goals a modern, global company has to pursue.

Concerning external reporting, we believe in more than meeting the requirements of the authorities and the standards of the stock exchanges by providing them with accurate and detailed reporting of our operations. Instead we apply an Integrated Sustainability Reporting Scheme consisting of our annual report and two separate reports on EHS and Social Responsibility. By this Triple Bottom Line reporting, we underline that the three elements of Sustainability are perceived as totally equivalent to our Values & Principles.

### Dialogue – Web Presence and Newsletter

Besides informing interest groups in the classical way via annual reports, communication tools for dialogue such as the media are indispensable to spread the message of Sustainability and Responsible Care beyond employees, shareholders and the community. Extensive information is also given through our BASF web and other newsletters.

### Social Responsibility – Dialogue and activities with audiences

At the core of our audience are our employees. From within the company, our messages and commitment need to be entrenched.

In addition, the business partners close to us with whom we transact and interact have to be influenced as well. Further on, the wider community then can be reached.

So far regarding our commitment and communication tools.

But, how do we walk the talk?

### Responsible Care – Environmental Efforts

BASF's key initiatives in Responsible Care in Asia Pacific include the implementation of EHS management systems and audit tools, industry certification, emergency response, waste treatment, training workshops and road-shows. Wastewater treatment and incineration facilities have been installed or upgraded in all countries we operate in. At BASF's Verbund site in Kuantan, Malaysia, an Emergency Response Team was formed to attend to potential disaster situations on site to prevent irreversible damage to the environment.

In China, five of BASF's existing eight production facilities have been awarded the ISO 14001 Environmental Management System Certification, while an Emergency Call Center has been established in Shanghai.

Four out of our five plants in South Korea have also been certified with ISO 14001. Since 1996, the Yeosu site has been acclaimed three times as an environmentally friendly plant by the Ministry of Environment and was awarded the Yeosu Mayor prize for the Environmental Exemplary Site of the year 2002.

### Social responsibility – Employees

Regarding the Social Dimension of Sustainability and as mentioned earlier, we pay highest attention to our employees. Above all, we create new jobs for the local population. Today, for example more than 98 % of our employees in China are Chinese. In addition, we are committed to developing management competences and expertise in the region and provide training programs for attractive local as well as international careers. These programs also include Sustainability and Responsible Care as key elements.

### Social Responsibility – Partnership with 3<sup>rd</sup> parties

Extending our Sustainability philosophy to business partners, we educate and assist our customers in various Responsible Care matters. We also train and regularly audit our contractors and suppliers. If EHS standards required by BASF are not in place, we use our expertise to help them to meet our expectations. Regular seminars and training programs in Responsible Care are commonplace at our sites as well as the premises of our partners.

### Social responsibility – CAP like Activities

Regarding our neighbours, Community Awareness Programs are carried out on a regular basis with the public, local authorities and neighboring plants to exchange good practices in Responsible Care. Here, I would like to show you some examples at our sites in China, India and Australia.

Members of these organizations can call upon one another for mutual aid in the event of an emergency or disaster situation at their premises. Regular drills are conducted on-site for employees to demonstrate our level of emergency preparedness.

### Voluntary Initiatives of BASF in Japan – Dialogue with stakeholders in Yokkaichi

In Japan, BASF joined the Japan Responsible Care Council in 1997. At our production site in Yokkaichi, for example, the companies of this council regularly organize a Responsible Care dialogue. In these meetings with different groups of stakeholders we demonstrate that the chemical industry is prepared to play an active role in responding to the concerns our neighbours may have.



### Social responsibility – Community Involvement

Visits by school students and families of staff are also organized in the aim of fostering goodwill and a sense of community spirit. Besides support in educational activities at the schools, further activities center around medical assistance to the community.

### Sustainable development – Educational Activities

Leading in the way of hosting events in Sustainability for a broader audience, we hold symposiums on energy, environment and Sustainable Development. This is a platform for sharing achievements and experiences on Sustainability by government authorities, industry sectors and academics.

In January 2003, the Chinese Government has introduced strict exhaust gas emission standards for motor vehicles to reduce emissions by 60 % by 2007. India is also making similar efforts to set stringent standards. We organized "Fuel Additives" seminars in Beijing and participated in another similar action in New Delhi. These events were well-attended by representatives of government authorities and organizations involved in defining the new standards of fuel quality.





In many countries, BASF is looked upon as a leading company in the area of Sustainability. We consistently participate and organize lectures and conferences to further educate and reinforce our message.

In order to spread our philosophy to the younger generation, BASF rolls out its proprietary Kids' Laboratory in various Asian cities, enabling children to experience chemistry in a fun way. In a hands-on laboratory, the young ones aged between 6–12 are educated about the role chemistry plays in everyday life. Road-shows target Beijing, Nanjing and Shanghai in China as well as Singapore, Japan, Korea and India.

### Social responsibility – Reaching out to the Society

For BASF the social dimension of Sustainable Development does not end at its immediate neighbours or the community. We also support wider circles of the society. Our objective is to realize success through global cooperation and open dialogue. For the societies we operate in, it means promoting education, science, art and culture as well as health and sports. While doing so, we want to play an active role and contribute to a positive social development of the society. Some key examples in Greater China this year show you how BASF actively supports education and charity welfare, while also having a hand in ecological and cultural conservation.

However, as we move forward towards increasingly demanding objectives, it is important to adhere to a high degree of self-determination. Companies have to operate in a responsible and flexible manner.

I would like to give you just one example. The problems of assuring the reliable supply of clean drinking water as well as the issue of global warming can only be solved with innovative contributions of the industry. It will be the responsibility of politics to provide the business environment needed to foster such innovations.

Ladies and gentlemen, coming now to the end of my speech, I hope I could demonstrate how BASF commits to, communicates and lives Responsible Care and Sustainability.

There is really no alternative to running a company except in a responsible and sustainable manner.

However, we must realize that only profitable operations can fulfil the requirements of the society and the environment in the long run and only profitable growth attracts business and investments.

Thank you for your attention.

# The Safety Authority—Responsible Care is Good Business Strategy

Good afternoon, I would like to thank Mr. Chairman and the Responsible Care of Asia Pacific for honoring DuPont today with the opportunity not only to attend to learn but also to speak. I had a long written speech prepared but I realized I am on the last speaker of 6, today. 6 keynote speakers after lunch are waiting for breaks, I will go without a prepared text if that's okay. Let me have the first chart, please.

What I want to talk about today is, I listened to all the other speakers, and certainly the part supports them and agrees with everything you said and some excellent talks. As rather than talking about a lot about what the DuPont is doing about Responsible Care, I'd like to talk about Responsible Care as a good business strategy. In addition to it, it really does for society and it certainly benefits our business and that in turn benefits our stakeholders we have.

First, a little bit of part of chemical parts, the part known as chemical company but as many chemical companies we are in many different parts of the business participated and products are going to 75% of the world GDP and part puts science to work solving problems in a way that makes people life easier, safer and better.

## The DuPont Safety Culture

Maybe just a little history about this part, DuPont was 200 years old last year and as many of you know, we started out the explosive business. Explosive business, if you are not responsible for safety company and you are not in business very long, doing those early years, we did have some incidents and it was a result first to establish safety rules in the year 1811. Safety at that point was realigned management's responsibility. Today as then, no plant will start out without management member or manager being presented before going into the operation. We began keeping our safety statistics in 1912 and the belief that all injuries are preventable started in the 1940s. As we started approaching zero in safety, we adopted 247 rule in the 1950s and off the job area.

## Transforming DuPont

DuPont transformed itself from starting explosive business and moved into chemistry and energy business. And then in the 1990s, to prepare for the next century, the chemistry, biology and knowledge intensive solutions. Able to do that, this company has been able to sustained itself by obeying responsible company and following the Responsible Care codes promoting those.

## Our Mission

On Missions, it's very simple. It is sustainable growth. That's increasing shareholder and societal value while decreasing our environmental footprint. And those are in couple of areas, continuous, profitable revenue growth, an enduring enterprise, beating competition, many clients contribution to society, shareholder value, improved environment and opportunities for our people.

## Common strategies that our company uses for winning

**Integrated Science.** New product flow and product differentiation and again Responsible Care, I will share with you later, which contributes significantly to this.

**Knowledge Intensity.** With more knowledge that our product and values that our products contain or knowledge that we transfer. The less raw materials, oil and gas that we are using, more downstream moving further down with our knowledge.

**Productivity.** Clearly competitive costs and which in turn funds future growth.

## DuPont's core values

These have been a core and integrated part for years and years and years. They are not a staff function not something that is outside but each one is fully integrated in our business operation, but safety and health certainly is No.1. Here are some DuPont's records on that. Fair and respectful treatment of people, Ethical standards, environmental stewardship and also here are some numbers of greenhouse gases disposal, DuPont's result is on that.

## Leader in safety

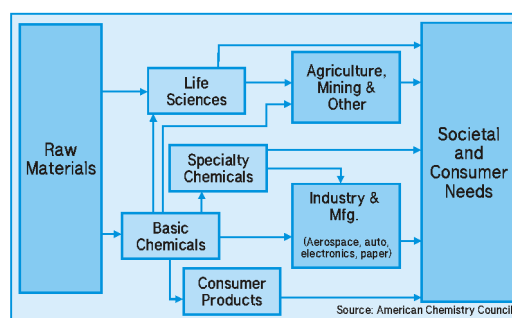
DuPont is also a leader in Safety from history I gave you starting out of 200 years ago, but in 2003, our company is one of the safest companies in America by occupational health magazines. This was chosen based on recommendations by industry professionals and professional associations. Common factors of safety as a business value, measure of business success and developed cultures. The good news is nearly 50% of the companies named on the list are the parts of clients of DuPont safety and safety knowledge that we've transferred.

## Chemical Industry

I borrowed a couple of charts from American Chemistry Council related to what money of business does use. Chemical Industry is really critical to the infrastructure in the world. As each of our companies operates in this room and our colleagues around the world whether it's life scientist, especially basic chemicals, consumer products, it all goes down to in the end is to improve the society, meet the societal and consumer needs.

Also part of the American Chemistry Council operation has continued some improvement again which is very consistent with DuPont and policy leadership, the planning, implementation operation and accountability which is really important.

Before its measurement, corrective, preventive action and management for real reporting and this is ongoing operation which I thought it very representative again to the many of the companies in this room and DuPont.

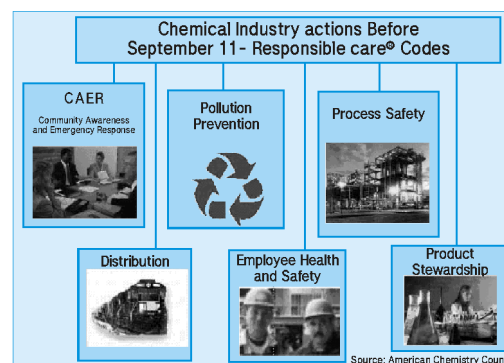


## Chemical Industry Actions before Sept 11

I know that you are familiar with chemical industry actions before Sept 11 on Responsible Care codes from the community awareness program in response, many of that have been talked about today. Regarding pollution prevention, process safety, distribution, employee and health safety, there were some discussions today, but I'm not sure from the safety perspective that work place safety gets enough attention on this overall process.

We, DuPont, have found and this has been proven around the world that 96% of the injuries that take place at the workplace are the result of the employee created unsafe condition or employee action. If you think of the other responsible care codes, and things that could go wrong, I could guess that those percentages goes very close to that.

Then finally product stewardship



## Responsible Care security code—Chemical Industries post Sept 11 action

Something happened on 9/11. Responsible care security code was adopted post 9/11 and its objective was again is to protect people, product, property and information. We, after 9/11, what's happening in the world today, we have another important factor to consider, that is, more impact on operation from an external point of view, so we need to bring security in terms of Planning; prioritize or access our vulnerabilities of each our companies, Do; implement check security measures considering inherently safer approaches, Check; independent for third party, verification, correct, reassess and starting again. Again a different world we are living today, we would really mess if we do not consider this and share together.

### Impact of Major Industrial disasters

I would like to state just a couple of major disasters. You all are familiar with these numbers. Over the last 30 years, one hundred largest losses which is 7.5 billion dollars on average of 75 million dollars per incident I want to flip through just a few of them, you'll take a look, but I'll look on the right hand side of the implied Responsible Care Code process, employee health, community awareness, safety, distribution, process safety pollution prevention. Thinking of the future with post 9/11, what might start showing up there and what we must do as Responsible Care group and partners to avoid that.

### Cost of NOT following Responsible Care

Some of the cost again of not being, not following Responsible Care: supply chain management disruptions. That is, your customers will not stay with you long if you are not a safe company and don't sustain your operations, you shut down and they will find another supplier. Increased safety concerns relating to employees, contractors and the community. Greater regulatory involvement—we, as an industry would like to operate our business in a way that is good for people and good for world. If we don't do that, regulators will get involved and this is the cost for not doing it. Certainly, the reconstruction and the legal implications—in the past this was mainly implied to US market, but today, it's worldwide. Corporate reputation damage—the value, the brands of the companies that are spoken today are nearly billions and billions of dollars and a single incident can detract or reduce significant value of the company or the brand of the company.

### Responsible Care Impact on Du Pont: Few Examples

#### DuPont Environmental and Energy Goal

In the past decade, we reduced our global air carcinogens by 91%, 47% reduction in global hazardous waste. We've been flat on energy use for the past decade while production increase over 30% and then 68% reduction from 1990 in CO<sub>2</sub> equivalent greenhouse gas emissions from our global manufacturing operations.

I guess I would make the point that others do is that the same objective, same integration of safety and environment are people and our ethical standards of implied in DuPont worldwide no matter what country were operating it.

These are some numbers that you may have read from DuPont. I won't get through all of them but these are major measured results of DuPont actions of the decade of the 90s. We are not there yet. Our goal is zero.

### Waste as business opportunity

Just a few things that we are using are Nylon from used carpet is recycled into auto components and soil stabilizers. Waste milk jug, which I know each one of you have and these are Tyvek®, presents which one of the most profitable business. The U.S post office as a customer, very profitable for us and it uses 100% of recycled products or materials. 80% of pre-consumer recycled Dacron® polyester fiber is used for downstream products insulation products. Corian® that used to landfill, it's waste but making watches and pen/pencil sets. Again, their goal is to have no pen/pencil out of Corian®. DuPont Sorona®, which took part in latest platform, is using corn in clothing, carpets and automotive interiors. Again, the goal is zero.

### Benefits of Safety Excellence

As we talked with companies around the world about safety, safety is often viewed as a cost versus a value. As we talked to CEOs about safety, they said that safety improves business performance while protecting the lives of employees and contract workers. It increases productivity while decreasing operating costs. It helps protect brand and public image. Again, incidents that occur, people don't want to work for unsafe companies and communities, don't want unsafe companies to be in their communities. It leverages current strength of your organization by integrating it. It enhances existing business practices. I was asked at a conference last year in Singapore about safety conference and I gave my talk on safety. They asked, "What is Dupont's safety budget?" The answer might have been same when they asked "What is DuPont's budget for Responsible Care?" I said "Everything", 100%. It's everything does that integrates safety Responsible Care indoor our business operations.

### The future

Well the bottom line benefits when Responsible Care philosophy is integrated with business strategy. It's not a separate staff operation that CEO would take responsibility for Responsible Care. Yes you need staff and experts to support but unless the CEO, and the line organization is getting fully integrated, they will not work.

Sustainability is fairly becoming the key expectation of stakeholders. We also need to look beyond the existing Responsible Care codes. One of the benefits of Responsible Care in Safety is about people. Many employee lives will be saved, many workers will be spared disabling injuries and more workers come to their home safely for the next day.

Again I would like to thank you very much but as sort of safety, Responsible Care after two centuries of operating, it's clearly a still our first thought.

Thank you very much.



# Inaugural Speech by APRO Chairman

Distinguished participants from various domestic and international Responsible Care organizations!

I would like to congratulate you on the official establishment of the APRO (Asia Pacific Responsible Care Organization), which will contribute to the future development of the APRCC and cooperation between Responsible Care organizations in the Asia Pacific region. And I'm very honored to be the first President of this important organization, APRO.

Strong cooperation and incessant efforts of 12 countries, including Korea, Australia, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Singapore, Taiwan, and Thailand, have brought about the establishment of the APRO. The establishment of the APRO is a great beginning for us and it will deliver a fantastic new future for the chemical industry in the Asia Pacific region.

In order to play a leading role for the development of Responsible Care in the region, the APRO will:

first, support the successful holding of Asia Pacific Responsible Care Conferences;  
second, provide effective Responsible Care networks in the Asia Pacific region;  
third, closely cooperate with other Responsible Care organizations and related groups around the world.

Distinguished participants!

Responsible Care is a collaborative effort by the chemical industry to restore the public trust in, and enhance the image of, the chemical industry.

In this regard, the APRO will serve as a bridge between individual countries and the ICCA, and spur the spread of Responsible Care initiative along with information sharing activities across the chemical industry, even covering the SMEs.

Responsible Care is a unique, voluntary effort by the chemical industry to protect not only the environment but also public safety and health.

We can make a significant contribution to bringing about a healthier, brighter, and more prosperous future in the Asia Pacific region, based on our active and voluntary Responsible Care activities.

Finally, I would like to express my thanks to all of you for giving me the honor and responsibility of being the first Chairman of the APRO. With your trust and support, I will do my best to ensure the development of the APRO.

Thank you.

November 5, 2003

Ki-Ho No

Chairman of the Asia Pacific Responsible Care Organization

## APRCC Awards

APRCC 포상위원회(위원장: 네빌헌터)는 다음 기준에 의거, 4명의 인사를 선정, 시상하였다.

- APRO 공동체에서 수 년간 RC의 발전과 이해에 건설적인 공헌과 문제 해결, 독창력 있는 아이디어, 그리고 지식과 경험을 주신 인사
- APRCC 회의 준비에 남다른 관여와 자국 협회의 대표로서 모범이 되는 인사

Based on the following criteria, 4 names of deserving individuals were put forward by the APRCC Award Committee (Chairman: Neville Hunter)

- Knowledge and experience, originality of ideas, problem solving and constructive contribution to the understanding and advancement of Responsible Care within the APRO Community over several years;
- Personal involvement in the preparation for APRCC Conferences, effectiveness in representing his/her country and national association throughout APRO activities,

### <Awardees>

Judy Castledine



Barry S. Dyer



Chris van Lint



Masami Tanaka (substituted by Kozo Arai)



시상 : 노기호 APRO 회장

Awarding : Ki-Ho No, Chairman of APRO

## 환영 만찬 / Gala Dinner

APRCC 성공을 위하여 건배... Cheers!



내외귀빈과 함께 With Our Honored Guests...



두드락 & 디딤무용단 공연 Doodrock Beat Performance & Didim Dance



# Workshop 1 – Emergency Response

발표자 Speakers : 터휘 예, 대만ERIC-ITRI  
미셸 쿠티에, 캐나다 CANUTEC  
하리 아난, 말레이시아 BP

Te-Hui Yeh, ERIC-ITRI, Taiwan  
Michel Cloutier, CANUTEC, Transport Canada  
Hari Anan, BP, Malaysia

This workshop drew a lot of attention from the big participants.

One interesting thing was that our session chair and speakers had a special tour to emergency response organization in Seoul on Tuesday even before the conference, Seoul Metropolitan Emergency Operation Center.

There we could find that chemical emergency may be one of category of the daily incidents threatening the citizens. However we also found that even the emergency personnel in that emergency center do not acknowledge well about the risk of chemical incidents. Our team was briefed with many interesting components of their unique operation of emergency call services.

In this session various spectrum of emergency response activities were introduced by three speakers from Taiwan, Canada, and Malaysia. It covered the cases from the government driven to the industry driven emergency centers, and from the level 1 to level 3 emergency response activities, and the cooperated and the independent emergency response operations within the Asian region.

The emergency activities of chemical industry of Taiwan and Malaysia both were far ahead of that of Korea, and their introduction of emergency response practices in their country could give to many Korean audiences a big challenge to go further from the current efforts.

The first speaker was Mr. Yeh from Taiwan. He introduced the experience of Taiwan's emergency response information service and development of training program. One interesting thing in their efforts was the close relationship between Taiwan government and chemical industry. And their current efforts of chemical industry's cooperation were also very impressive to Korean audiences.

The second speaker was Mr. Cloutier from CANUTEC of Transport Canada. He showed the major incident history and the background of the legislation of their Hazmat transport regulation including chemical industry's cooperative efforts in Canada. And he also introduced their case of advanced emergency response call service of CANUTEC, and the publication of Emergency Response Guidebook. He showed us a quite advanced case of emergency response practices in the North America.



The last speaker was Mr. Hari from BP Chemical in Malaysia.

He emphasized about the hidden cost of chemical incidents. To address this BP adopted emergency response as an important component of their HSE elements. He introduced BP's very unique and independent level 1 to 3 emergency response systems during distribution by showing the example of emergency response service team and organizations.

Even though there were no intensive discussion during the session due to the limited time and clear conclusions about the ideal emergency response system in Asian region, the audience was exposed to many cases of emergency response activities in the world and informed with the advance examples.

We could conclude that through this kind of information dissemination and exchange we could be given with the opportunity of improving the emergency response system in one's country. And it might be even possible to explore the network of emergency response centers in Asian region by activating these discussions in the future. We hope this discussion could be continued in the next APRCC in Philippine.



## Workshop 2 – Distribution Safety

발표자 Speakers : 정제억, 한국다우케미칼 Je-Euk Chung, Dow Chemical, Korea  
 임우빈, 롬앤드하스코리아 Woo Bin Im, Rohm and Haas, Korea  
 리릭 N. 산크립, 인도네시아 KNRCI Liliek N. Sankrib, KNRCI, Indonesia

This workshop leveraged from and continued the interest generated by Emergency Response with a transition for response to prevention.

The first speaker was Mr. Je-Euk Chung from Dow Chemical Korea. Recognizing that all of industry is faced with managing distribution of chemicals, he focused the groups attention on a method to prioritize resources on highest risk potential. His presentation provided the Dow Chemical methodology of ranking distribution parameters (type chemical, quantity, route) to prioritize distribution issues. The combined subjective/analytical weighting technique would assist companies to optimize critically needed resources.

The second speaker was Mr. Woo Bin Im from Rohm and Haas, Korea. Mr. Woo's presentation was additive as it addressed the 'transfer supply chain' needed to moving products from the end of production line to the customer. His transport supply chain identified the parties who impact or could cause a distribution incident including transporter, warehouse, distributors, and export forward agents. His presentation further expanded techniques of working with, informing, and educating each of these elements about their responsibilities and duties. He closed with a note worthy statement that they had had no serious distribution incidents at his locations.

The closing speaker was Mr. Liliek N. Sankrib from KNRCI, Indonesia. Mr. Sankrib bridged the last element with an overview of governmental expectations of industry in distribution safety. He came with a strong experience in distribution having worked in industry and now a shipping company. The audience found of interest a shipping representative speaking for a government point of view. He started with a good overview of developing and the challenge of maintaining good infrastructure for transport in Indonesia. Followed by transition into expectations of the government for industry to step up to and fulfill the responsibility being placed on industry by the public through government agencies to provide safe transport of chemicals.





The question period was a good flow of information with all speakers participating. Some topics that arose with general response included:

Q. How does Industry get good traffic incident and risk statistics for some of the developing Countries?

A. Unfortunately, there is not a good data collection center at the current time. But, countries recognize this need and will be working toward that.

Q. Does industry every reject an order because of distribution concerns?

A. Yes, responsible companies to reject such orders. However, we also recognize that other less responsible companies do fill the orders. Responsible industry looks to the governments to help manage these issues.

Q. When one quantifies risk of distribution, how does one weigh the risks?

A. One must include some subjective techniques but be consistent.

The general conclusions indicated there are risks associated with distribution. With governments, suppliers, and customers working together these risks could be managed but companies must be responsible and take proactive steps to understand and overcome the risks.

## Workshop 3 – Pollution Prevention

발표자 Speakers : 아야코 코소네, 일본 토소      Ayako Kosone, Tosoh, Japan  
                          임창희, LG화학                      Chang-Hee Lim, LG Chem, Korea  
                          서주원, 환경운동연합              Joo-Won Seo, Korean Federation for Environmental Movement, Korea

The session chair for the Workshop 3 was Mr. Hoeseg Cheong, Director of Ministry of Environment. Unfortunately, he could not join us due to his time schedule, Chang-Hee Lim from LG Chem briefly stated what they have discussed during the workshop 3.[Editor's note]

We had 3 presentations with the theme, "Pollution Prevention(PP)".

The first speaker, Ms. Ayako Kosone from Tosoh Corporation in Japan, delivered a speech regarding "Practical approaches to Pollution Prevention." She emphasized the significance of the Environmental management in Tosoh Corporation's business and the efficient use of resources. In addition, she showed some examples of Tosoh's waste recycling methods in reducing the PRTR emission.

I, Chang-Hee Lim, as the second speaker, made a presentation with the title "Systematic Approaches to Pollutant Emission Zero". I mentioned some cases concerning the LG Chem's systematic efforts in order to continuously reduce the emission of wastewater and solid waste, and to save the energy.

Finally, the third speaker, Mr. JooWon Seo, the Secretary General of the Korea Federation for environmental Movement delivered his presentation with the title "NGO and chemical industry" which gave us the message on how the Industry can seek ways to cooperate with the public and NGOs. Particularly, Mr. Seo suggested some ideas regarding the cooperation between the Chemical industry and NGO through having workshops, and on-site researches together.

After the presentations, there were some Q&A about Korean environmental NGO's international activities and their cooperation with chemical industries in Korea.

The chair, Mr. Cheong, even though he can not attend this closing session, asked me to deliver the message as follows.



"Recently, the government, Industry and the other stakeholders are reinforcing their efforts to realize the Pollution Prevention. From the traditional "end-of-pipe" policy, the government is approaching to the economic incentive system, voluntary agreement, and technical development support for industries. Industries are trying to integrate the systems for environment, safety, and Health management. NGOs are making their efforts to promote public awareness according to precautionary principle.

However, we still need to adopt measures on the problems of global warming, and reduction of biodiversity which are threatening the environment of the Earth. To prevent pollution by chemicals, Risk Assessment, Hazard assessment, Global Harmonization System, and PRTR are vigorously discussed.

Although we are putting considerable effort in our own areas, PP remains a very difficult and enormous task. In the long term perspectives, cooperation of NGO, government and industries is absolutely required."

Thank you very much.

## Workshop 4 – Product Stewardship and the Relationship with Sustainable Development

발표자 Speakers : 수지오 니시무라, 일본 미츠비시케미칼  
크리스티나 소비에랄스키, 호주 BASF  
노영환, 한국소비자보호원

Sugio Nishimura, Mitsubishi Chemical, Japan  
Christina Sobieralski, BASF, Australia  
Young Hwa Ro, Korea Consumer Protection Board, Korea

Product Stewardship is a critical element of Responsible Care. The principles and practices for our manufacturing facilities are relatively easy because they are under our control. Product Stewardship on the other hand includes principles and practices that go outside of our fence. They include our suppliers of goods and services, our customers and our distributors. This is truly tough stuff especially here in Asia. Why? Because customers, suppliers and distributors may not yet recognize the value of this activity and in fact may be annoyed by this "help" from us. This is also an aspect where there is room for partnerships; working together we can create the atmosphere where product Stewardship becomes a valued exercise.

The major aspects of this session were three fold; the need to be able to supply chemical management information effectively; an example of a product stewardship management system in Australia; and lastly, in keeping with the theme of the conference, the concerns and desires of a consumer protection group here in Korea.

This session showed that the topic was indeed one of great interest in the Asia Pacific. The presentations and the question and answer session were lively and informative.

We learnt that we need to find effective ways to make information available both internally and externally. There is ever increasing expectations of us to be able to supply both data and information to many diverse groups of people. The information needs include MSDS, regulatory information, emission inventory data. The complexity and the sheer volume have made it essential for Mitsubishi Chemicals to develop and IT system to manage it. This system enables the company to make the appropriate information available both inside the company and externally by using the web. The information available on the web includes MSDS information giving access to those who want to know more about chemicals. During questions it was identified that even though such systems are fairly expensive they bring value through improved productivity, improved compliance and supports the commitment under Responsible Care to make information available to those that need to know.



At BASF in Australia they have implemented a system of product stewardship to support the company's future sustainability. Product stewardship goes beyond legal compliance in the Pacific. The importance to have an effective and efficient product stewardship is increasing as the community, including the government, shifts some of their focus from manufacturing to products. The product stewardship system needs to make sure that the efforts are being applied to ensure the safety of all chemicals commensurate with the risks they pose. This paper shared an approach to categorize the products. At the heart of this product stewardship approach is the system to identify the product hazard level from very low risk to high risk using readily available information from MSDS and the UN code for the transport of dangerous goods. The risk of supplying this to the customer is then included based on the systems that the customer has in place. Based on this a simple product stewardship matrix helps to drive the future actions by the business; including the decision to sell or not, the needs for assessment, training etc. A key concept is that the account manager is the product steward and is responsible to ensure that assessments are conducted at customers and the follow up action implemented. During questions there was a spirited discussion of this apparent conflict of interest was managed. The system needs checks and balances to make sure that selling pounds does not override the product stewardship requirements.

Finally we heard from the Director of The Korean Consumer Protection Board about the concerns and expectations of the consumers. He expressed a belief that if we live up to our commitment of Responsible Care we have the framework for the responsible management of chemicals both in our manufacturing operations and the development and use of our products. We need to do much more to reduce and prevent incidents in the chemical and related industries. We need to work harder to reduce the foot print of our operations and our products. Regulations are only part of the answer to achieve this. Industry must play an even larger role than they are doing today through Responsible Care.

The amount of wastes generated not only through our manufacturing process but also through the life cycle of our products needs to be addressed. The community has increasing concerns to reduce this impact on our world. There is a need for our industry to increase our efforts to educate the consumer on safe handling and to provide them information to allow them to make informed choice.

Two future topics for further discussion were identified during the Q&A.

1. What is our obligation to manage consumer waste eg packaging and white goods. There was some examples given of what happens in Japan and Europe
2. Life cycle analysis and its use to support our efforts to reduce our footprint in Asia Pacific.

# Forum 1 – Community Awareness– Community Advisory Panels(CAPs)

발표자 Speakers : 게리 케네디, 뉴질랜드 메타넥스  
류종천, 한국바스프  
최성환, 조선일보  
데비 잭슨, Careline  
한기양, 울산환경운동연합

Gerry Kennedy, Methanex, New Zealand  
Jong-Cheon Ryou, BASF, Korea  
Sung-Whan Choi, Chosun Ilbo, Korea  
Debbie Jackson, Careline, Malta  
Gie-Yang Han, KFEM Ulsan, Korea

패널 Panelist : 김재범, UNEP한국위원회,  
김광련, 새한실리캠

Jae-Bum Kim, UNEP Committee for Korea, Korea  
Kwang-Ryun Kim, Saehan Silichem, Korea

## 1. Community Advisory Panels

- Selection of CAP members critical
- Keep them informed as if they are employees
- Give CAP members empowerment
- Do not expect overnight success
- It is not a short term PR fix
- Involve the senior people from the site
- Resourcing is not excessive so applicable to SMEs
- Helps to raise early warnings about emerging issues
- Helps to defuse situations when they arise
- Of particular value at the site level to win local involvement



## 2. External Perceptions

- Are our messages about Responsible Care the right one?
- Make better use of Responsible Care
- Description and logo
- Company web sites
- Top management commitment
- Demonstrate relationship with Sustainable Development
- Clarify the role and purpose of Responsible Care with the public
- Share information with communities



### 3. Some conclusions

- CAP formation brings its rewards but it takes time to establish. It does not bring a "quick fix".
- Should not be a response to an issue or incident. It should be part of a community relations strategy.
- Consider how to promote Responsible Care nationally—maximize putting the message across to the key stakeholders
- Listen to community concerns and provide the information they want—they have the right to know
- Involve the press and media with your communications program. They tend to only report what they are told
- Do not dismiss NGOs as a nuisance. They have a powerful voice in
- Provide the information they and the communities request or demand—LISTENING is very important
- Continue to make contact with the speakers from the conference—Stay in contact with them and keep them informed on the progress being made with the Responsible Care program in South Korea.

## Forum 2 – Process Safety

발표자 Speakers : 박금령, LG석유화학  
이신재, 노동부 산업안전과  
데이브 버클랜드, 악소노벨

Geum-Ryung Park, LG Petrochemical, Korea  
Shin-Jae Yi, Ministry of Labour, Korea  
Dave Buckland, Akzo Nobel, Netherlands

패 널 Panelist : 윤인섭, 서울대학교

En-Sup Yoon, Seoul National University

Attendance was excellent and several participants were forced to stand due to a lack of seating.

Mr. Park introduced the audience to the LG Petrochemical SHE team. It was interesting to note that team consisted of no less than 21 employees. The company mission statement expresses a belief that all accidents are preventable except those caused by nature. The



team reports directly to second tier top management, i.e. one level below the president.

The approach to HSE management involves the use of several management systems, including ISO 14000, OSHA 18000 and of course Responsible Care.

One of the activities used to ensure compliance to safety requirements is through the use of safety patrols. These patrols are not only active within the site perimeter, but they also patrol outside the company fence in the villages where the community might be affected by emissions from the facility. One could refer to this as a "mobile CAP".

The next speaker was Mr. Yi, who introduced the audience to the definitions used by the ILO to describe a range of serious accidents. Most of Mr. Yi's presentation focussed around the requirements of government regulation 33-6, which regulates a number of hazardous substances through the PSM system in some 7 types of industry, which in turn comprises 642 companies. PSM requires companies affected to report releases of designated chemicals which exceed the threshold values determined by Ministry of Labour (MOL). Hazard assessments also have to be carried out for these chemicals. In addition the companies concerned must have an effective ER system in place. Mr. Yi explained the relationship between the MOL and KOSHA, which is a branch of MOL. Companies subject to the PSM system are expected to demonstrate continuous improvement and are evaluated according to their performance. Those performing well are awarded a "P" rating and poor performers will get an "M" rating. Those with an "M" rating can expect close scrutiny from the enforcement agency. The ministry is studying approaches to root-cause analysis in the UK and the US.

Dave Buckland opened his presentation by reminding us that we are not mere "ladies and gentlemen, but that we should look at one another as friends. Akzo Nobel has a company culture which includes a firm belief, the "all injuries can be prevented" and that safety is good business. In order to successfully manage HSE top level management commitment is crucial and at Akzo Nobel a main board director assumes responsibility for HSE issues. The company operates an extensive process safety testing facility and even in China such a facility is now available. HSE is managed

Through an integrated HE management system. A cutting edge technology approach to physio chemical process safety testing is the use of a software programme to conduct process safety simulations called Tripod beta analysis. An extremely important message was the BBS approach; Behaviour Based Safety, which does not look at safety per-se, but looks at the factors which cause employees to instinctively recognise unsafe situations. Dave assured us that safety management can be put in a nutshell by practicing the 4 "P"s

Product

Process

People and

Procedures

Dave Buckland was asked a question related to the BSS approach and most of the other questions were directed to Mr. Li of the MOL and concerned the tendency of MOL to over regulate and not give companies who practice Responsible Care sufficient credit and regulatory relief.

Summary;

The session presented an excellent balance between the approaches used by a large local petrochemical company, the philosophy of the MOL and the global approach by a multinational company. Key messages were a clear understanding that effective HSE management is possible only with a firm commitment from top management, that HSE must be managed through a clearly defined and operated system and that all injuries are preventable. Governments should recognise that Responsible Care practitioners are committed to zero accident policies and that they are best equipped to ensure systems are in place to eliminate or at very least minimise incidents. The human factor must not be ignored and behaviour should be recognised as being the main factor in effective safety management. Appropriate behaviour assessment and modification programmes should be applied and maintained to ensure sustainability.

## Forum 3 – Employee Health and Safety

발표자 Speakers : 야스노리 요시오카, 일본 니폰페인트 Yasunori Yoshioka, Nippon Paint, Japan  
 배리 S. 다이어, 뉴질랜드 NZCIC Barry S. Dyer, NZCIC, New Zealand  
 카츠토시 카토, 일본화학에너지산업노동조합연합회  
 Katsutoshi Kato, Federation of Energy and Chemistry Workers Union, Japan

패널 Panelist : 정재희, 서울산업대학교 Jae-Hee Cheong, Seoul National University of Technology, Korea

Employee Health and Safety is, arguably, one of the most important aspects of Responsible Care because it directly affects every one of us. All of us expect to go to work in a healthy state and to be able to work in a safe and healthy environment, enabling us to return home each night in the same healthy state we left that morning.



Mr. Yasunori Yoshioka from Nippon Paint introduced his company's approach to identifying and preventing occupational health hazards. His company's safety philosophy is:

"No safety, no company prosperity; no company prosperity, no employee happiness."

Like all safety conscious companies, their approach is very much system driven.

They have a concept they call "The 5 pillars of safety" –

1. Health and Safety Management System and Top–Down Bottom–Up Management
2. Top Leadership
3. Creating Safe Environment
4. Safety Conscious Education
5. Control by Standards

The strength of their systems and high level commitment is evidenced in the fact that they have operated accident–free for the past 8.63 million hours between 1984 up to Dec 2002.

Mr. Yoshioka introduced some novel approaches to safety management including a technique they call "Point and Shout". This is used to help prevent incidents. Mostly it is performed by individuals who will observe a potential situation, point at the area of concern and shout the word OoYoshi!

His presentation ended with the important reminder that Safety has no end".

The next presenter was Barry Dyer from NZCIC who shared with us his experiences in how health and safety can be integrated into our existing management systems. He told us about New Zealand's national approach and their efforts to seek global harmonisation, particularly with Australia which shares a common market.

The NZCIC's vision is to improve national safety, health and environmental performance, particularly the management of hazardous substances through Responsible Care in cooperation with Government and enforcement agencies. As such they have established NZCIC as a "Centre of Excellence" for SH&E performance.

Barry reminded us of some very important facts:

1. Responsible Care Management System is too good to restrict to the chemical industry. The same principles and approach are just as valid in many other industries.
2. Internal and external assessment of these systems is essential and companies need to be duly recognised for their voluntary compliance efforts.
3. Responsible Care works everywhere because it can be progressively introduced at whatever rate is appropriate for the circumstances. Compliance with the law must be the minimum expectation.

Our third speaker was Mr. Katsutoshi Kato from the Federation of Energy and Chemistry Workers Union, Japan who shared with us the involvement of the Labor Union in Responsible Care.

Kato-san explained to us the different way that unions are structured in Japan and their fundamental goals. He told us that the unions recognise safety and sanitation activities and welfare activities are matters that workers and management should tackle together. In this respect, the aim of Responsible Care is in accordance with the principles of the trade unions, for which the top priority is to protect the lives and health of union members, and so they strongly support Responsible Care activities. However, he did remind us that there is a limit to this cooperation because "it might lead to the lack of sense of tension and prevent us from carrying out appropriate roles as a trade union".

One of the very important initiatives of the trade union national centre has been to set up a safety period every October to promote security in the workplace, improvement of sanitation and strict control of working hours during the period.

Kato-san concluded his presentation with his perspective that "the significance of Responsible Care activities consists in the fact that those who carry out the activities are union members and the activities themselves lead to the protection of lives and health of union members. Also we can check the state and result of implementation of compliance and business ethics as well as control of chemical substances, zero emission of these, energy saving and green procurement and point out problems, if any".

Our most incisive panel member was Professor Jae-Hee Cheong from the Seoul National University of Technology. Professor Cheong expressed concern, based on his experience, that there is still not enough being done about safety. He believes that too many people think everything is going well in safety whereas there is still much to be done. He asked some very probing questions of each of the presenters consistent with this concern.

This forum was undoubtedly a very important reminder to us all that nothing is more important than the health and safety of each and every one of us and that we must constantly challenge what we are doing, how we can do it better and how we can extend this thinking beyond the workplace to every aspect of life.

# Closing Remarks

Dear participants who love Responsible Care!

The APRCC 2003 is now coming to an end after four days of productive enthusiasm and interest. I am happy and proud to be part of these efforts and devotion for the development of Responsible Care in the Asia Pacific region.

I would like to express my special gratitude, on behalf of Korea Responsible Care Council(KRCC), to RCLC chairman Mr. Jose Maria Bach, session chairmen, speakers, panelists, and all other participants, for being with us here at APRCC 2003. I would also like to thank the sponsor companies, session volunteers, hotel people, and the convention team who poured their efforts to make APRCC 2003 a great success.

And last but not least, my special thanks to the APRCC Organizing Committee co-chairmen Brian Bum Kim, and John Jongkoo Jeong, the committee members, and the staff of the secretariat who lavished their careful attention for the past two years while we were preparing for APRCC 2003.

We are here together like a family sharing the same feelings and experiences APRCC 2003 brought to all of us.

The APRCC 2003 is the biggest in number with participation of more than 500 people from 22 countries in Europe, America, and Asia Pacific, including the participants of Korea. I believe the APRCC 2003 is distinct in its depth and variety of the programs. We adopted a new format of discussion to help the participants in the sessions conduct a more in-depth and thorough discussion.

Also noteworthy is that APRCC 2003 enabled us to lay the groundwork for an Asia Pacific Responsible Care network. The forming of APRO(Asia Pacific Responsible Care Organization) as a coordinating body represents RC's developmental base in the region. Beginning of such discussion justifiably presents us the need for us to work together for the development of Responsible Care.

The start-up phase of these discussions will continue at the next APRCC meeting which will be held in Philippine, and I am hopeful to see the broadening of APRCC latitude in the future.

Dear participants,

I trust the APRCC 2003 will be remembered as a lasting memory in each and every heart of you and KRCC as well. Now we are left to do a close review of this year's event to make sure if there is any that is less satisfactory or needs improvement, and to prepare for the next APRCC.

We welcome your support and guidance for the development of Responsible Care in the Asia Pacific region. We wish you the best of luck and health. Have a safe journey back home.

Thank you very much.

Ki-Ho No

Chairman, Korea Responsible Care Council