

## For a Green and Clean World, Promise of the Future, Responsible Care

KRCC is an organization established for Responsible Care (RC), by institutions involved in petrochemicals, fine chemicals, fertilizers, and chlor-alkali, as well as the American Chamber of Commerce in Korea, the European Union Chamber of Commerce in Korea, and other chemical institutions.  
RC incorporates activities to improve the environment, safety, and health in the chemical industry.

Environment



Active and preemptive responses

Safety



Sustainable development

Health



Affluent and abundant human life

# Responsible Care

# 48

Issue No



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**Tel:** +82-2-3668-6173

**E-mail:** rcmaster@krcc.or.kr

**Website:** <http://www.krcc.or.kr>

Responsible Care® is a voluntary program in the chemical industry that continues to promote the environment through safety and health improvement activities by pledging participants' commitment. It implements the program through management policies to protect the environment, safety, and human health throughout its entire lifecycle—from the development of chemical products to their manufacture, sale, distribution, use, and disposal.



To pass on abundance  
for humankind  
A better world for  
future generations

The KRCC will strengthen  
its activities and roles for  
sustainable development with  
one mind and one heart

Responsible Care  
means international  
voluntary activities  
for the chemical industry

promote improvement  
of the environment  
and the safety and health  
of the people



**Responsible**  
Responsible Care Issue  
**Vol.48** **Care**

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## Results of 2022 RCLG First Half-Year Leadership Conference

The International Council of Chemical Associations (ICCA) RC Leadership Group met on March 15-16, 2022 via videoconference. The meeting was attended by 50 RC leadership group chairs and representatives from member countries. Leadership group are operated under ICCA s in Five fields, namely energy & climate change chemical policy and health responsible care communication and plastics and each leadership group holds a meeting biannually to discuss the major issues and response plans in each field. This RC Leadership Group meeting provided an opportunity to develop RC self-evaluation tools build a global network revise and supplement data for ICCM-5 submission and explore ways to revise and improve the KPI data-collection process. This newsletter will share the main agendas and future plans discussed at the RC leadership group meeting.

### 1 Global Charter Signature Status

- (Purpose) All RCLG member countries will sign the Global Charter as part of the chemical industry's commitment to SAICM (2020~)
- (Status) Sixty countries have signed it thus far, out of the total of 63 member countries, and all member countries are expected to complete the signing (by KRCC 2020)

### 2 ICCA Self-Assessment Tool Working Group Updates

- (Purpose) Develop ICCA Responsible Care's own tools for chemical companies around the world
- (Background) The European Chemical Industry Council (Cefic) will develop a self-assessment tool that can evaluate a company's management program and track its progress to drive continuous improvement
- (Status) The Responsible Care leadership Group (RCLG) aims to engage more SMEs in RC initiatives and to use the program similarly in other countries and organizations, by applying Cefic's feedback and tools to modify them for global use.
  - Cefic's self-assessment tool user statistics (used in 690 sites by 536 companies in 24 countries; by 47% of large enterprises; by 37% of medium-sized enterprises; and by 14% of small enterprises)
- (Future plans) The self-evaluation tool is scheduled to be revised by the first quarter of 2022, after the website self-evaluation tool is completed; and its development will be completed by the second quarter of 2022.
  - Deadline for completion of the self-evaluation is November 30 every year

### 3 Peer Mentoring Experts Network Working Group

- (Purposes) ① Guide each country to successfully implement a chemical management system through the RC initiative ② Establish a global network of experienced practitioners who can act as speakers in various national group education initiatives and public relations for chemical management and safety
- (Results) Establish a network of peer mentors/professionals including support roles for new countries and associations (21 experts skilled in nine specialties)

- Focused on skilled practitioners who can provide support for national group workshops and other events
- Training and development of educational materials that can be used for workshops and other events, including materials developed by associations and ICCA leadership groups that can be provided remotely
- (List of expert areas) Experts in RC initiatives; GHS classification labeling and training; safe storage and handling; product stewardship; development of executable codes; transport of dangerous goods by land, sea, and air; emergency preparedness; and hazardous waste control
- (Status) Currently producing RC promotional videos to raise awareness of new member companies and RCs by country
  - RC education materials and RC-related literature library (establish system)

### 4 KPI Working Group Progress

- (Purpose) ① Modify and supplement data for ICCM-5 submission. ② Modify and improve the KPI data collection process.
  - The RCLG Secretariat is evaluating the chemical industry by comparing it with the UN SAICM goals based on the analysis of the KPI collection results of ICCA member organizations from 2007 to 2017. Currently, the member organizations are reporting KPIs for workers' safety and health, environmental performances, transport accidents, and resource use.
- (Problem) Lack of data (numerical) and reliability for KPI analysis
  - No data on global production of chemical products
  - Varying standards such as industry classification by country and the number of reporting member countries and member companies vary every year
  - It is assessed that there are no means for many member countries to force member companies to submit data; and in some member countries, data such as national statistics are submitted without receiving data directly from member companies.
- (Required) Correct and supplement data to be submitted to ICCM-5
  - Improve the KPI data-collection process to be released after 2021, etc.
- (Improvement) Review KPI reporting system upgrade
  - Provide guidelines to unify input units and develop FAQ documents and additional websites to raise data quality
  - Review training program development and support (data consistency and quality improvement, aggregation, etc.)



### 5 UNEP Engagement Update

- (Activity) RC briefing to promote understanding of UNEP stakeholders
  - Introduced RC overview, history, major activities, and RC programs of major member countries (Argentina, India, Sri Lanka)
  - UNEP's RC participation received positive feedback and proposed future RC collaboration opportunities with ICCA.
- (Plan) Promote collaboration with UNEP in the future
  - Promote RC promotional videos and global self-evaluation tools through the UNEP network
  - UNEP support for RCLG and Capacity-Building TF
  - Participate in UNEP for RC mentoring/expert network
  - Promote collaboration to promote adoption and implementation of RC and GHS

### 6 Communications Update

- Introduced the activities of major companies and associations in the 2021 RCLG Status Report, and provided the original and translated versions on the ICCA website
- Uploaded a 3-5 minute video promoting the benefits of RC on the website
- National association data provided can be used on the ICCA website

### 7 Africa Task Force Update

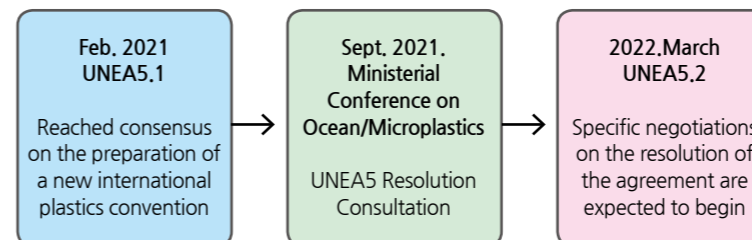
- (Purpose) Improving the implementation of Responsible Care across Africa
- (Status) Introduced related association activities in Egypt, Morocco, and South Africa
  - Kenya applied to join RC (Sep. 21) and received approval (Mar. 2022)
  - Supported RC adoption in Ghana, Senegal, Ivory Coast, and Tunisia
- (Plan) Major plans for 2022-2025
  - Support for RC introduction to newly joined Kenya
  - Support for UNEP/ICCA project related to GHS-based chemical management regulation
  - Continuous support for GHS system introduction by local companies

### 8 China Work Plan Update

- (Main contents) Responsible Care Standardization work
  - Composed of a Chinese RC expert organization participated by 74 companies in seven fields (100 domestic and foreign experts)
  - Held a conference through personal education and online learning portal operation and currently carrying out a three-year plan for RC implementation to strengthen communication (2021-2023)
  - RC implementation three-year plan in progress (2021-2023)

### 9 Colombia Pilot Project Action

- (Main contents) Supported the establishment and implementation of a continuous and effective chemical management system
  - Developed GHS educational materials for industry implementation (technical guide and training program)
  - Total of 220 participants from 21 countries participated in the capacity-building support 2021 seminar)
  - Latin America Regulatory Cooperation Forum (LARCF)
  - Distributed GHS implementation data developed by ICCA in the pilot project



### 10 Progress in CP&H (Chemicals) Leadership Group

- Progress of the UN Environment Assembly (UNEA)
- Main contents (draft) of the new international plastics agreement
  - ① Focus on plastic production and design including additive regulations
  - ② Harmonize the international plastic regulations
  - ③ Develop innovative

- technology for waste management infrastructure and treatment, etc.
- Trends in strengthening regulations on plastic additives
  - Toxic plastic additives are emerging as an obstacle to the circular economy, and there are concerns about leakage of toxic additives during recycling.
  - More than 6,000 chemicals are currently identified to be included in plastics, 25% of which are priority substances
- Recommendations by CiP (Chemicals in Products: UNEA-affiliated organization dealing with chemicals in products)
  - Manage the entire chemical and plastics lifecycle for transparent supply-chain management, and implement a global plastics and related chemicals framework
  - Invest in industrial transition to a circular economy, draw synergies with SAICM beyond 2020, and execute new technology research funds for zero recycled plastics and new plastics suitable for a circular economy
  - Conduct education on plastics and related chemicals for the transition to a circular economy for citizens, businesses and investors

### 11 E&CC (Climate Change) Leadership Group Progressive Measures

- (Carbon Transparency Partnership) To derive a product carbon label reflecting scope 3 and announce it at COP27 by conducting a pilot project in the transport and logistics sector
- (Carbon-neutral project) Collect data and analyze gap on current and avoided emissions for 11 countries and 15 (+1) products by continent
  - Emissions by region: Total emissions (scopes 1, 2, 3) are 1.93 billion tons, 60% of scope 1 and 2 and 40% of scope 3
  - Emissions by product: Emissions were the highest in ammonia, methanol, and ethylene, respectively
  - Emissions by process: Emissions were the highest in coal-based ammonia, natural gas reforming-based ammonia, and coal-based methanol production, respectively
- (Advocacy TF Plan (2022)) Position the chemical industry as an industry that enables the 'future' as an innovative solution for carbon neutrality, and develop a network with key stakeholders in the international community, including internal ICCA personnel, for continuous activities
- (Carbon Pricing Mechanism) Plan to design a system for pilot projects and

recruit participating companies to evaluate companies challenging carbon neutrality in 2050; and to form and revitalize a new carbon credit market according to individual companies' voluntary goals and achievements

### 12 RCLG Budget Review (2022)

< 2022 RCLG Budget >

Budget Review	Requested	Expenditures
(RCLG + CBTF) Total	416,500	194,475
RCLG(Total)	186,500	17,475
Consulting Services	30,000	1,100
KPI Reporting Tool Hosting	21,500	16,375
KPI Reporting Tool Improvement (Self-Assessment Tool)	135,000	
RC Brand Protection	-	
CBTF(Total)	230,000	177,000
Capacity Building in various countries	150,000	107,000
RC Expansion in Africa	10,000	
Pilot Project, India	70,000	70,000

\* 2021 total budget: EUR 416,500 (approx. 574 million won)

### 13 Future Plans

- (RCLG) The RCLG meeting for the second half of the year is scheduled to be held in Paris, France, on Sept. 7-8, and both online and offline means are under review
- (KRCC) Will guide and share the RCLG meeting results of first half year 🌱







## Government’s ESG Infrastructure Expansion Policy Direction

ESG is one of the hottest issues these days. It refers to a movement to actively consider non-financial factors such as the environment (E), society (S), and governance (G) in addition to financial returns in investment decisions and corporate management. As a concept that pursues long-term profitability, its discussions have been accelerated due to the urgent need to respond to the climate crisis with COVID-19 and concerns about polarization. Accordingly, the Korea Institute for Industrial Economics and Trade announced the ‘Government’s ESG Infrastructure Expansion Policy Direction’ report. Through this report, we will examine the global spread of ESG, domestic trends, and policy directions together.

### Global ESG Trends

ESG was actively discussed after the UN announced the 2006 Principles for Responsible Investment (PRI, over 3,000 affiliated institutions and over US\$100 trillion in assets [as of 2020]) through which global financial companies, etc. should reflect ESG issues in their investments. Since then, ESG began in earnest after Blackrock, the world’s largest asset management company, announced its ESG investment (withdrawal of investment and warning on exercising voting rights for companies not meeting the low-carbon transition goals, January 2020). As ESG investment in the global capital market is rapidly increasing and companies receiving investment, especially large global corporations, have officially declared ESG management, the ESG discussion is now a megatrend that goes beyond social discourse, and triggers a voluntary change in the behavior of companies and investors.

Meanwhile, the relevant ecosystem is evolving, with new businesses expanding to assess corporate ESG (e.g., MSCI, S&P) and provide the necessary data (e.g., Thomson Reuters, Bloomberg) and consulting (e.g., KPMG, Broadridge). ESG is developing in a market-oriented way, but it also has problems. The concept of ESG is too broad, and the standards for economic activities related to environmental and social values are vague. The OECD (2020) has pointed out that there are no internationally acceptable consistent and meaningful disclosure principles and guidelines.

#### Environment, Society, and Governance Elements (UN PRI)

Environment	Climate change, resource depletion, water, pollution, deforestation
Social	human rights, modern slavery, child labor, working conditions, worker relations
Governance	bribery/corruption, management compensation, board structure, political lobbying, tax strategy

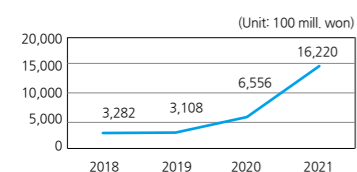
In response, governments of various countries and international organizations are trying to make up for these market failures. The EU, which is leading ESG policies, has made sustainable financial disclosure mandatory from 2021 to strengthen disclosure, and it plans to obligate the disclosure of sustainability information for companies with 250 or more employees from 2023. In addition, the EU plans to implement the green taxonomy, which classifies environmental-related economic activities, from 2023, and is preparing and discussing the draft for social taxonomy from 2021. In addition, EU plans to prepare and implement from 2024 a bill to require large enterprises in the region to conduct supply-chain due diligence related to the environment and human rights. The International Accounting Standards Board (IASB, to be announced in 2022) and the International

Organization of Securities Commissions (IOSCO) are promoting standardization of ESG disclosures. International Capital Markets Association (ICMA), Climate Bond Initiative (CBI), and the international Loan Market Association (LMA) are also promoting the institutionalization of financial products such as ESG bonds (green/social/self-sustainable bonds) and loan guidelines.

## Domestic Trends

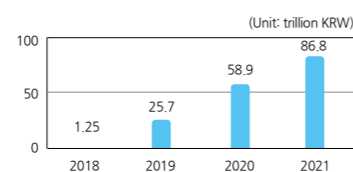
In Korea, the ESG ecosystem is rapidly developing in line with global trends. In the investment sector, as pension funds and major financial institutions promote ESG investment, the related markets such as ESG ETFs and ESG bonds are increasing in size. In particular, the National Pension Service is actively expanding ESG investment (50% of 2022 AUM) and preparing guidelines for ESG integration strategy (2021). Companies are also actively adopting ESG management. Major economic groups are actively responding by holding ESG forums (Korea Chamber of Commerce, etc.) and launching ESG committees (Korea Enterprises Federation, National Business Federation, etc.); and major companies such as Samsung, SK, and LG are establishing ESG-exclusive organizations, quickly spreading ESG management. In addition, various institutions (consulting companies, credit evaluation agencies, media companies, etc.) participate in ESG consulting and evaluation, thus contributing to the expansion of ESG-related businesses in Korea.

Domestic ESG ETF management scale



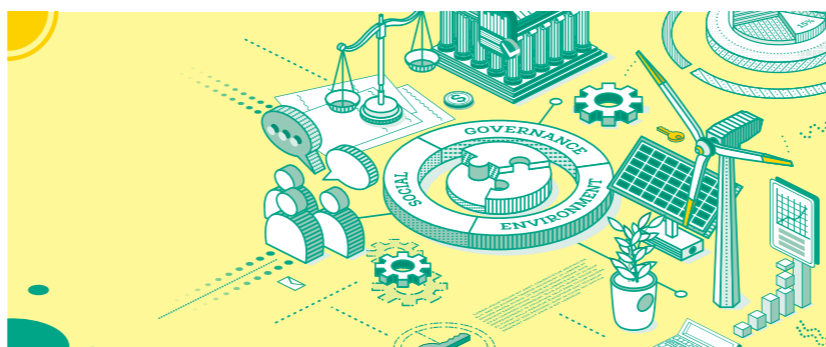
Source: FnGuide

Domestic ESG bond issuance



Source: Korea Exchange

However, in addition to common global problems, Korea's ESG ecosystem has its own problems such as insufficient disclosure standards and taxonomy. SMEs, unlike large companies, perceive ESG as a management burden (time, cost, etc.) and often have difficulties in responding systematically. In addition, various ESG-related information disclosure systems are operated by each department [e.g., (disclosure information) exchange KIND, (investment information) exchange socially responsible investment bond website, (environmental information) environmental information disclosure system, (employment information) e-employment labor indicators], making it difficult to provide systematic information. Also, among the major ESG evaluation agencies in Korea, there is still no agency that provides basic data.



## Status of major domestic evaluation agencies

Evaluation institution (year of establishment)	Evaluation items	Notes
Corporate Governance Service (2002)	18 major categories, 281 items	Used for exchange ESG ETFs
SustInvest (2006)	14 core areas (E4, S4, G6)	ESG evaluation by industry and size
Daishin Economic Research Institute (2019)	Undisclosed	-
Sustainable Power Plant (2013)	15 issues (E5, S5, G5)	AI-based rating agency

## Government Policy Direction

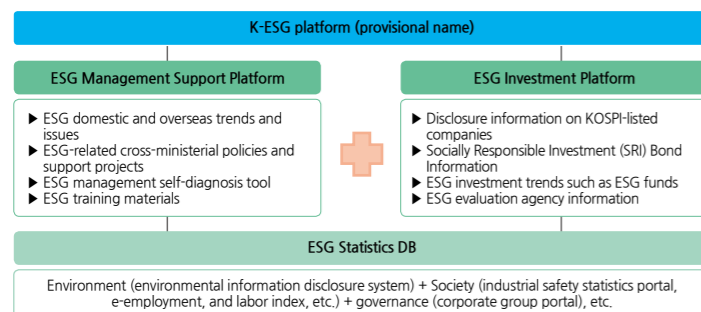
In response to these problems, the Korean government is striving to expand the ESG infrastructure in a way that meets global standards. The first is the expansion of information disclosure. KOSPI-listed companies are required to disclose corporate governance reports, with targets expanding. Sustainability reports (usually meaning ESG disclosure) are currently being disclosed voluntarily, but the government is planning to make them mandatory in stages. Meanwhile, to alleviate the burden on companies, the government plans to strengthen various ESG-related information disclosure systems [(E) Environmental Information (Ministry of Environment), (S) Employment Type (Ministry of Employment and Labor), (G) Company Group Status (Fair Trade Commission), etc.] and strengthen the linkage with disclosure items and timing among ESG disclosure. Second, K-ESG guidelines were prepared to promote corporate disclosure (2021). These guidelines selected and presented a total of 61 items in four areas, namely: disclosure; the environment; society; and governance — by analyzing the evaluation indicators and measurement items of major domestic and foreign evaluation and disclosure agencies with public credibility.

- (Corporate Governance Report) Shareholder rights, Composition and operation of the board of directors and audit committee, Independence of external auditors, etc.**
  - ▶ (Enforced in 2019) Assets of 2 trillion won or more → (2022) 1 trillion won or more → (2024) 500 billion won or more → (2026) All KOSPI-listed companies
- (Sustainability Report) Environmental opportunities, crisis factors and response plans, labor-management relations, efforts to improve social issues such as gender equality, etc.**
  - ▶ (2025) Over a certain amount (e.g., Assets of 2 trillion won) → (2030) Former KOSPI-listed companies

Third, to provide information to market participants, the government has established an ESG management and investment platform and is pushing for a linkage among systems. An investment platform providing KOSPI-listed companies' ESG disclosure information, socially responsible investment bonds and ESG funds, investment information, etc., was established on the Korea Exchange in December 2021. A

management support platform, which provides ESG domestic and international trends, issues, cross-ministerial policies and support projects, and self-diagnosis tools, is currently in progress, to be completed in the first half of 2022.

#### Establishment of ESG Information Platform (draft)



Fourth, ESG evaluation agency guidance will be prepared during 2022. This stipulates the minimum qualification requirements (evaluation autonomy, etc.) that must be observed by evaluation agencies and enhance the fairness and reliability of evaluation results by promoting the information disclosure on evaluation methods and results.

Fifth, we prepared a green classification system, which is the basis for judging green activities, in December 2021 to prevent green washing (eco-friendly disguise). It consists of 64 green economic activities and five conversion activities (necessary for transition to carbon-neutral such as LNG power generation and blue hydrogen) and will be executed from 2023 after a pilot project. After first applying green bonds, the targets will be expanded to include green loans and green funds. Meanwhile, the EU announced a draft (February 2) that includes nuclear power plants excluded from our green classification system, and we plan to examine the discussion process and review whether to include it. Sixth, following the Green Bond Guidelines (December 2020), we plan to prepare guidelines that suggest issuance procedures promoting the issuance of social bonds, target businesses, and methods for calculating social effects (2022). These guidelines will be reflected in domestic laws and systems based on the guidelines of the International Capital Market Association (ICMA) and Japan's social bond and discussion trends of the EU social taxonomy (draft announced in July 2021). Seventh, we will strengthen support for SMEs given the increasing demand for ESG management of export firms and subcontractors due to supply-chain management of global companies. To strengthen cooperation between large and small businesses, we will strengthen support for business partners of large corporations. We will also reflect performance of ESG management support for large companies' partners in the mutual growth index evaluation index (June 2021),

research ESG management support expenses for partner SMEs (ESG education expenses, level diagnosis and consulting), and add them as the target of new tax deduction for human resources. Finally, as a precautionary measure, we plan to provide trial evaluation of supply chain due diligence and consulting for SME export companies.

Finally, the public sector will lead ESG management. The voluntary disclosure of public institutions will be expanded by reflecting K-ESG, etc., and it will be decided whether to make the disclosure of sustainability reports mandatory from 2025, considering the company's listing on KOSPI and size (e.g., listed public company → market-type public company → quasi-market type public company). Also, ESG management key goals and tasks will be selected and ESG action plans will be established (2022) according to the characteristics of public agencies and local public enterprises. In addition, to revitalize the ESG investment of the pension fund, 'ESG investment' will be newly allocated during the fund management evaluation(2021) and the role of the National Pension Service will be strengthened by expanding the application of the incorporated ESG strategy (systematically and explicitly converging ESG factors into the financial analysis process for investment decision-making) and improving the ESG evaluation system. Meanwhile, to diversify financial products, the adoption of sustainability-linked bonds (SLBs, bonds that may change financially and structurally depending on the achievement of sustainability goals previously set by the issuing body) and sustainability-linked loans (SLLs, loan products with fluctuating interest rates based on the fulfillment of the ESG evaluation criteria selected through consultation between borrowing companies and lending institutions). Unlike the state-led Sustainable Development Goals (SDGs), ESG has a high potential for success in terms of voluntary expansion of the participation of the private sector such as global asset managers, pension funds, and large corporations. It is also expected to work as a driver converting the economic structure into a low carbon, inclusive, and fair economy. The government will continue to strive to support these efforts. 🌱





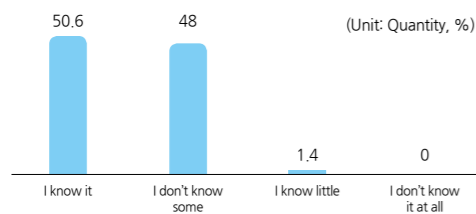
## 100-day Factual Survey of the Enforcement of the Serious Accidents Punishment Act

On the 100th anniversary of the Serious Accidents Punishment Act, the Korea Federation of SMEs (KBIZ) conducted a "100-day survey on the enforcement of Serious Accident Punishment Act" on 504 small and medium-sized manufacturing companies with between 50 and 300 employees nationwide. According to the survey results, 50.6% of companies said they were aware of the contents of the Serious Accidents Punishment Act. On the other hand, 81.3% of companies felt a huge management burden imposed by the Serious Accidents Punishment Act. Let's take a look at the contents of this report, such as SMEs' awareness of the Serious Accidents Punishment Act, level of management burden, compliance with the law, and additional items to be considered to prevent on-site industrial accidents.

### 1. Awareness of obligations under the Serious Accidents Punishment Act

When asked about the awareness of the obligations of the Serious Accidents Punishment Act, the highest number of companies responded with 'I know it' (50.6%), followed by 'I don't know some' (48.0%) and 'I know little' (1.4%).

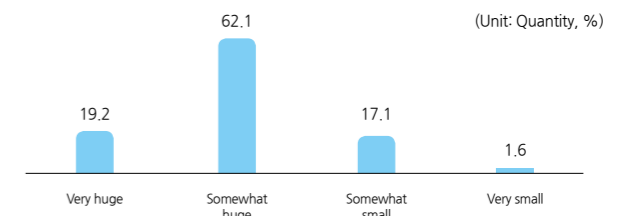
Awareness of obligations under the Serious Accidents Punishment Act



### 2. Degree of management burden

A total of 81.3% of companies answered that the burden was high (very huge + somewhat huge) due to the Serious Accidents Punishment Act. On the other hand, only 18.7% said that the burden was small (somewhat small + very small). By location, 87.9% of companies responded that the burden on management in 'non-metropolitan areas' due to the Serious Accidents Punishment Act was high, which was 13.3% higher than that of 'metropolitan areas' (74.6%).

Awareness of obligations under the Serious Accidents Punishment Act

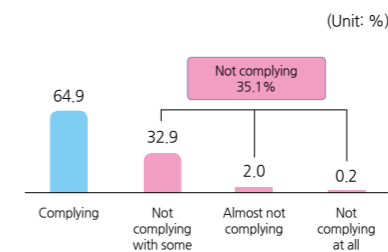


### 3. Compliance with Serious Accidents Punishment Act

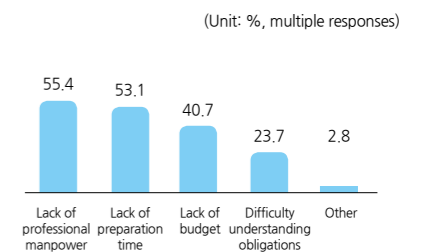
Regarding compliance with the Serious Accidents Punishment Act, the highest number of companies (64.9%) answered 'Complying'. This was followed by 'Not complying with some' (32.9%), 'Almost not complying' (2.0%), and 'Not complying at all' (0.2%).

Conversely, when asked about the reasons for non-compliance, 55.4% of companies replied that there was a lack of professional manpower, which was the highest. Next, they responded with 'Lack of preparation time' (53.1%); 'Lack of budget' (40.7%); and 'Difficulty understanding obligations' (23.7%). As for the other responses, 2.8% indicated 'Currently under preparation;' and 'Lack of manager's deep concerns and interest.'

Compliance with the Serious Accidents Punishment Act



Reasons for non-compliance with the Serious Accidents Punishment Act

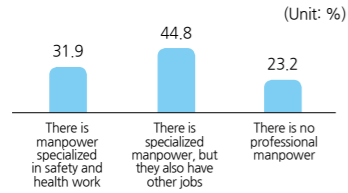


#### 4. Certified safety and health specialists

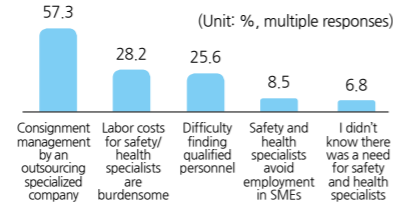
In response to the question of whether they had professional specialists who possessing a certificate, the number of companies answering, 'We have professional manpower, but they are also concurrently working with other jobs' was the highest at 44.8%. This was followed by 'There are specialists in charge of safety and health work' (31.9%) and 'There are no specialists' (23.2%).

Conversely, when asked about the reason for a company not having the appropriate professional manpower, the highest response was 'Consigned to an outsourced company' with 57.3%. The next highest responses were 'Labor costs of safety and health professionals are burdensome' (28.2%) and 'It is difficult to find qualified personnel' (25.6%).

Compliance with the Serious Accidents Punishment Act



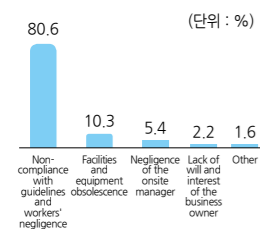
Reasons for non-compliance with the Serious Accidents Punishment Act



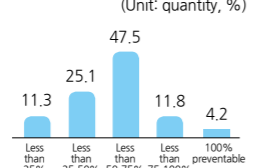
#### 5. Causes of Onsite Industrial Accidents

As the causes of on-site industrial accidents, 'Non-compliance with guidelines and worker's negligence' were the highest at 80.6%. This was followed by 'Facilities and equipment obsolescence' (10.3%) and 'Negligence of the on-site manager' (5.4%). Other responses included 'Unexpected/unavoidable accidents' and 'A huge gap between the system and the manager.' When asked about the expected degree of reduction of industrial accidents through measures as a question about on-site industrial accidents, '50-75%' was the highest response at 47.5%; this was followed by 'Less than 25-50%' (25.1%); and 'Less than 75-100%' (11.8%), respectively. In addition, 88.2% of companies answered that it is necessary (very necessary+somewhat necessary) to impose worker responsibility for preventing industrial accidents. On the other hand, not necessary (not very necessary + not necessary at all) totaled 11.8%.

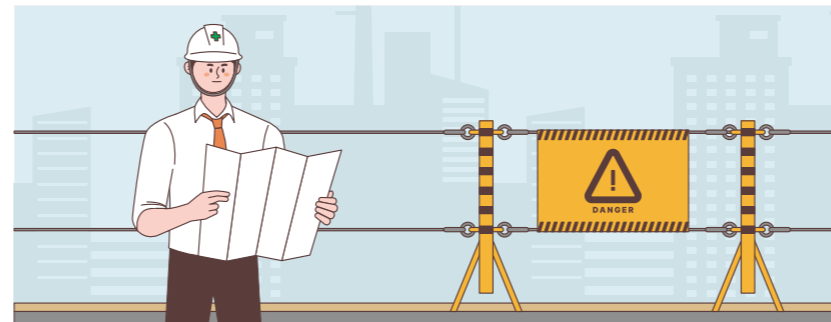
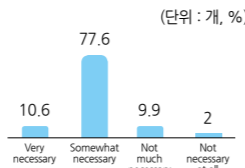
Causes of on-site industrial accidents



Estimated degree of reduction of industrial accidents through measures



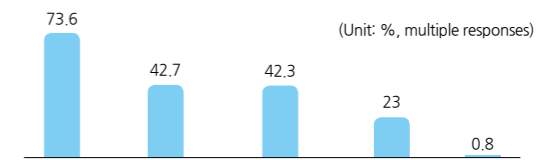
Degree of need for imposing responsibility for workers to prevent industrial accidents



#### 6. Necessary government support for preventing industrial accidents

Regarding necessary government support for preventing industrial accidents, the highest at 73.6% was 'Expand support such as investment cost for safety equipment.' This was followed by 'Reinforce on-site guidance tailored to the characteristics of each industry and company, such as consulting and distribution of response manuals' (42.7%) and 'Labor cost support for professional manpower recruitment' (42.3%). Other responses included 'Support training to improve interest and competence of business owners,' 'Support education of safety managers,' and 'Safety managers should belong to the Ministry of Labor, not business managers.'

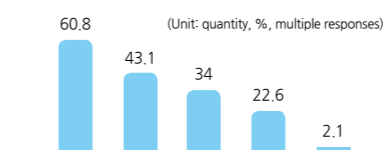
Necessary Government Support for Industrial Disaster Prevention



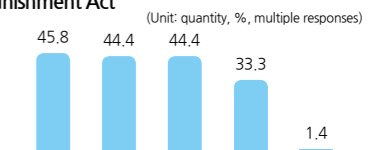
#### 7. Desirable Revision Direction of the Serious Accidents Punishment Act

As a desirable direction for the revision of the Serious Accidents Punishment Act, 'Clarify the business owner's obligations' was the highest at 60.8%; this was followed by 'Prepare business owner immunity regulations' (43.1%) and 'Alleviate employer punishment' (34.0%). As for other responses, 'Workers should be held responsible;' 'Workers should be banned from holding double positions by field;' and 'the Industrial Safety Management Act is sufficient,' accounted for 2.1%. Regarding the desirable direction of the revision of the Enforcement Decree of the Serious Accidents Punishment Act, the highest surveyed response was 'Specify 'necessary' measures for harmful and risk factors' at 45.8%; this was followed by 'Specify the 'necessary' budget for improving harmful and risk factors;' and 'Limit the scope of 'safety and health laws' (44.4%, respectively). As for other responses, 'The enforcement degree should be abolished' accounted for 1.4%.

Desirable Revision Direction of the Serious Accidents Punishment Act



Desirable Revision Direction of the Enforcement Decree of the Serious Accidents Punishment Act



**Held the 1<sup>st</sup> BOD and 23rd regular general meeting in 2022**

The Korea RC Council held the '2022 1st Board of Directors and 23rd Regular General Meeting' in writing. Major agenda items included ① 2021 business and financial statements; ② 2022 business plan and budget (draft); ③ executive improvement; and ④ New member company membership (KCI) agendas. These were deliberated and decided on the resolution according to the original plan.



**Participated in 2022 RCLG first half meeting**

In the first half of 2022, the International Council of Chemical Association (ICCA) RC Leadership Group meeting was held via online videoconference from March 15 (Tue) to 16 (Wed). As many as 50 representatives from 30 member countries shared the development of RC self-evaluation tools, ICCA mentoring and expert network establishment, and the status of RC implementation by country.



**Participated in APRO first-half meeting in 2022**

The Asia-Pacific RC Organizations (APRO) conference was held via online videoconference on Thursday, June 2, attended by representatives from 12 countries in the Asia-Pacific region. This conference provided an opportunity to explore the plan to host the 2022 Asia Pacific Responsible Care Conference (APRCC), which is held biennially to revitalize RC in the Asia-Pacific region, and was held in Korea in 2019. It was originally scheduled to be held in Taiwan in 2021 but was postponed by one year due to the Coronavirus. As foreigners still cannot freely enter and leave Taiwan, the host country, it was decided that the conference would be held online for two days from December 1 (Thu) to 2 (Fri), 2022.



**Held the 1<sup>st</sup> and 2<sup>nd</sup> Steering Committee in 2022**

The Korea RC Council held the 2022 Second Steering Committee meeting offline on April 27, 2022 (Wednesday), with the participation of RC Steering Committee Chairman Billy Kim (DuPont Korea) and Steering Committee members. The committee deliberated and decided on the plan for holding the Come! Fun World of Chemistry Season 2 and the selection of an agency.



**2022 Come! Fun World of Chemistry held online**

2022 Come! Fun World of Chemistry is a community social contribution activity held jointly by the Korea RC Council and member companies since 2003. From 2021, it has been switched to online for non-face-to-face events. This year, 300 children's chemistry reporters will also be selected to engage in independent learning and present various chemical contents such as writing chemical articles, writing articles, providing experimental kits and videos, and creating cartoons. From July 7 to October 31, the children who have accumulated the most points during the activities for 100 days will be selected and given benefits such as field trips to member companies.

[www.chemworld.kr](http://www.chemworld.kr)





**Lotte Chemical**

To expand high value-added special & green business by 2030 Transformation into a general chemical company

1

Lotte Chemical announced its future vision and growth strategy at the Lotte World Tower in Jamsil on May 19. It held a press conference for the presentation of “Lotte Chemical 2030 Vision & Growth Strategy” in the presence of Vice Chairman Kim Gyo-hyun and Hwang Jin-gu, the Basic Materials Business Representative and Head of the Hydrogen Energy Business Group. Through the announcement on that day, Lotte Chemical introduced a new corporate vision/slogan, and presented the “2030 Vision,” with the financial goal of “achieving 50 trillion won in sales” by 2030 and ‘carbon reduction growth’ as a non-financial goal. For general-purpose petrochemical business, Lotte Chemical plans to expand its sales from 11 trillion won in 2021 to 20 trillion won through regional diversification and product competitiveness to achieve 50 trillion won in sales by 2030. It will increase the size of high value-added specialty business from 7 trillion won to 18 trillion won by expanding the existing specialty product line, adding high value-added products to general-purpose products, and advancing into new business groups such as bio-incineration equipment and eco-friendly materials. Lotte Chemical also plans to grow its green business to reach total sales of 12 trillion won.



**Aekyung Chemical**

To significantly reduce greenhouse gas emissions by introducing eco-friendly vehicles

2

Aekyung Chemical will reduce more than 73 tons of greenhouse gas (GHG) per year by introducing eco-friendly business vehicles. This is equivalent to the amount of GHG absorbed by 6,400 trees in one year. Aekyung Chemical announced that it had recently converted 32 business vehicles to hybrid vehicles. The eco-friendly vehicle (97g/km) introduced this time has the effect of reducing GHG by about 35g/km compared to the previous vehicles (132g/km). Considering the average monthly driving distance per vehicle, 73.6 tons of GHG emissions per year are expected to be reduced. Aekyung Chemical official said, “For business vehicles, we decided that a hybrid vehicle with a long mileage when fully charged would be more efficient. It is expected that by introducing eco-friendly vehicles, we will not only reduce GHG emissions but also increase the convenience and efficiency of employees’ work.” He added, “We will continue to strengthen ESG management in various areas, such as environment-friendly management and enhancement of employee satisfaction.”



**SK Materials**

Invested 120 billion won in 8 Rivers Capital, a leading U.S. carbon-neutral company

3

SK Materials, a material investment company, announced on March 8 that it would invest 100 million dollars (about 120 billion won) in 8 Rivers Capital, which possesses the next-generation CCUS technology. 8 Rivers is a company with innovative CO2-reduction patented technology, independently developed in both clean electricity and hydrogen fuel areas. SK Materials plans to carry out business by utilizing global cooperation and exclusive business rights for 8 Rivers’ technology in Asia. First, it will establish a joint venture (JV) with 8 Rivers in Asian countries such as China, Malaysia, and Indonesia that are highly dependent on fossil fuels and have abundant CO2 storage space, and promote clean energy business. In Korea, SK Materials is expected to secure economic feasibility by selling blue hydrogen and clean electricity simultaneously through the construction of the applied plant.



**SKC**

Sales exceeded 1 trillion won for the first time in history in the first quarter of this year

4

SKC achieved sales of 1.12 trillion won and operating profit of 133 billion won in the first quarter. It is the first time that SKC’s quarterly sales exceed KRW 1 trillion. Compared to the same period of the previous year, sales increased by 50.5% and operating profit by 57.6%. SKC announced its first quarter business performance on the 10th at the SKC headquarters in Jong-ro gu in the presence of key executives including Lee Yong-sun, head of SKC’s industry Materials Business Division and Choi Doo-hwan, head of Management Support Division. The announcement of SKC earnings was also broadcast live on YouTube. In the first quarter, SKC showed growth in all business divisions. First, the copper foil business for rechargeable batteries achieved sales of 212.5 billion won and operating profit of 24.5 billion won, and the chemical business achieved sales of 434.8 billion won and operating profit of 86.1 billion won. The industry materials business division also recorded sales of 335.4 billion won and operating profit of 28 billion won.



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## LG Chem

LG Chem-KIST develops technology to convert carbon dioxide into carbon monoxide

5

LG Chem and the Korea Institute of Science and Technology(KIST) developed technology to make plastic raw materials from carbon dioxide in the air, and laid the foundation for its commercialization. LG Chem announced on May 9 that through joint research with KIST, it has developed an electrochemical conversion reactor that can increase the efficiency of converting carbon dioxide into carbon monoxide to the world's highest level. The reactor developed this time by LG Chem and KIST can produce not only carbon monoxide, but also Syngas, a raw material for various fuels and compounds. By easily controlling the ratio of carbon monoxide and hydrogen by voltage control, various types of syngas can be manufactured and the technology can also be easily expanded. In particular, the current efficiency used for decomposition and reduction of carbon dioxide is more than 90%, which is the highest among the values reported in research papers so far. By applying the stack method of stacking the cells in the reactor sideways, LG Chem and KIST also realized an optimal scale for commercialization among existing electrochemical reactors. LG Chem and KIST plan to increase the size of the developed reactor more than 10-fold to secure technology that can be mass-produced.



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## GS Caltex

To strengthen cooperation in joint development of ecofriendly bio business with POSCO International

6

GS Caltex is to strengthen its ecofriendly bio business in partnership with POSCO International. GS Caltex announced on May 1 at the GS Tower in Gangnam-gu, Seoul in the presence of key officials including GS Caltex CEO Se-hong Huo and POSCO International CEO Ju Shibo that it had signed a business agreement for joint development and cooperation in the eco-friendly bio business at the end of April. Through this MOU, GS Caltex decided to expand its bio business by building a value chain from raw material refining to biochemical production by utilizing GS Caltex's biofuel production technology, and POSCO International's bio raw material refining infrastructure. First, the two companies plan to build a raw material refining facility and biodiesel plant that has received international eco-friendly certification in Indonesia, and to jointly work for the next-generation bio-fuel business such as bio jet fuel based on renewable raw materials.



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## Hanwha Solutions

To enter the eco-friendly packaging market with recycled materials

7

Hanwha Solutions Chemical Division announced on April 18 that it will use rPE packaging bags for its products. rPE is a material that is extracted and processed from waste plastics into high-quality recycled raw materials. Hanwha Solutions plans to improve resource circulation efficiency by replacing the general polyethylene (PE) material used in industrial packaging bags with rPE, a recycled material. Starting with industrial recycled packaging bags, Hanwha Solutions plans to continuously develop and supply customized rPE materials usable in packaging materials for daily necessities and cosmetics containers. To this end, Hanwha Solutions has been promoting cooperation and R&D to establish a resource circulation system, such as signing MOUs with companies in the field since last year.



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## Hyosung Chemical

Hyosung Chemical announced its commitment to practicing ESG management

8

Hyosung Group pledged to practice ESG management when it attended the '19th Ethical Management (EM) CEO Pledge Ceremony' held at Finland Tower in Seodaemun, Seoul, hosted by the 'Ethical Management ESG Forum' on May 28<sup>th</sup>. Through the pledge ceremony, the CEOs of five companies including Hyosung, the holding company, Hyosung TNC, Hyosung Advanced Materials, Hyosung Heavy Industries, and Hyosung Chemical, pledged to do their best to ▲practice carbon neutrality ▲cooperate in realization of social values ▲expand ESG culture in the industry ▲put the highest priority on a better society and environment for future generations. Hyosung CEO Kim Gyu-young explained, "Ethical management is not a matter of choice, but should rather be adopted as the basis of company management. Through ESG management, we will establish ethical management as Hyosung's DNA and take the lead in implementing the Sustainable Development Goals (SDGs)."





### Regular Members

- |                                  |                                    |
|----------------------------------|------------------------------------|
| Aekyung Petrochemical Co., Ltd.  | Korea Ineos Styrolution Co., Ltd.  |
| Air Liquid Korea Co., Ltd.       | Korea Trinseo, LLC.                |
| Akema Co., Ltd.                  | KPX Chemical Co., Ltd.             |
| BASF Korea Co., Ltd.             | Kumho P&B Chemical Co., Ltd.       |
| Daehan Oil & Chemical Co., Ltd.  | Kumho Petrochemical Co., Ltd.      |
| DIG Airgas Co., Ltd.             | Lances Korea, LLC.                 |
| DL Chemical                      | LG Chem Co., Ltd.                  |
| Dongseo Petrochemical Co., Ltd.  | Lotte Chemical Co., Ltd.           |
| Dongwoo Fine Chem Co., Ltd.      | Lotte EOS Chemical Co., Ltd.       |
| DuPont Korea Co., Ltd.           | Lotte MC Co., Ltd.                 |
| Eastman Fiber Korea Co., Ltd.    | Lotte Precision Chemical Co., Ltd. |
| Evonik Korea Co., Ltd.           | LXMMA                              |
| GS Caltex Co., Ltd.              | Merck Co., Ltd.                    |
| Hanwha Solution Co., Ltd.        | OCI Co., Ltd.                      |
| Hanwha Total Co., Ltd.           | PolyMirae Co., Ltd.                |
| Hyosung Chemical Co., Ltd.       | Samnam Petrochemical Co., Ltd.     |
| Infinium Korea                   | SH Energy Chemical Co., Ltd.       |
| Isu Chemical Co., Ltd.           | SK Geocentric Co., Ltd.            |
| KCI Co., Ltd.                    | SK Materials Co., Ltd.             |
| KOBESTRO KOREA Co., Ltd.         | SKC Co., Ltd.                      |
| Kolon Industries Co., Ltd.       | Taekwang Industrial Co., Ltd.      |
| Korea Alcohol Industry Co., Ltd. | Yeocheon NCC Co., Ltd.             |
| Korea ASK Chemicals Co., Ltd.    | Yongsan Chemicals Co., Ltd.        |
| Korea Dow Chemical Co., Ltd.     |                                    |

### Associate Members

- Korea Chemicals Management Association.
- Korea Chlor-Alkali Industry Association.
- Korea Fertilizer Association.
- Korea Petrochemical Association.
- Korea Petroleum Association.
- Korea Precision Chemical Industry Promotion Association.
- Korea Research Institute of Chemical Convergence.



### CONTACT

KRCC Secretariat  
+82.2.3668.6173

## CALENDAR

# 2022

KRCC's Major Events in the 2nd Half of 2022

KRCC's major events of 2022



### Hello 2022 Come! Fun World of Chemistry

**Purpose.** To promote the chemistry industry and contribute to society  
**Period.** July 7 (Thurs) – October 31 (Mon), 2022  
**Targets.** 3rd-6th grade elementary students nationwide  
**Contents.** Operate children's chemical journalist and produce and media contents (webtoons, news, lectures)



### 2022 Second Half RCLG (RC Leadership Group) Meeting

**Date.** September 7 (Wed) - 8 (Thu), 2022  
**Venue.** Both online/virtual event



### 2022 Asia-Pacific Responsible Care Conference (APRCC)

**Date.** December 1 (Thu) - 2 (Fri), 2022  
**Method.** Online video conferencing



### How to join to KRCC Membership

Please scan the QR code to see the application process for membership of the Korea Responsible Care Council.



### RESERVATION