

## Outline of Recommendations

As a last resort, looking beyond COVID-19, the carbon neutrality is now an international trend to solve globally shared issues such as the global warming and sustainable procurement of resources and energies. The following are recommendations made, taking this opportunity, by Caron Recycling Fund Institute (CRF) toward the achievement of carbon neutrality through the establishment of “Sustainable Carbon Society” based on the carbon recycling that utilizes carbon dioxide as a resource, and we will, on our own initiative, work with our member companies (hereinafter referred to as “CRF member(s)”) for their realization:

### Acceleration of Innovation and Development of Human Resources

- Carbon recycling technologies are still at the early stage of full-fledged research and development/demonstration. Japan, as well as U.S., Germany and other countries, remains competitive in development. In order to achieve the carbon neutrality by 2050, CRF members will be actively committed to developing, putting to practical use, and socially implementing carbon recycling technologies and products as well as investing therein. To that end, they will make the best use of inter-industry collaboration and open innovation including collaboration with start-ups and ventures to accelerate the development.
- To help such industrial movement, the national government needs to enhance its measures to accelerate the development and demonstration related to green innovation (such as carbon recycling and improvement of carbon dioxide (including hydrogen and ammonia) supply chains) for strong support for the development and promotion of innovation.
- Also important are measures to develop human resources that will lead the creation and social implementation of innovation.

### Improvement of Market Environment

- The significance and role of carbon recycling technologies and products will be established through their social implementation. Thus, CRF members will endeavor to promote their social implementation while utilizing inter-industry and industry-academia-government collaboration for fostering an understanding of, and widespread use of, the carbon recycling technologies and products.
- In alignment with the industrial movement, the national and local governments need to support the enlargement of market for, and cost reduction of, those products through the public procurement. To that end, it is expected to make the best use of EXPO 2025, Osaka, Kansai and other occasions.

- Companies and the national government will collect and accumulate data related to the separation, recovery and use of carbon dioxide through social implementation to proceed with the preparation for quantitative evaluation. In doing so, they should, through objective considerations, focus on the total optimization of impacts associated with the implementation of carbon recycling.
- Japan should lead, and take the initiative in, the evaluation of a carbon dioxide sink such as ocean and plants and the development of international rule.
- In order to maintain and enhance the global competitiveness of Japan through the social implementation of carbon recycling, the national government is required to push forward the review of relevant systems and regimes.
- COVID-19 is changing our values and behaviors. It is also important to take advantage of the ongoing digitization and decentralization to link carbon recycling with measures for regional revitalization.

#### Development in Global Market

- As a movement toward carbon neutrality spreads internationally, CFR members, seeing it as an opportunity, will actively tap into the global market, including the licensing business.
- To support the movement, the national government is expected to show Japan's presence in international discussions. It is also important to enhance the international collaboration through an industry-academia-government international conference on carbon recycling, conclusion of a memorandum of cooperation with other countries, and/or joint research based on them.
- It is important for the government, industry and academia to work together to enhance the transmission of information to the world on the usability and progress of carbon recycling. As a part of this, Roadmap for Carbon Recycling Technologies developed by the national government is required to be revised as it progresses.