

5. Host Institution's Commitment (in English)

Date: January 19, 2015

To MEXT

Name of host institution: Kyushu University

Name and title of head of host institution: Chiharu Kubo, President

Signature

I confirm that the measures listed below will be taken faithfully regarding "the International Institute for Carbon-Neutral Energy Research" adopted under the World Premier International Research Center Initiative.

<Provision in host institution's mid-to-long-term plan>

- Describe clearly the host institution's mid-to-long-term strategy plan and how the center is positioned within that strategy.

○ Details of the mid-term goal and strategy plans for Kyushu University are as follows:

- Mid-term goal: "Kyushu University will undertake research activity as a global research and education center, and reflect the results to the social development. We will have our academic environment in a high-quality and attractive condition, where excellent researchers will gather and share/grow their knowledge. The university contributes to the development and creation of a new research area of integrated sciences."
- Mid-term strategy plans for this goal are: "To promote leading-edge research related to the carbon-neutral energy research domain in collaboration with the University of Illinois, which is conducted at the International Institute for Carbon-Neutral Energy Research (I²CNER). I²CNER is one of the research centers funded by the "World Premier International Research Center Initiative (WPI)" of MEXT and possesses the strength and unique characteristics of Kyushu University. In addition, invite foreign researchers from the top universities in the world, such as the Massachusetts Institute of Technology, and conduct international joint research of the world's highest level"; "To promote the research and development activities on the subjects which are in national and social demands, and to attain creative and advanced research results by taking advantage of feature of a university"; "To undertake interdisciplinary and world leading researches in a wide range of subjects, from humanities and social sciences to natural sciences and engineering, for attainment of outstanding achievement"; and "To establish a research organization which can promptly, flexibly, and appropriately respond to the social needs of the times."

- I²CNER is in line with the mid-term goal and plans of Kyushu University. The Institute is organized directly under the President of Kyushu University. Support to the Institute Director, Prof. Sofronis, from the University President and from all individual departments of Kyushu University, will continue to be guaranteed.

<Concrete Measures>

- Describe the concrete measures that the host institution will take to satisfy the following requirements.

(1) How it will support the center's need to secure resources that match or exceed the project grant through such means as competitive grants obtained by researchers participating in the project, in-kind contributions and other forms of assistance by the host institution (including partial payment of salaries, provision of research space), and/or external donations.

- The Office for Strategic Research Planning and other related offices of Kyushu University will continue to proactively support researchers in their efforts to secure large competitive research grants. Such assistance involves information gathering and thorough advice on grant applications.
- In addition, the Office will assist I²CNER in its efforts to compete for research funds from the local

government and industries in related areas.

- Kyushu University implements the “University Reform Revitalization (URR) Program” (established in FY 2011) in order to encourage individual units of the University to actively review their structure and promote reform in order to revitalize the University. I²CNER competes for tenured positions through this program by annual proposal submissions, and will make continued efforts to secure additional tenured positions through this program. So far, through the URR Program, the KU Administration has made available to I²CNER the following positions: one full-professor position in FY 2013, and one full-professor and 2 associate-professor positions in FY 2014. Counting the 5 tenured associate-professor positions Kyushu University had already allotted, I²CNER has a total of 2 tenured full-professor and 7 tenured associate professor positions as of April 1, 2015, of which, 2 positions will be used to hire foreign PIs, as required by the KU Administration.

(2) How it will institute a system under which the center’s director is able to make substantive personnel and budget allocation decisions necessary to implementing the center project—a system, which in practice, allows the center director autonomy in making decisions regarding the center’s operation.

- The Institute has been established as an organization under the direct management of the President of Kyushu University. The Institute Director has direct access to the Office of the President and the Office of the Executive Vice President in charge of Research and Industry Collaboration. The system has been set so that the Director is solely responsible for making decisions regarding the planning and conduct of the research activities, the formation and composition of the research program areas or divisions, potential division reorganization and redirection of research efforts in response to the feedback from the annual site visit reviews of the Institute, the recruitment of postdocs and faculty, the establishment of international collaborations and interactions with top research Institutions, the administration of the peer evaluation process of the Institute’s research output, and budget implementation. On all these matters, the Director consults the Science Steering Committee and the two Associate Directors. The role of the Science Steering Committee and the two Associate Directors is strictly advisory. The Director is solely responsible for making the final decisions. In addition, the Director is advised by the External Advisory Committee.

(3) The support it will provide to the center director in coordinating with other departments within the host institution when recruiting researchers for the center, while giving reasonable regard to the educational and research activities of those departments.

- For the faculty of Kyushu University contributing to the project through the transfer system or cross appointments, the university will work with the home departments to provide the support needed for the employment of substitutes for their educational mission.
- I²CNER embarks upon its second term as a permanent unit of KU. The university envisions (10) tenured PIs organically in I²CNER. The rest of the 10-15 PI positions in I²CNER will come from either: a) other units of KU through the Intra-University Transfer System established in FY 2013 (this means that those tenured faculty can return to their original departments after they have spent a reasonable amount of time in I²CNER), b) through cross-appointments between I²CNER and other units of KU, e.g. economics, sciences, mathematics, etc., or c) through cross-appointments between I²CNER and its international partner institutes and industry. So far, successful implementation of the Intra-University Faculty Transfer System made it possible for 9 senior-level PIs to be transferred to I²CNER from the Faculty of Engineering.
- Kyushu University will help the Director to diversify the population of I²CNER PIs and expertise in areas such as mathematics, economics, social and life sciences, and computational science.
- I²CNER’s researchers will be involved with teaching. In fact, KU values this involvement and views it as essential to the revitalization of its programs by bringing into the classroom faculty with international experiences with cutting-edge research. The load will be flexible in order to help maintain the highest possible standards of performance both for their research and teaching obligations. I²CNER's full time faculty members have already begun jointly teaching courses on energy. These courses are part of the globalization program of KU, such as the former GLOBAL 30 and the recent Top Global University (TGU) Program of MEXT. As such, the average teaching

load for I²CNER's young faculty is low (co-teaching of a single course per academic term).

- Three (3) new "Education and Research Fields" which Kyushu University has established in the School and Graduate School of Engineering, and the Department of Automotive Science of the Graduate School of Integrated Frontier Sciences are all engaged in research areas which overlap with those of I²CNER. The university has already ensured that the Institute's full-time faculty members can remain involved in with both the teaching and supervision of students within the university in these schools.
- Faculty appointments in I²CNER from other KU units will be viewed as prestigious positions in Kyushu University.

(4) Its flexibility in applying, revising, or supplementing the host institution's internal systems as needed for the center to effectively implement new management methods (e.g., English-language environment, merit-based pay, top-down decision making) unfettered by conventional modes of operation.

- Kyushu University is implementing a project for internationalization of research and education throughout the University. As a part of this plan, efforts have been made in collaboration with International Affairs Division of Kyushu University to introduce undergraduate and postgraduate degree programs in English; to increase the number of international students and excellent lecturers; to prepare internal documents and the university webpage in English; to assist students and staff members to improve their English language skills; and to establish international student and researcher support centers at every campus in order to further accelerate the establishment of international educational and research environments.
- Compensation considerations are based upon a special agreement between I²CNER and Kyushu University entitled "Regulations on Special Measures on the Hiring of National University Corporation Kyushu University International Institute for Carbon-Neutral Energy Research Employees." As a result of this special agreement, I²CNER follows a special merit-based salary system which deviates from the established salary ranges. KU aims to continuously review and improve this system to make KU an attractive place for young scientists to initiate their career and for senior scientists to expand their research programs.
- With the revision of the Regulations of Kyushu University effective April 1, 2013, which are the most significant among its rules and regulations, I²CNER's position is clearly defined as a permanent Research Institute of Kyushu University without regard to the length of the WPI Program. In addition, the revised General Regulations of Faculty Councils and the Regulations of I²CNER enables the Institute to have a Faculty Council within the institution in light of the Director's top-down decision making system, which is the intent of the WPI Program. These revisions make I²CNER's Faculty Council substantially different from conventional Faculty Councils. This unconventional approach not only serves as a catalyst for improving the members' mindset, but also as a challenge to make a difference and impact the very concept of the faculty council system in Japan.
- In addition, Kyushu University will work in cooperation with the Institute for flexible implementation, adjustment, and modification of the university's internal systems, upon the requests from the Institute Director, in order to ensure smooth management of the Institute.
- Along with these initiatives, Kyushu University will take necessary measures to help with the stabilization of I²CNER as a permanent institute after the end of the WPI Program by further strengthening its ties with other units of the university. In this regard, please also see section (6).

(5) Its accommodation of the center's infrastructural requirements (for facilities, e.g., laboratory space; equipment; land, etc.).

- For the provision of the world's top-level research environment, the first I²CNER building, which was completed in FY 2012, effectively houses all I²CNER members, especially the full-time researchers, under one roof.
- The second I²CNER building is expected to be completed in February 2015. Plans for the building include large-scale labs and open offices, which are designed as open, common experimental spaces in order to promote interdisciplinary research and mindset. It is also designed to have

open space for researchers to interact, even outside the building.

- On ITO campus, there are already many advanced research facilities with state-of-the-art equipment in the research centers e.g., the Central Analytical Center and High Voltage Electron Micrograph Laboratory. Preferential use of this equipment will continue to be available to I²CNER researchers.
- Both I²CNER buildings are located at the heart of the Center Zone on Ito campus. With the establishment of a Center of Innovation (COI), the “Center for Co-Evolutional Social Systems” (CESS) in the same vicinity, the areas surrounding I²CNER are being developed rapidly in order to transform the Center Zone into Kyushu University’s new research hub/industry-academia zone. The university’s administration is stationed at the newly-built Shiiki Hall, which is also adjacent to the I²CNER buildings.

(6) How it will support to sustain the center as a world premier international research center after the WPI-grant period ends.

- Kyushu University will secure 10 tenured PIs for I²CNER, including 3 to 4 foreign PIs by 2020 before the WPI-grant period ends. We envision a total of 20-25 PIs with the rest of the 10-15 PI positions coming from either: a) other units of KU through the Intra-University Transfer System (this means that those tenured faculty can return to their original departments after they have spent a reasonable amount of time in I²CNER), b) through cross-appointments between I²CNER and other units of KU, e.g. economics, sciences, mathematics, etc., or c) through cross-appointments between I²CNER and its international partner institutes and industry.
- To attract leading researchers from overseas universities and research institutes to I²CNER, the new initiatives, such as I²CNER’s Fellows Program, and KU’s “Cross-Appoint System” will be utilized. More active engagement and interactions between KU and Illinois researchers will be promoted through mutual PI sabbaticals, etc. based on the Agreement on Academic Cooperation between the two universities (signed in FY2014). The Agreement on Student Exchange, which was also signed in FY2014, will help further promote student exchange between Kyushu and Illinois through the development of a “Joint-Degree Program,” etc.
- Kyushu University plans to further promote collaboration with industry through its unique “Joint Research Department System.” Strengthening cooperation between the Industry-University-Government Collaboration Management Center of Kyushu University (IMAQ) and the Office of Technology Management (OTM) of the University of Illinois will help advance IP management and technology transfer, both nationally and internationally.
- Through these initiatives, Kyushu University will support/sustain I²CNER and ensure its success as the world’s-leading carbon neutral research institute after the WPI Program ends.

(7) Other types of assistance it will provide to give maximum support to the center in achieving its concepts and objectives and becoming a world premier international research center in both name and deed.

- I, Chiharu Kubo, as the President of Kyushu University, and Prof. Masato Wakayama, the new Executive Vice President in charge of Research and Industry Collaboration, will ensure that I²CNER receives maximum support from Kyushu University by taking the following measures:
 - The President makes decisions concerning possible discussions between I²CNER and other KU units about the personnel structure and personnel allocation framework within I²CNER, in consideration of the Director’s policy and expectations. At the request of the President, the Executive Vice President in charge of research will execute the decisions by making necessary arrangements within the university.
 - In particular, we plan to support the Director as stated in item (2) in order to help him execute the WPI vision for Kyushu University.
 - Regular meetings will be held between the Director and the Executive Vice President in charge of Research and Industry Collaboration. Advice and counsel from the President will be given as needed. With regard to matters relating to the promotion of university-industry collaboration, the Executive Vice President in charge of Research and Industry Collaboration will provide the Director with necessary support and advice.

- As part of the university's continued efforts to strengthen the administrative support for I²CNER, Kyushu University has appointed Prof. Yukio Fujiki, who is the former Executive Vice President in charge of Research and International Affairs, as the new Administrative Director. Also, a Head of Administration, which is a management-level position, has been assigned to the Administrative Office. I²CNER is the only permanent research institute at Kyushu University that has its own support office, making this the first such assignment ever made at the university.
- We shall promote the concept of this Institute as the model project for internationalization of research and education in Kyushu University, and apply the concept to the entire University body, with the aim of transforming Kyushu University's academic culture so that it exemplifies the WPI vision for international reputation, training of young scientists in an international environment, advancing knowledge through an open research platform, and attracting scientists and students from around the globe.