ACTIVITIES OF THE
INDONESIAN INSTITUTE FOR ENERGY ECONOMICS

The Indonesian Institute for Energy Economics (IIEE) was established in 1995 with the primary objective to enhance energy economics studies that motivate and support national policies for prudent development and utilization of energy resources in Indonesia. IIEE is well respected for its advisory and active role in key policy processes.

IIEE Experiences

1. **Technical Assistance to the North Maluku government for Developing General Planning for Regional Energy (Rencana Umum Energi Daerah/RUED), 2018**

Indonesian Institute for Energy Economics (IIEE) served as a consultant to the province. IIEE and the provincial team of RUED performed activities such as desk study, focus group discussions to develop the energy plan model and preparing the document as well.

2. **Technical Assistance to the East Kalimantan and Central Kalimantan government for Developing General Planning for Regional Energy (Rencana Umum Energi Daerah/RUED), 2017-2018**

Indonesian Institute for Energy Economics (IIEE) served as a consultant to Global Green Growth Institute providing technical assistance to the local government (East Kalimantan and central Kalimantan) in developing a reliable and implementable energy planning document (RUED). The expected outputs are (and not limited to) (i) a reliable and implementable East Kalimantan and Central Kalimantan Regional Energy Plan 2017-2050– delivered as a document as well as in a presentation format, (ii) an academic paper, developed in conjunction with RUED document, to form the basis for passing regulation by the local governments (East Kalimantan and Central Kalimantan) in 2018, and (iii) a white paper on best practices and lessons-learned case studies.

During the project activity, IIEE in collaboration with GGGI and local government performed events such as training and workshop on data collection, verification, and energy modelling, and discussion on main policies or programs shaping the future energy

scenario for East Kalimantan dan Central Kalimantan, coordination meeting and public socialization

3. Market Scoping for Shell LiveWire-Energy Solutions Program in Indonesia, 2017-2018

PT Shell Indonesia appointed Indonesian Institute for Energy Economics (IIEE) to undertake a study to gather a map of the energy industry in Indonesia, identify opportunity for young entrepreneurs, and offer insights on how a long-term energy entrepreneurship program should be constructed. The study was being conducted in western and central part of Indonesia, which referred to the islands of Sumatera (Medan), Java (Jakarta, Bandung, Surabaya, Malang, Yogyakarta), Bali (Denpasar), and Sulawesi (Makassar) during a period of 8 months from Q4-2017 to Q1-2018. The methods and activities applied throughout the study were desk research, field research (in-depth interviews), and focus group discussions. The in-depth interviews and focus group discussions involves main stakeholders like energy experts, regulators, incubators, financial institutions, as well as young and potential entrepreneurs.

The main objectives of the energy entrepreneur market scoping study are to obtain a map of market gaps for energy industry in Indonesia, particularly for young entrepreneurs ('young' refers to "16 years old and above") to tap in and offering insights on how a long-term energy entrepreneurship program should be constructed by utilizing the already existing Shell LiveWIRE as a platform by not undermining the opportunity for adjustment/improvement, if required.

4. Economic Improvement with Inclusive Community Empowerment through Renewable Energy-based Center of Knowledge (CoK), 2016-2018

The project on "Economic Improvement with Inclusive Community Empowerment through Renewable Energy-based Center of Knowledge (CoK)" is funded by Millennium Challenge Account-Indonesia under The Green Prosperity Project "Community-Based Natural Resource Management". This project is proposed by a consortium of 4 institutions, namely the Indonesian Institute for Energy Economics (IIEE), Rimbawan Muda Indonesia (RMI), CV. Pro Water Multi Technical, and Lembaga Keswadayaan Masyarakat (LKM) Wonorejo Sei Lambai.

The project is implemented in Korong Wonorejo, Jorong Sungai Lambai, Nagari Lubuk Gadang Selatan, Sangir District, Solok Selatan Regency. The project proposed a number of activities which are expected to produce the following output: (i) households get the access to electricity generated by the microhydro power plant; (ii) the establishment of Center of Knowledge (CoK) as a learning media for community-based knowledge management; (iii) increased expertise and knowledge of the community in the management of CoK; (iv) additional revenue generated from rice milling activities driven by the microhydro power plant.

5. Energy Efficiency and Energy Conservation Awareness Raising in the Education Sector in Central Java, Including an Energy Saving Competition, 2016-2017

The program is the part of Environmental Support Program 3 (ESP 3) DANIDA program. The Indonesian Institute for Energy Economics (IIEE) was selected to provide consultancy service to energy agency of Central Java (Dinas ESDM CJ). In order to motivate the students and teachers in implementing energy saving behaviour, energy saving competitions will be carried out between schools and students' homes. The program is held in selected city in Central Java i.e. in 10 (ten) different senior high school in the cities of Semarang, Solo, and Magelang.

The program is also performed under collaboration with Ministry of Energy and Mineral Resources c.q Directorate of Energy Conservation, local education authorities, and schools. Moreover, IIEE also carried out severala activities in order to implement capacity building program for schools such as (i) develop training modules as guidance for the students and teachers during the program; (ii) conduct training session for teacher group and student group. In order to motivate the students and teachers in implementing the energy saving behavior, a competition of energy saving is carried out. The competition categories in the program including: (i) school champion; (ii) best of energy manager; (iii) best of energy saving ambassador; and (iv) school grand champion.

After the entire series of program, the Energy Saving Ambassador should continue transfer knowledge activities in terms of energy saving. All activities of energy saving ambassador related to transfer knowledge could be uploaded to website and social media

through approval process from the committee. Website is very useful to keep communication among energy saving ambassador and between energy saving ambassador and committee or consultant.

6. Study on Management Set-Up of Bioenergy Power Plants, 2016-2017

GIZ through LCORE Project appointed IIEE as National Consultant to review the current management concept of bioenergy power plants developed by Directorate General of New, Renewable Energy and Energy Conservation (DG NREEC) and to devise recommendations for improvement through study on Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis for selected bioenergy power plants.

7. Support to Monitoring and Estimation of Energy Conservation Policies Impact, 2016-2017

Indonesian Institute for Energy Economics (IIEE) served as a consultant to the Directorate of Energy Conservation, Ministry of Energy and Mineral Resources (MEMR) to estimate the effects of energy conservation policies, both existing and upcoming, using methods and monitoring tools agreed by stakeholders and to enable the directorate to have the results updated in the future. The project was funded by Danish International Development Agency (*DANIDA*) through Environmental Support Program 3 (ESP3) Program.

The outputs of the study will be used by EBTKE as the basis for decision by political decision makers and to prepare the groundwork for better integration of energy conservation policies in future using the LEAP model. In general, this study proposed 3 scenarios for each policies i.e: (i) Business as Usual (BAU), (ii) Market Driven (MD), (iii) Policy Intervention (PI). BAU scenario represents the reference scenario of the National Energy Policy (Kebijakan Energy Nasional, KEN). In this scenario, average energy intensities are assumed to be constant as its value of the base year (2015). MD scenario assumes that improvement of energy intensity is only drive by the economic or market consideration. While, in PI scenario, beside natural market considerations, government of Indonesia (GOI) also implements a series of energy conservation policy to force the market to consume less energy to generate the same level productivity throughout the planning horizon.

During the activity, IIEE actively involved and attended in a number of technical meetings, consultation meetings with the ministry, energy expert modeler and stakeholders to refine the energy efficiency model structure as well. In addition, IIEE also performed Focus Group Discussion (FGD) in order to get the energy stakeholders' views on the development of the model.

8. Workshop on Waste to Energy and Study on Energy Situation in ASEAN 10 Countries, 2016

Indonesian Institute for Energy Economics (IIEE) supported Institute of Energy Economics, Japan (IEEJ) to arrange two full-day Workshop on "Waste to Energy for Urbanized Society in Indonesia 2016" for contributing to the development of WTE in Indonesia. The workshop was held in Jakarta and speakers were ranging from government, private sector, and academia. Speakers of Indonesian sides came from Directorate General of New Renewable Energy and Energy Conservation (DG NREEC/Dirjen EBTKE)-Ministry of Energy and Mineral Resources (MEMR), Coordinating Ministry of Maritime, Ministry of Environment and Forestry, Ministry of Home Affairs, Agency of Assessment and Application of Technology (BPPT), and representatives of 5 Cities (Jakarta, Bandung, Tangerang, Semarang, and Surakarta). Meanwhile from Japanese sides, speakers were the representatives of METI, Japan International Corporations Agency (JICA), Clean Authority of Tokyo, National Institute for Environmental Study (NIES), Japan Environmental Facilities Manufacturers Association (JEFMA), Hitachi Sozen, JFE Engineering, and Nippon Steel (NSENGI). Meanwhile, Participants of this event ranged from academics, associations, central and regional governments, private sectors, non-governmental organizations and independent sectors.

In addition to the workshop, IIEE also prepared report on energy situation in ASEAN 10 countries. The report contains information 1) latest energy production/consumption/transmission loss etc (for the year of 2015 or 2014) and installed capacity of each NRE source; 2) latest electrification rate (village base and household base); 3) latest NRE related national plan/target; 4) comparison between plan/target and current status on NRE introduction; 5) political measures to promote introducing NRE; 6) FIT deployment status, FIT scheme such as application/approval system & condition and issues to be solved; and 7) latest electricity cost (household/business/public depending on electricity pricing system for each country).

9. Communitv Development Around Timor Observatory, 2016

A National Observatory in Gunung Timau, Amfoang Tengah, Kupang-Nusa Tenggara Timur will be built by the Indonesian government. To construct a mutualistic symbiosis between prospective astronomical observatory and its surrounding community, the astronomers of Institut Teknologi Bandung (ITB) and Indonesian Institute for Energy Economics (IIEE) with funding from International Astronomical Union (IAU) Office of Astronomy for Development (OAD), implemented a project with the goal of thriving villages and a successful observatory.

Two activities of the project were Human Capacity Building with programs on empowering human resources (e.g. public officers training) and strengthening school (e.g. teachers training), and Managing Sustainable Resources with programs on fulfilling primary needs (water and energy), by introducing education of STEAM (Science Technology Engineering Arts Mathematics) knowledge and skill.

10. Survey on Household Use of Energy Efficient Light Bulbs in North Sumatera, 2015-2016

IIEE prepared survey on “Household Use of Energy Efficient Light Bulbs” in North Sumatera. The survey activity is under Danida’s Environmental Support Programme (ESP3) and is performed to support Directorate General of New and Renewable Energy, Ministry of Energy and Mineral Resources. North Sumatra Province is chosen considering that the provinces is currently undergoing electricity crisis. There are two ways to address this situation. First is by provision of greater power supply and second is by reducing the use of power through energy efficiency measures. Providing greater power supply means the need to install new power generators, which will take substantial time and big investment. In the other hand, managing the use of electricity can reduce consumption level, slow down its growth and therefore lower the need for additional capacity of power generation. Nevertheless, more information on the characteristics of electricity consumption in the area is crucial for preparing suitable intervention program on both increasing power supply and reduces electricity consumption.

The objective of this research is to provide the information on the characteristics of electricity consumption for lighting and its market data in north Sumatra province. For

doing so, the survey for household and lighting appliance shops is needed. Medan, Simalungun, and Deli Serdang are selected as survey sites. Geographical coverage, population, number of households, Gross Regional Domestics Products (GRDP) per capita, and customer group representation are the criteria behind the selection of those survey sites.

11. Revision on Draft of National Energy Planning (RUEN), 2015

The Law no 30/2007 on Energy mandated The Indonesian Government to (i) determine the National Energy Policy (Kebijakan Energi Nasional, KEN) with approval from the Parliament, and (ii) establish the National Energy Plan (Rencana Umum Energi Nasional, RUEN) in line with the KEN. Subsequently, the Energy Law also mandated the sub-national government to develop the Sub-National Energy Plan (Rencana Umum Energi Daerah, RUED) in line with the RUEN.

The National Energy Council (DEN) was in charge of implementing Article 11 of the Energy Law, i.e. to develop the KEN. The long process was finally concluded by the issuance of Government Regulation No. 79/2014 on KEN by 17 October 2014. The Ministry of Energy and Mineral Resources then implement Article 17 of the Energy Law, which is to develop the RUEN with reference to the KEN. The Planning Bureau of the Ministry of Energy and Mineral Resources (BiroCan) has been tasked to coordinate the process to develop RUEN.

IIEE with ICED support serve as facilitator, organizer and production assistance to the Joint Technical Team of MEMR, DEN and ICED in order to help the process of Draft RUEN completion. MEMR Planning Bureau has stated its preference to engage IIEE based on their experience in energy planning and in managing multi-stakeholder policy development process. In particular, MEMR referred to a previous support from IIEE in facilitating the process of developing the “Indonesia’s Calculator 2050” in 2014 which involved consultations with energy modelers and energy planning stakeholders from both government and non-government institutions.

12. Study on “Nuclear Power and Small Modular Reactors in Indonesia: Potential and Challenges”, 2015

IIEE in collaboration with the Program on Science and Global Security at Princeton University conducted the research on “Nuclear Power and Small Modular Reactors in Indonesia: Potential and Challenges”. The report contains the discussion on political and social history, technical history, electricity landscape, institutional landscape, regulatory landscape, cost comparison and alternatives. The report is expected to be issued by December 2015. Prior to conducting the study, IIEE with partner had arranged workshop on “Nuclear Power and Small Modular Reactors in Indonesia: Potential and Challenges” to obtain insights and views from stakeholders in the country regarding the idea of nuclear power plant constructions.

13. Workshop on Nuclear Power and Small Modular Reactors in Indonesia: Potential and Challenges, 2015

The workshop was arranged by IIEE in collaboration with the Program on Science and Global Security at Princeton University. Prior to conducting the workshop, IIEE prepared a preliminary study on nuclear energy development in Indonesia. The workshop was attended by team of Program on Science and Global Security at Princeton University and number of energy stakeholders in the country who gave their insights and views regarding the idea of nuclear power plant constructions. Furthermore, some additional meetings between IIEE, Princeton University team and nuclear energy stakeholders were performed.

14. Indonesian 2050 Pathway Calculator, 2014-2015

IIEE assisted core team of Ministry of Energy and Mineral Resources to develop Indonesian 2050 Pathway Calculator (I2050PC). The project was funded by Foreign Commenwealth Office, United Kingdom (FCO UK). I2050 PC is open source energy and emissions calculator model which allows the user to explore all high-level energy and emission pathway options the country faces. 2050 Calculator was firstly developed by Department of Energy and Climate Change, UK.

15. Nigerian Energy Support Programme (NESP) Study Tour, 2015

IIEE in cooperation with GOPA Gesellschaft tur Organisation,Planung und Ausbildung mb organized the study tour in Indonesia on the GIZ finance project “Nigerian Energy Support Programme (NESP). The objective of the project was to increase the capacity of Nigerian

government to promote plant and implement rural electrification projects based on renewable energy.

IIEE as local partner was responsible for the planning, preparation, organization, facilitation of content and logistics of the study tour which entitled “How Indonesia Made Rural Electrification Work”. During the study tour, Nigerian team undertook interview with relevant stakeholders, visit to renewable energy project sites and workshop.

16. Study on The Current and Future Situations of Coal in Indonesia, 2014-2015

IIEE prepared reports entitled "The current and future situations of coal in Indonesia". The study contains about cost elements of exported coal price, current situations of transport-related infrastructures for coal roads, railways ports and harbors, current production and export of coal by province, prospects or plans of development and production of coal as well as energy and coal policies adopted by new president. The study was collaborative research between IIEE and Asiam Research Institute, Japan.

17. Research Assessment of Renewable Energy for the Indonesian Archipelago, 2014

IIEE was assigned by Hivos as consultant assessment for the Research Assessment of Renewable Energy for the Indonesian Archipelago. The objective of the research is to assess the national situation of energy portfolio development for remote islands. In the study, IIEE collect primary data through desk study, interview with relevant stakeholders. Form the findings, IIEE provide recommendation of six potential islands for further follow up by Hivos.

18. Indonesian Integrated Energy and Environmental Modeling/IIEEM and Indonesia Energy Security and Clean Energy Modeling /IESCEM, 2013-2014

IIEE assisted National Development Planning Agency (Badan Perencanaan Pembangunan Nasional/Bappenas) in preparing a modeling as an input to support background study for the Mid-Term National Development Plan Years 2015-2019. This activity was funded by Japan International Cooperation Agency (JICA).

19. Workshop on Effective Communication Strategy to Enhance Clean Energy Development, 2014

The workshop was carried out by USAID/Indonesia Clean Energy Development (ICED), IIEE and International Institute for Sustainable Development (IISD). The two days' workshop highlighted the role of communication as a key part of the process of energy policy reform to enhance clean energy development in Indonesia. The workshop including lessons drawn from energy policy reform processes in Indonesia and internationally, with contributions from local and international communication experts. IIEE shared the results of its assessment of communication on fossil-fuel subsidy reform in Indonesia at workshop.

20. Study on Renewable Energy Sources for Electrification in Rural Areas and Remote Islands in Indonesia and Workshop on Renewable Energy and Smart Grid/Smart Community, 2014

IIEE prepared report about existing plan, policy, program and subsidies by renewable energy technologies in order to improve Indonesian islands electrification. In addition, IIEE held 2 days' workshop on renewable energy and smart grid/smart community. At the workshop, IIEE presented its report. These activities were funded by Institute of Energy Economics, Japan (IEEJ).

21. Study on Non-Geological Constraints to Unconventional Gas Production , 2013-2014

Study concerning the non-geological constraints to unconventional gas production in East Asia (China, Vietnam, and Indonesia) is initiated by Energy Studies Institute (ESI), National University of Singapore. IIEE as research partner prepared report for Indonesia case. IIEE identified the main actors and institutions which shape the development of the unconventional gas industry, and their behaviors/interactions, formal policy and legal document as well. The findings of the study were presented at conference in Singapore.

22. Biomass Gasification Electrification – Bali, 2013-2014

The aim of the project is to improve energy security and the capacity of Munduk village community in Buleleng district, Bali province to improve their living standards by providing access and good quality power supply for residents in remote areas, utilizing locally produced waste as an energy source for electricity generation, increasing the role of local

NGOs to assist and coach the community, increasing the capacity of local communities to manage the technical and economic aspects of their electrical system to be sustainable, and creating economic activities of society through the productive use of electricity.
In this program many partners involved and IIEE can complete this program very well. The Partners is ICED-USAID, BNI 46, INSIGHT, Wisnu Foundation and also the Head indigenous of Munduk Village. Biomass Gasification Electrification is to provide access to electricity to 81 households, temples and schools.

23. Sekolah Sobat Bumi - Education on micro hydro in High School at Probolinggo, 2013-2014

SSB is a program of Pertamina Foundation (PF), which support selected elementary, primary and middle schools to have strong leadership, good school governance, and improved school knowledge on environment and renewable energy. PF currently has 17 SSB, and during three years period each of them is expected to be able to duplicate their capacity to 10 other schools.
As one of the PF partners in SSB program, IIEE tasks was to design, develop and implement the teaching module on renewable energy including the required equipments.

24. Study on Inventory of Electricity Subsidies in Indonesia, 2013

This study as part of Asian Development Bank project Rationalizing Fossil-Fuel Subsidies in India, Indonesia and Thailand. IIEE carried out the subsidy checklist, identify all government policies and expenditures that could potentially be classified as a subsidy.

25. Study on Geothermal, 2012-2013

IIEE prepared a report entitled “The Issues on Promotion and Development of Geothermal in Indonesia”. The report shall submit to IEEJ and present on geothermal workshop in Jakarta.

26. Studies on Energy Efficiency Policy, 2012

This research highlights the existing measures to promote energy efficiency in the building and industry sectors in Indonesia, and examines the possibility of some form of incentive systems. IIEE also undertook capacity building program for government officials through series of training and discussions forums.

27. Study on The Experience, Plan and the Progress of Solar PV Promotion in Indonesia, 2012

IIEE conducted study concerning the policies, experience, future plan and the progress of the solar PV plan, role of PLN and the progress. The study was funded by Institute of Energy Economics, Japan.

28. Study on the biofuel promotion and Development in Indonesia and Philippines, 2011-2012

This study consists of following elements: (i) Study of Research, Development and Deployment (RD&D), (II) Study of policies and program to promote the utilization of biofuels. The study was funded by Institute of Energy Economics, Japan (IEEJ) and was a part of ERIA's project of Study on Asian Potential of Biofuel Markets.

29. Energy Subsidy Reform in Indonesia, 2011 – 2013

IIEE undertook series of activities in collaboration with the International Institute for Sustainable Development (IISD) and the Global Subsidy Initiatives (GSI). The studies focus on the policy on fuel subsidy reform and related plans for implementation. Activities include desk research, surveys on knowledge and perception of fuel consumers; interview the authorities, and workshops.

30. Energy for All, 2011

The study examined energy access for the poor in Indonesia. It provides an overview on the current condition of access to electricity and other form of energy. The study highlights programs undertaken by the central and local governments, initiatives of non-governmental organizations, and various form of supports by international institutions. Particular focus was addressed to the situation in regencies listed as ‘disadvantaged regions’ and other areas with poor basic infrastructure.

31. Pico/Micro Hydro for Rural Electrification, 2011 – now

The program aims to facilitate electricity access for rural households and improve welfare to enable sustainability of the electricity system. It recognizes that five key elements need to be deliberately connected, namely people - water resource – technology - technical support - financing. The project makes available pico and micro hydro systems to be installed, operated and maintained by the local community. Training series prepare village-

level technicians with suitable knowledge and skill. IIEE mobilizes the range of supports to facilitate empowerment of the community. IIEE conducts this program in collaboration with various technical, financial and implementation partners.

32. Women Empowerment and Pico/Micro Hydro for Rural Electrification, 2011

With The Bodyshop Indonesia, IIEE implemented the program that aims to facilitate electricity access for rural households and improve welfare to enable sustainability of the electricity system. It recognizes that five key elements need to be deliberately connected, namely people - water resource – technology - technical support - financing. The project makes available pico and micro hydro systems to be installed, operated and maintained by the local community. Training series prepare village-level technicians with suitable knowledge and skill. The location is the Sungai Tengah Village - Jember East Java. IIEE mobilizes the range of supports to facilitate empowerment of the community especially for the Women. IIEE conducts this program in collaboration with various technical, financial and implementation partners.

33. Study on Estimating Levelized Cost of Biofuels Based Decentralized Power Generation in Rural Indonesia, 2009 – 2010

Collaborative research made by and between the Institute for Global Environmental Strategies (IGES-Japan) and IIEE. The research include an examination of the overall sustainability of existing first generation (biomass feedstock based) biofuels, and it will consider the sustainability of existing promotion policies. The research is expected to come out with a list of policy recommendations including measures for national governments as well as regional cooperation.

34. Indonesia Biofuels Program Evaluation & Future Challenges, 2009 – 2010

IIEE analyzed the Indonesian bio-fuel issues in terms of policy, economic, social and environmental costs and benefits. The study findings are presented in a publication available for public review.

35. Indonesia Energy Sector Study, 2009

IIEE works with the World Resource Institute to review the Electricity Crash Program I from governance point of view. This study is a follow up work utilizing the principles previously applied in the Electricity Governance Initiative, which highlights the process of

decision-making, institutions and key actors involved. It also reviews financial terms imposed by foreign or domestic banks, as well as the program implications towards energy security.

36. Prospect of Bio Fuels Development in Indonesia and It's Implication on Sustainable Development, 2009

IIEE continued to explore the opportunity for developing biofuels utilization in Indonesia. This research, which was a continuation of previous biofuel study conducted together with IEEJ, emphasized on the relevance of lessons learned from other countries and other research institutions -both national and international- to the Indonesian context based on the sustainable development perspectives.

37. PPP PoA - Knowledge Facilitator, 2008-2010

A Public Private Partnership (PPP) has been signed between Southpole and GTZ in early 2008. The PPP aims at implementing a CDM Program of Activities (PoA) in Indonesia, for on-grid and off-grid mini hydro power plants. The objective of implementing this CDM PoA is to foster mini hydro power (MHP) development in Indonesia by obtaining additional funding through the generation of Certified Emission Reductions (CER). In this project, IIEE shall serve as a **Knowledge Facilitator**, which is an independent platform to secure and disseminate the knowledge and experiences gained by implementing the PoA by the PoA coordinator.

38. Seminar on Energy Security and Financial Sector, 2008

IIEE assisted the Ministry of Finance in designing and preparing a seminar on energy security and related financial concerns held in October 23rd, 2008. The seminar outcomes were used as inputs for energy and financial policy review and formulations, such as material preparation for the Annual Meeting of ADB Board of Governors in Bali on May 2009.

39. Briefing Note on Pertamina, 2008

IIEE and an International Institution conducted a briefing note that describes Pertamina's history and present transition to adapt to the environment under the latest Oil and Gas Law.

40. Biofuel Development, Energy Security, and Sustainable Development, 2008

IIEE reviewed biofuel development in Indonesia through the existing literature and selected interviews, using the framework of energy security and sustainable development. This work was part of a collaborative research between IIEE and the Institute of Energy Economics of Japan (IEEJ). Research findings and other inputs from key stakeholders were discussed in a seminar during 17-18 March 2008 in Jakarta.

41. Coal Utilization Technology Survey in Indonesia, 2008

IIEE conducted a brief review on coal policy, applied coal technologies in Indonesia, and the supporting linkages between domestic and overseas institutions. IIEE partner in this research was Mitsubishi Research Institute (MIRI) and funding was provided by NEDO.

42. Asian Energy Security, 2007-2008

IIEE coordinates the Indonesian working group for a collaborative research on energy security initiated by the Nautilus Institute for Security and Sustainable Development (USA, Australia). Other participants of the collaborative research are several research institutions from China, Japan, Russia, North Korea, South Korea, Taiwan, and Vietnam. During this phase, the research focuses on existing plans on developing or expanding nuclear energy in these countries. The team use LEAP computer model as the tool for analysis.

43. Indonesian Vision 2030 on Energy and Mining, 2007-2008

IIEE is part of a team led by the Indonesia Forum Foundation to prepare an objective and positive view on a brighter future of Indonesia, intended as a contribution to develop a rational optimism in the nation's development. There are more than eighteen institutions working on economic, social, technology, and many other elements of the nation's life. IIEE is in charge to focus on the vision in the energy and mining sector.

44. Energy Security and Sustainable Development, 2007

IIEE undertook this research initiative in an attempt to develop a comprehensive view about the Indonesian energy situation. The research framework combined the energy security perspective and the principles of sustainable development, while assessments on the current condition were expressed in a set of quantitative and qualitative indicators. The research outcome is publicly available in 'The Indonesia Energy Economics Review Volume 2-2007', which is a periodical published by IIEE.

45. Energy and Climate Change, LEAD Associate Training Cohort XII, 2006-2007

This series of training program is intended to provide knowledge on sustainable development, to enhance leadership capacity, as well as to expand networking skills and strengthen links with a diverse group of associates, experts and scholars for individuals selected to join the cohort. IIEE is part of the core team designing the training curricula for LEAD Associate Training Cohort XII of 2007, with the main theme on 'Energy and Climate Change'. LEAD (Leadership for Environment and Development) is an international non-profit organization with a fast growing network of 1400 leaders in more than 80 countries, which establish their presence in academia, business, government, media, and NGO. LEAD Indonesia, which is hosted by Yayasan Pembangunan Berkelanjutan (YPB)—Foundation for Sustainable Development—has been conducting LEAD Associate Training program since 1992.

46. Governance in ASEAN Energy Cooperation, 2006

IIEE conducted a brief research on ASEAN Energy Cooperation, highlighting the importance of comprehensive assessment, transparency, and public participation to support the regional effort toward achieving human and energy security. The research result was presented in the Fifth ASEAN People's Assembly, 8-10 December 2006 in Manila, which brought together representatives from various civil society groups, think tank institutions, and key policy-makers in Southeast Asia and other regions that have an interest in promoting people-oriented development in the process of ASEAN community building.

47. Food, Water and Energy Management, 2006

The government is currently initiating an effort to harmonize actions of several sectors to increase utilization of water resources and renewable energy to support food and energy security. The effort also expected to create job and in line with poverty reduction. IIEE involves in a team to develop the cooperation concept, together with the Ministry of Agriculture, Ministry of Energy and Mineral Resources, Ministry of Public Works, and Brighten Institute.

48. Energy Consumption Efficiency Improvement in Indonesia, 2006 – 2007

IIEE prepared an overview of energy efficiency policy and issues to be overcome during its implementation. IIEE also provided assistance for the Japan Bank for International Cooperation (JBIC) on a pre-feasibility study on energy efficiency technology and preparation of the Energy Efficiency Workshop in 2007. The work is part of a wider study undertaken by Mitsubishi Research Institute (MIRI) for JBIC to investigate possible approaches to enhance energy efficiency implementation in Indonesia. The analysis and recommendations from this study will be presented to relevant agencies in the Indonesian Government.

49. Petroleum Product Subsidies in Indonesia, 2006

IIEE prepared a background report on the petroleum product subsidies for a multinational financial agency. The report covered present situation in the petroleum product sector including supply-demand, pricing, regulatory framework, budget allocation for fuel subsidy, and subsidy management policies in relation with the increasing burden of subsidy in the government budget. IIEE also assisted in developing the target scenario along with policy measures for an adequate and orderly transition towards subsidy minimization, which formed part of the recommendations to be delivered to the Government of Indonesia.

50. An In-Depth Study of the Indonesia Gas Market, 2006

The study was intended to acquire a better understanding of Indonesian gas market potential and possibility for future equity ownership. The study provides a guide to value possible upstream gas business opportunities in Indonesia by capturing sufficient details in terms of present and future domestic legislation, local infrastructure issues, domestic demand, existing supply, and pricing. In this work for an international oil and gas company, IIEE collaborated with EWCI Pte. Ltd., a member of the FACTS Global Energy Group of Companies.

51. Roundtable Discussion on Efforts to Evade Energy Crisis in Indonesia, IIEE-CSIS, 2006

IIEE and the Centre for Strategic and International Studies (CSIS) conducted a roundtable discussion addressing various concerns related to the energy crisis in Indonesia, focusing on electricity issues. The discussion facilitated energy experts and key players in energy sector to provide inputs and share their ideas.

52. APEC 21st Century Renewable Energy Development Initiative (Collaborative IV): Evaluation of the Role of Village Power Applications in Response to the Tsunami Recovery, 2006

IIEE assisted Expert Group on New and Renewable Energy Technologies (EGNRET) – Asia Pacific Economic Cooperation (APEC) Energy Working Group on evaluation of the role of village power application based on renewable energy resources in response to the tsunami recovery. It covers identification of the obstacles and lessons learned of the utilization of village power application based on endogenous renewable energy resources in Indonesia, particularly in disaster area. The purpose of this study is to develop guidance about utilization of village power application in response to natural disaster in APEC countries in the future.

53. Electricity Seminar – WWF, IIEE and WGPSR, 2006

This seminar intends to facilitate communication process by gathering community inspirations related to the making of Electricity Bill, which is now being deliberated in the House of Representatives. This seminar was carried out in cooperation with WWF-Indonesia, WGPSR (Working Group on Power Sector Restructuring) and IIEE under the framework of enhancing good governance in electricity sector.

54. Electricity Governance Initiative, 2005 – 2006

The initiative intends to develop a common language and an improved understanding to promote the implementation of good governance in the electricity sector. A collaborative research had been completed as a pilot program to implement the framework developed by World Resource Institute (USA), Prayas-Pune (India), and the National Institute for Public Finance and Policy (India). Similar activities of the pilot implementation were undertaken in India, Philippines and Thailand. The Indonesian Institute for Energy Economics (IIEE) coordinated the pilot assessment in Indonesia, which involved five other civil society organizations as the research team; while sector experts, legislators and government officials were in the advisory panel as well as consulted as resource persons. The research assessed transparency, public participation, accountability and redress mechanism, as well as the capacity of institutions and its key personnel in the decision-making processes in the electricity sector, focusing in policy and regulatory formulation and decisions involving environmental and social issues.

55. Public Hearing with House of Representative on Electricity and Energy Bills

As part of IIEE's vision and mission, IIEE participates in the discussion process of the new electricity and energy bills. IIEE shares its views on the policy-making process that should be based on good governance principles where transparency and public participation are very important. IIEE inputs on the substance of the bills include the energy market issues, the renewable energy utilization and energy access for isolated areas.

56. Study on Sumatra Electricity System, 2005

The study assessed the existing electricity system in Sumatra, including the capacities in generation, transmission and distribution, as well as the respective fuel mix. The study also covers analysis on future options for expanding the capacity of the system, taking into account the availability of energy/fuels for generation; as well as the existing and future development of gas infrastructure in Sumatra area.

57. Public Discussion: Looking Into Fuel Oils' Troubles, 2005

IIEE conducted public discussion on the Indonesian oil sector, jointly with STEKPI School of Business and Management. The aim of this activity was to increase better understanding on the issues and challenges faced by the oil sector, among others by providing relevant background data and information especially regarding the supply, demand and pricing policies. The forum facilitated exchange of views in an intensive dialogue. Most of the participants represented college student organizations from various universities in Java.

58. Cooperation with FEUI, 2004

IIEE and the Economic Faculty of the University of Indonesia (FEUI) agreed to develop education programs in energy economics. This cooperation, among others, provides opportunities for master and doctoral students to participate in research works initiated by IIEE or their own ideas, in the field of energy economics. IIEE is also open for the undergraduate students of FEUI for apprentice work.

59. Bimasena International Energy and Mineral Conference, 2004

Indonesian Institute for Energy Economics (IIEE) and Bimasena, the Mines and Energy Society, organized the conference, supported by the Department of Energy and Mineral Resources, other government agencies, as well as energy and mining associations.

BIEM Conference 2004 presented international perspectives delivered by prominent speakers, and also highlighted domestic issues identified during a series of Pre-Conference Dialogues that preceded the BIEM Conference 2004. The theme “Creative Partnership” of this conference reflects the aspiration to facilitate communication and cooperation and to come to a mutual understanding of sustainable investment plans.

60. Supporting Document for National Energy Planning, 2004

IIEE reviewed the existing national energy planning based on several studies using various energy models available at that time. In addition, IIEE also utilized its own computer model “Integrated Indonesia Energy and Environmental Model” (IIEEM) to facilitate an in depth analysis. The study highlighted the importance to incorporate a sustainable energy development approach for a more flexible policy and implementation process to face the dynamic of the Indonesian economy.

61. Independent Team on LNG Market, 2003 – 2004

It is widely known that international LNG markets have become more competitive due to emergence of new LNG exporters with large capacity and more economical natural gas reserves. In the meantime, Law 22/2001 brought about fundamental changes to the Indonesian Oil and Gas sector.

The Independent Team of Bimasena, which includes IIEE personnel, perceived that significant changes in the international LNG market conditions and its impacts to the Indonesian LNG undertakings have not been sufficiently acknowledged. An academic exercise carried out by the Team reviewed the past and present LNG arrangements, assessed incompatibilities under the new market structure, and explore alternatives to overcome the difficulties. The objectives of the initiative are (i) to sustain the integrity of existing LNG undertakings, and (ii) to develop the proper structure and clarity of future LNG business.

This initiative is part of a continuous effort to contribute towards workable, transparent and investor-friendly government regulations and policies in the energy sector. These thoughts were documented in a working paper, which had been communicated to stakeholder. Discussion forums were conducted to gather their perspectives. The process highlighted

attainable solutions along with the range of pros and cons around the matters. This form of participatory approach is expected to facilitate the formation of appropriate decisions.

62. Effective Electricity Generation Planning Under Environmental Consideration: an Academic Research, 2003 – 2004

IIEE assisted a PhD candidate in analyzing the impacts of various market scenarios in Java-Bali electricity system. A special attention was directed toward taking several environmental indicator targets into considerations. The exercise utilized IIEEM, a computer model developed by IIEE depicting Indonesia's energy system, as a tool for analysis.

63. Independent Team for the Draft on Governmental Decree on Oil and Gas Downstream Sector, 2003

This initiative is part of a continuous effort to contribute towards workable, transparent and investor-friendly government regulations and policies in the energy sector. Based on its academic paper and the blue print of downstream oil and gas, the Independent Team provides inputs and comments to various versions of the Draft of Government Decree on Oil and Gas prepared by the Government Working Team on the Draft Government Decree on Downstream Oil and Gas.

In this activity, IIEE involved in reviewing various revisions of the Draft Government Decree on Downstream Oil and Gas, and check consistencies of the articles with respect to the agreed framework stated in the blue print, and in proposing alternative legal compositions to represent the logic and message of the respective comments. IIEE also involved in the discussion with the Government Team to reach common understanding over various issues covered by the legal drafts.

64. Oil and Gas Downstream Blueprint Team, 2003

The implementation of Law 22/2001 calls for several government decrees, including the downstream oil and gas markets. Confusions and other difficulties during the process of preparing the decree had lead the Independent Team of Bimasena to suggest the Government to consider developing a blue print to be used a guide during the process of formulating the respective legal description. Our prior work, the academic paper for the downstream oil and gas sector under Law 22/2001, was cited as a reference.

IIEE's involvement in this activity ranged from reviewing data and information about market deregulation process, status, and various market parameters in other countries; analyzing the implications of Law 22/2001 and identifying requirements to enable coherent implementation; and outlining transition phases from the regulated-monopoly to an open and competitive market. IIEE also participated in the discussion with stakeholder, including with the Minister of Mines and Energy and the Coordinating Minister for Economic Affairs, to obtain comments on the draft blue print as inputs for finalizing the document.

65. An Effective Green Energy Policy Study in Indonesia, 2003

IIEE analyzed the implementation of existing national energy policy and its implication to the national environmental targets. IIEEM, the computer model developed by IIEE, was utilized to assess the impacts of introducing more renewable energy in the electricity system development.

66. Natural Gas Utilization in the Domestic Market, 2003

IIEE provided technical assistance to the Policy and Financing Sub-Team in the Inter-Departmental Team on Natural Gas Utilization Strategy. This project aimed to identify and assess the energy supply and demand in major regions of Indonesia, especially on the potential supply and demand of natural gas in the domestic market, taking into account the existing national plans for infrastructure development.

IIEE developed an integrated energy model for Indonesia to assess the consolidated data representing the supply- and demand-side of Indonesian energy sector. Some scenarios were developed to assess the plans to increase domestic gas utilization, including the existing obstacles and potential in domestic demand of natural gas.

67. Study on Primary Energy Demand Forecast in Java-Bali Electricity System and Its Impacts on the Implementation of Competitive Electricity Market, 2002 – 2003

IIEE analyzed existing generation mix and the plans for the following ten years, as well as the required primary energy, including natural gas, coal and geothermal, available for the Java-Bali electricity system. The study also included the assessment on supply potentials to meet the energy requirement, including the impacts of infrastructure unavailability. The implementation of competitive electricity market for the Java-Bali system was then assessed under these conditions.

68. Primary Energy for Java-Bali Electricity, Shell Indonesia

The study focused on gas availability to supply the Java-Bali electricity system, based on existing gas reserves as well as the plans for developing upstream oil and gas sector and the respective infrastructure. Gas demand potential from other sectors was also considered in the study.

69. Asian Regional Research Programme on Energy, Environment and Climate (ARRPEEC) Phase II, 1999 – 2002

ARRPEEC was a regional research project on energy and climate change, which involved researchers from India, Sri Lanka, Viet Nam, and Thailand. In this research, IIEE identified the optimal generation expansion planning in Java-Bali system under environmental emission consideration using least cost method. The study results include optimal capacity of power plants, electricity generation by plant type and the respective fuel-mix. IIEE also developed IDAT (IIEE's Data Analysis Tool) and ISAT (IIEE's Sensitivity Analysis Tool) to accompany the IRPA model developed by Asian Insitute of Technology. From this research, IIEE gains many experiences, both from collaborating with other regional research institutions and in energy modeling. Experience in energy modeling from this research has enabled IIEE to develop the IIEEM (Integrated Indonesian Energy and Environmental Model).