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AVAILABILITY OF COLLECTIVE IMPACT IN MUNICIPAL ENERGY BUSINESS ENTITY

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ABSTRACT

Recently, energy public utility companies to which municipalities finance, such as “Stadtwerke” and, renewable energy businesses by citizens like “community power” have been attracting attention in Japan. As the background, there are the limitations of large-scale concentration type energy system, the liberalization of retail electricity sales, and electricity system reform after the Great East Japan Earthquake. In addition, the SDGs (Sustainable Development Goals) were adopted by United Nations all Member States in September 2015 and the national government, local governments, and business groups are becoming more aware of them. Moreover, local governments are gradually expanding their community power initiatives with the SDGs in mind, in combination with the movement for regional revitalization. Under such a trend, qualitative analysis of the goals and roles of community power companies, as well as the composition of stakeholders, from the perspective of SDGs is useful for operations and governance of municipal energy projects in the future. Therefore, this report discussed the goals and targets of the SDGs based on researches such as Kondo (2020) and “Opportunities 2000”; cases of the improved Canada’s poverty issues on the five Collective Impact (CI) criteria. CI is a scheme in which a group of key players from different sectors work together on a common agenda to address a specific social project. Finally, this report

examines the community power companies and municipal energy business entity in Japan based on a literature review and website information. For further inquiry, it needs to be analyzed based on field surveys.

Keywords: collective impact (CI), municipal energy business entity, community power, Stadtwerke, SDGs

GENERAL INTRODUCTIONS

Recently, public energy utility companies to which municipalities finance, such as “Stadtwerke¹” and, renewable energy businesses by citizens like “community power” have been attracting attention in Japan. Before World War II (WW2), in Japan, power businesses with “Stadtwerke” as the model had been developed in major cities, but these enterprises have been integrated in the present “Nine Power Company System” under all-out war system. Now, under the great structural transmission energy policy of the promotion of renewable energy and the deregulation in the electricity market, there is a growing interest in the reuse of energy utilities by municipalities.

Background of appearances of this, several reasons can be considered as follows:

At first, change of energy composition after 3 · 11 (11 March 2011)’ is pointed out. The ratio to 90% of greenhouse effect gases in Japan is

accounted for Carbon Dioxide (CO₂) derived of Fossil Fuel. In Energy Basic Plan formulated on June 2010, it will be designed to incorporate policy new construction of more than 14 nuclear generation plants and raising of the percentage of power composition till 53% by 2030. Not only energy conservation but also global warming based on nuclear generation are intended to be promoted. However, affected the incident in Fukushima Daiichi Nuclear Generation in Tokyo Electric Power Company by the Great East Japan Earthquake on 11 March, 2011, Japanese Government transformed energy policy as “Overcoming dependence on nuclear generation”. Then, at the end of April 2015, the government announced new energy-mix (composition of energy resources) toward 2030, later, it was published that reduction target of greenhouse gas in 2030 was the 26% reduction in comparison to 2013 (18% reduction to 1990), in response to it, according to “the Long-Term Outlook for Energy Supply” formulated on July 2015, target value of the ratio to power resources in 2030 Fiscal Year decides renewable energy:22-24%, nuclear energy: 20-22% (Toyota & Kihara 2018).

In fact, as seen statistics in Japan’s Energy, the ratio of renewable energy in primary energy supply is 12%, according to others, it is oil: 35%, coal: 25%, LPG (liquefied Petroleum Gas):3%, Natural Gas: 23%, Nuclear Generation: 3%, respectively. Moreover, data on the introduction of renewable energy shows that the percentage of power about renewable energy (power generation quantities) in Japan is 18% in 2019FY. In comparison with several countries, Canada: 66.3%, Italy: 39.7%, Spain: 38.2%, Germany: 35.3%, China: 25.5%, etc. Japan is less than these nations in the introduction of renewable energy. (MITI 2020). However, when considering in region, domestic division of labor with globalization after 21st century in Japan

was being dismantled, local industry and employment have been remarkably declined at the center of manufacturing industry, construction industry and distribution business which developed in region, depopulation occur severely called ‘Chihou -Shometsu’ (Disappearance in Region) (Masuda 2014), with a focus on small towns in s region and a rural area (Samuta 2015). In these situation, reasons to be expected that renewable energy contributes to regional regeneration assume three regional economy effects as follows.

-Firstly, if power and heat to have been provided for itself by introducing renewable energy, fuel cost and electricity bill which purchased out of areas could be saved, so funds remained in regions increased.

-Secondly, if raw materials, regional people procure labors and capitals to produce renewable energy, employment has been increased and income has been circulated in an intra-region through an inter-industrial relationship.

-Thirdly, by selling renewable energy to become surplus intra-region out of region, they can gain extra-regional money. (Nakamura 2014, Samuta 2015),

In addition, in recent years, there have been the limitations of large-scale concentration type energy system, and great change has been occurred concerning electricity and energy such as the liberalization of retail electricity sales since April 2016, and electricity system reform since April 2020 after the Great East Japan Earthquake. In September 2015, the SDGs (Sustainable Development Goals) were adopted by United Nations all Member State² and the national government, local governments, and business groups are becoming more aware of them. Moreover, local governments are gradually expanding their community power initiatives with the SDGs in mind, in combination with the movement for regional revitalization.

Endo (2016) points out meanings of utilizing SDGs which is the common index all over the world in municipalities as follows.

-Visualization of regional issues and the formation of a structure for solving issues, the establishment of governance approach and widespread liaisons by making use of SDGs

-When solving issues like community regeneration, depopulation and aging society, education and employment and so on, by promoting measures to integrate three aspects among economy, society and environment, synergetic effects can be expected to accelerate the overall optimization of policy promotion and solutions to regional issues (Endo (2016))

In these situations, renewable energy as small-scale diverse energy produced in region and municipal energy businesses have been attention to. Moreover, local governments are gradually expanding their community power initiatives with the SDGs in mind, in combination with the movement for regional revitalization. Under such a trend, qualitative analysis of the goals and roles of community power companies, as well as the composition of stakeholders, from the perspective of SDGs is useful for operations and governance of municipal energy projects in the future. Therefore, this report discussed the goals and targets of the SDGs based on researches such as Kondo (2020) and cases of the improved Canada's poverty issues³ on the five Collective Impact (CI) criteria. CI is a scheme in which a group of key players from different sectors work together on a common agenda to address a specific social project. Finally, this report examines the community power companies and municipal energy business entity in Japan based on a literature review and website information. For further inquiry, it needs to be analyzed based on field surveys.

This paper examines municipal energy business entity in using the framework of collective impact (CI).

Collective Impact

LITERATURE REVIEW

This paper analyzes municipal energy business entity in the framework of collective impact (CI). Collective impact has gained significant attention in recent years as a strategy for deeper, more impactful collaboration, and it is a relational approach in which organizations with different positions (government, businesses, NPOs, foundations, volunteer groups, etc.) transcend organizational barriers and leverage each other's strengths to solve social issues. In 2011, John Kania and Mark Kramer published a paper entitled "Collective Impact (CI)" in the Stanford Social Innovation Review (SSIR). They introduced the term as "the commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem". CI was presented as a new attempt to solve complex social problems that could not be solved by individual approaches alone. Kania and Kramer's (2011) research on CI suggests that successful initiatives exhibit five conditions [Table 1]: a common agenda, shared management, mutually reinforcing activities, continuous communication, and backbone organization (Kania and Kramer 2011). These five conditions are interrelated and asynchronous such that each is introduced as appropriate (Sagrestano et al. 2018).

Table 1 The Five Conditions of Collective Impact

1. Common Agenda	All participants have a shared vision for change including a common understanding of the problem and a joint approach to solving it through agreed upon actions.
2. Shared Measurement	Collecting data and measuring results consistently across all participants ensures efforts remain aligned and participants hold each other accountable.
3. Mutually Reinforcing Activities	Participant activities must be differentiated while still being coordinated through a mutually reinforcing plan of action
4. Continuous Communication	Consistent and open communication is needed across the many players to build trust, assure mutual objectives, and create common motivation.
5. Backbone Support	Creating and managing collective impact requires a separate organization(s) with staff and a specific set of skills to serve as the backbone for the entire initiative and coordinate participating organizations and agencies.

Source: Kania & Kramer (2011), Haleybrown, Kania & Kramer (2012)

The first three conditions – developing a common agenda, shared measurement, and mutually reinforcing activities – are inextricably linked. The common agenda means the broad frame that all actors agree to act within. It should include an aspirational statement that describes an outcome that is beyond what any single actor can achieve alone.

Hanelybrown, Kania, and Kramer (2012) discussed the necessary precursors for initiatives that are aiming for collective impact, and the temporal phases of implementation. The preconditions include the presence of one or more influential champions who can make the case for the importance of the collaborative enterprise. Other preconditions include sufficient financial resources for the initiative and a sense of urgency for change.

By bringing together cross-sectoral stakeholders to work on a common agenda through cascading levels of cooperation (Kania & Kramer 2011), CI seeks to overcome the fragmented nature of policy

and governance to generate system-level change. Kania and Kramer's research on CI suggests that successful initiatives exhibit five conditions: a backbone organization, a common agenda, ongoing communication, mutually reinforcing activities, and a shared measurement system (Kania and Kramer 2011). These five conditions are interrelated and asynchronous such that each is introduced as appropriate (Sagrestano et al. 2018). Next section briefly provides the application of CI in practice.

Collective Impact in Practice and Critical Perspective

One well-known example of CI in the United States is the "Shape Up Somerville" project that started in 2003 in Somerville, Massachusetts⁴. The City of Somerville, with a population of about 75,000, has many Hispanic and Latino minority residents, and child obesity was becoming a serious social problem. Under the strong leadership of the mayor, nearly 100 organizations and individuals, including government agencies, NPOs, businesses, and educational institutions,

have pooled their respective strengths to implement a collaborative project to improve children's diets and promote exercise. For example, the city will increase the number of fruits and vegetables on school lunch menus instead of ice cream, the city will certify local restaurants that develop healthy menus, the government will host a farmers' market for organic vegetables, and sidewalks, bike paths, and parks will be built. In order to measure the success or failure of this project, three evaluation indicators, "body mass index," "energy consumption," and "body weight," were set as goals. In the first three years of the project, the average weight of children in the region has decreased by one pound every year (Coffield et al. 2015).

Another well-known example, for example, is Strive in Cincinnati, where leaders from the private, public, and nonprofit sectors came together to comprehensively address long-standing challenges in the local education system. Rather than attempting to fund and implement new education programs, Strive carefully identifies and assesses progress toward an agenda that is widely shared among various agencies and institutions (Kania and Kramer 2011; Christens & Inzeo 2015). In the field of higher education, Matthew and Monroe-White (2020) use the CI framework to evaluate programs in engineering education across the United States. They used the Pathways to Innovation Program (Pathways), a faculty development and institutional reform initiative designed to address the adaptive challenges of integrating innovation and entrepreneurship (I&E) in engineering schools across the country, as a case study to conduct an evaluation of curricular, and institutional change initiatives in engineering education was conducted. The findings of this study pointed out that in engineering education, where diverse stakeholders are involved, 1) student

exposure and involvement and 2) institutional change contribute to innovation and entrepreneurship education.

De Chiara (2015) implemented the qualitative study in Campania, Italy based on CI's framework for analyzing stakeholder engagement across companies and communities producing Protected Food of Origin (POD). The study highlights the importance of building networks to address the consequences of environmental issues that can affect local food production. Other examples include teenage substance abuse reduction efforts (Kania & Kramer 2013), climate change initiatives (Ledley et al. 2014), local food system (Hoey et al. 2016), and public health system (Fawley 2018).

CI proponents have attempted to take the concept beyond the five conditions mentioned above and to make it more specific and broader. In recent years, with the growing interest of researchers and practitioners in CI, the Collective Impact Forum, an initiative of FSG and the Aspen Institute Forum for Community Solutions, has become one of the world's most comprehensive sources of information on CI approaches, providing a platform for researchers and practitioners to share their skills and tools. However, as the concept of CI has spread rapidly over the past decade or so has led to criticism and challenges to the CI approach. Some scholars identified the shortcomings of the CI concept include the following items (Holmgren 2015; Cabaj and Weaver 2016)

- insufficient attention to the role of the community in the change effort
- an excessive focus on short-term data
- an understatement of the role of policy and systems change; and
- an over-investment in backbone support

Holmgren (2015) warns that if these limitations are not taken seriously, the

field may experience a "pendulum swing" away from collective change efforts. He also points out that CI has boomed so much that other organizations and practitioners have discovered it and have not sufficiently figured out the concept and its practice, which may be partly due to the fact that it has not been well promoted. In addition, Wolff (2016) notes that the assessment of CIs is not one that the scholars themselves were involved in developing or implementing, but rather is based on a small number of case studies that they observed after the initiative took place. Wolff states that engaging with successful and unsuccessful multi-stakeholder coalitions, which has not been adequately examined in previous studies, provides a more nuanced understanding of CI that has not been fully examined in Kania and Kramer (2011). Therefore, there is a need to examine CI initiatives more critically and deliberatively, as some projects have been uncritically adopted and funded by government agencies, foundations and/or other non-profit organizations.

The Collective Impact Approach in Japan

According to these previous studies, CI tends to be considered to be advantageous for government, private business, and NPOs to strengthen their resources and expand the scale of their activities. In terms of resources, it is expected that private business will not only provide manpower and funds, but also utilize their expertise and know-how. As for research methods, qualitative analysis tends to be used rather than quantitative analysis, such as direct research through interviews with companies, local governments, and NPOs in the study area, and literature review. Particular in, this paper uses a qualitative approach to analyze municipal energy business entity in Japan.

As a CI approach in Japan, there is a growing interest in multi-stakeholder initiatives for social inclusion, such as multidisciplinary cooperation in the fields of child poverty reduction and NPO research, welfare for the elderly, and social enterprises. For example, the case study of the Tomita district of Takatsuki City, Osaka Prefecture, deals with the multi-stakeholder collaboration with more than 30 organizations, focusing on the efforts of a children's cafeteria (kodomo shokudō) to "overcome social isolation". In addition, Mita et al. (2020) attempted to clarify three issues using the CI framework, focusing on small-scale businesses handling food products in Yokkaichi City, Mie Prefecture: waste disposal methods and their perceptions, awareness of food loss, and interest in contributing to society through food loss. The study revealed that while there is a high level of interest in reducing food loss as a common goal, the amount of waste itself is difficult to grasp due to fixed-rate contracts for waste disposal, and that many companies are positive about social contribution through food loss measures.

In management studies, Kondo (2020) conducted an international comparison of the relationship between SDGs-related projects and CI in six major Japanese companies, including Toyota and Panasonic, based on the five elements of CI, with a Canadian case study. She noted that while attempts at corporate communication on the 17 SDGs themes are expanding, engagement with diverse stakeholders, including small and medium-sized enterprises (SMEs) in and outside the region, is particularly desirable when companies seek to demonstrate their strengths in different fields. Sato (2019) considers activities that deal with difficult issues in modern society as a series of programs, and uses P2M (Project & Program Management) theory, which is a management theory to ensure the execution of innovation. He discussed the

possibility of incorporating inclusive design through CI to create new business opportunities as well as solve social problems by involving users who have been excluded from the traditional collaborative process.

Looking at research trends in Japan, although there is still less research than in Europe and the United States, there has recently been a growing interest in CI, especially in management and nonprofit studies, and there is a certain amount of research that emphasizes the need for more comprehensive stakeholder collaboration and engagement. For example, many nonprofit organizations in Japan are small in scale, and it is difficult to expand the scope of their activities. In this situation, if nonprofits can collaborate with major corporations, they may be able to expand their activities to various regions through their business development. According to the Final Report of the Survey on the Promotion of Social Impact Evaluation conducted by the Cabinet Office (2018), it is more effective for social enterprises to learn from and share with each other, create a logic model for each social issue, have a common outcome goal, clarify their own positioning in the model, and then have each actor collaborate with each other and with stakeholders. It has been shown that it is more effective for stakeholders to work on these issues. This point is similar to the CI approach, in which diverse actors from different sectors set common goals and aim to solve social issues while leveraging each other's strengths. Furthermore, the collaborative arrangement in this context can be considered as a reference for the SDGs, which are common goals for international society until 2030.

In this section, we have briefly reviewed research trends of CI in Japan. However, there are few studies that analyzes the dynamics of municipal energy business entities, which have

recently shown growth in Japan and have many stakeholders engagement in their management. Collective efforts of multi-stakeholders are considered effective in penetrating social impact, and SDGs-related projects have a high affinity with CI approach. Therefore, this paper uses CI as an analytical framework to examine the characteristics of stakeholder engagement and the effectiveness of the CI framework in municipal energy business entity.

At that time, we analyzed twenty-one cases about what stakeholders collaborate in municipal power companies and which goals of SDGs in community power companies in business it is true of contents and regional issues. According to these cases, we used “The Case of Community Power” and Inagaki & Ogawa (2020) as references. Table 2 illustrated that Community Power Companies’ situation and SDGs such as founded year, funds, the ratio funded by municipalities, composition of investors, the number of stakeholder, employees and the liaison project contents community powers’ operation and consciousness of regional issues with SDGs Goal.

QUALITATIVE ANALYSIS AND RESULTS

Table 2 Community Power Companies’ Situation and SDGs

No.	Founded year	Funds (1,000 dollars)	Ratio funded by municipalities(%)	Composition of Investor	Stakeholder (Project Scheme)	Employees	SDGs
1	2006	1,837	60%	2	2		7
2	2006	459	100%	1	7	2 (Oct.2019)	7,8,9,11,13,17
3	2013	28	60%	2	2	-	6,7,14
4	2014	230	-	8	12	14 (Dec.2019)	7,8,11,17
5	2015	643	33%	20	20	-	7,9,11
6	2015	46	20%	4	4	-	7
7	2015	133	52%	6	6		7,14,17
8	2015	551	8%	9	14	2 (Nov.2019)	7,8,11,17
9	2015	184	10%	2	21	4	3,4,7,8,9,11,17
10	2015	827	9%	7	5	7 (Jan.2020)	7,8,11,13,17
11	2015	184	55%	3	40	45	1,3,7,8,9,13,17
12	2015	919	24%	4+	4+	-	7,8,9,13,17
13	2015	46	0.25%	9	9	-	7,9,17
14	2015	186	10%	17	17+	3	6,7,8,17
15	2015	28	33%	2	2	-	7
16	2016	92	-	1+	1+		7,11
17	2016	459	-	1+	1+	-	9,11
18	2016	73	-	4+	4+	-	3,7,8,9,11,13,17
19	2016	83	56%	3+	3+	-	7,11,17
20	2016	87	80%	3	3	-	7,17
21	2016	107	37%	2+ (※2018)	19+	-	1,4,7,9,11,13,14,17
22	2016	89	41%	5	5	-	6,7,11
23	2016	211	87%	2	2	-	6,7,11,17
24	2016	83	38%	7+	7+	-	7,17
25	2016	92	51%	3+	3+	-	7,9,11,17
26	2017	96	5%	1+	6	-	3,4,7,8,11,13,17
27	2017	91	10%	3	3	-	7,11
28	2017	919	5%	3	3	-	7,17
29	2017	81	51%	4	4	-	7,17
30	2017	138	91%	5	6	3	3,6,7,8,11,17
31	2017	80	29%	3	8	-	7,8,9,13,17
32	2017	184	55%	5	9+	4	3,7,8,11,17
33	2017	184	67%	4	6	4(Mar.2020)	7,11,12
34	2018	77	60%	4+	4+	-	7,12,17
35	2018	83	67%	2	2	-	7
36	2018	184	80-90%	2	2	-	4,7,8,11
37	2018	184	55%	5	5	-	7,9,11,13,17
38	2018	92	51%	4	4	-	7,13,17
39	2018	92	50%	5	5	-	7,8
40	2018	459	10%	3	4	1 (Oct.2019)	3,7,8,11,13,17
41	2018	92	1%	3	7	-	4,6,7,8,11,13,17
42	2018	96	50%	3+	15	-	7,9,13,17
43	2018	83	-	15	8	-	3,4,7,8,9,13,17
44	2018	276	-	1	6	-	3,7,9,11,13,17
45	2018	276	-	17	17+	-	7,11,17
46	2018	230	8%	3	3	-	3,7,9,11,17
47	2018	295	51%	48	48	-	7,8,17
48	2018	919	5%	2	11	10 (Oct.2019)	7,9,11,13,17
49	2019	92	35%	9	9	-	7,11,17
50	2019	459	10%	4+	4+	-	7,8,11,17
51	2019	459	10%	2	2	-	7,17
52	2019	91	-	3	5+	8	3,4,7,8,11,13,17
53	2019	919	10%	3	6+	-	7,13,17
54	2019	184	-	6	9	-	3,7,8,9,11,17
55	2019	276	90%	3	3	-	7,11,17
56	2020	92	50%	4+	11+	-	3,7,8,9,11,13,14,17
57	2020	92	51%	5	13+	-	7,13,17
58	2020	57	40%	8	8	-	4,7,17
59	2020	459	35%	8	8	-	7,8,13,17

Note: The number of real stakeholders can be more than these of project scheme.

Source: Revised by the authors based on Inagaki & Ogawa (2020), Ministry of Environment (2020) and each HP website.

At first, in according to funds of municipalities energy business entities in targets of surveys, its amount 272 (1,000 dollars) on average. Secondly, in according to the ratio founded by municipalities, these differs from region to region and on average 40.02%. However, there will be cases where local governments fund to one of stakeholders, it is possible for them to be involved in project schemes. Thirdly, with respect to the number of entities compositing funding in local power enterprises, it differs from 1 to 20 and 6 on average. While, with regards to stakeholders in project scheme, has a variation of number of 4-40 and 8 on average. Furthermore, employees, differs from 1 to 40, in addition, some municipalities have not opened the information public.

Next, Figure 1 shows the number of companies in SDGs 17 Goals respectively to examine what have something to do with the liaison project contents community powers' operate and consciousness of regional issues with SDGs Goal. Municipal power business aims to run electricity retail and energy service enterprises, to supply and to prevail renewable energy. Moreover, these

companies were composed of multi-stakeholder, so we regarded SDGs Goal 7 and 17 as each community powers' common target.

In this paper, it was counted in case that "watching"(mimamori) of children and elderly are included these contents or issues according to SDGs Goal 3 (Ensure healthy lives and promote well-being for all at all ages), that an environmental education is contained as a viewpoint of project in regards to Goal 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all).

Likewise, in case of performing and managing a medium/small hydraulic power generation in regions and communities according to SDGs Goal 6 (Ensure availability and sustainable management of water and sanitation for all), and of generating woody biomass in regions and communities and utilizing forests in regards to Goal 15 (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss), these were counted.

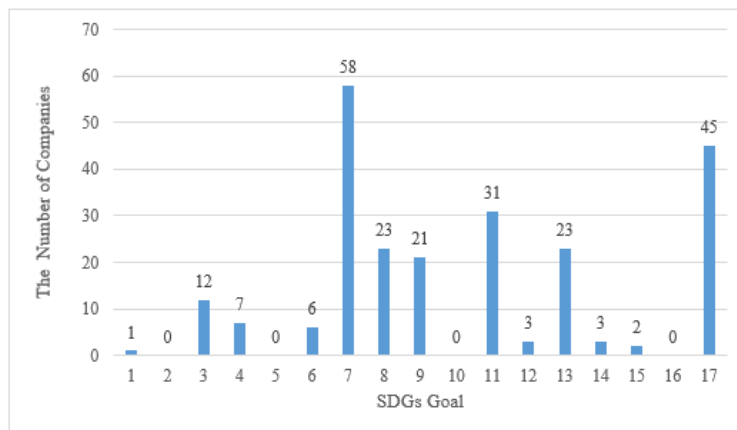


Figure.1 The number of Companies corresponded to each SDGs Goal based on the contents and issues in municipal energy business entities

As the result of qualitative analyses, it was clear as follows.

According to what SDGs Goal project contents of community powers and its regional issues which they recognize are involved, as seen Fig.1、 Goal 7. (Ensure access to affordable, reliable, sustainable and modern energy for all) :58 companies、 Goal 17. (Strengthen the means of implementation and revitalize the global partnership for sustainable development):45 companies、 Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable) :31, Goal 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) and Goal 13 (Take urgent action to combat climate change and its impacts):23 companies. Both Goal 9 (Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation) is suitable for 21 like Figure 1.

Besides, the number of Goals to involve with SDGs in entities respectively is 4 on average. Provided that these Goals are tend to incline specific Goals due to energy businesses' character. Project contents of community power and awareness in accordance with regional issues in the future e.g. town development, "watching" of the elderly, enhancing an environmental education, and community-based management of a small hydraulic power generation device are various in each entity. So it is showed that the purposes of establishing the community power projects and issues on business operations are different depending on the needs of the region.

CONCLUSION

As mentioned the above analysis, it was cleared as follows.

Firstly, it was appeared that municipal energy business entities were differed in the way and the degree of the involvement of local governments due to the ratio founded by municipalities, so have been developed diverse management style. Also, in many entities, there were much more stakeholders in accordance with operation in project scheme than funded composition entities, and have been operated among multi-stakeholders.

Secondly, municipal power business aims to run electricity retail and energy service enterprises, to supply and to prevail renewable energy. Moreover, these companies were composed of multi stakeholder, so SDGs Goal 7. and Goal 17. are considered as the common target of each community powers.

Thirdly, it was appeared that focusing on regional revitalization and regional economic circulation while promoting renewable energy under the partnership, it also emphasizes climate change countermeasures. On the other hand, there is a difference between the entities in terms of significant points and consciousness of issues like tackling climate change (Goal 13.), watching the elder and children under falling birthrate, aging population (Goal 3.) a viewpoint of infrastructure development toward the disaster prevention/reduction (Goal 11.)

Fourthly, with regard to the SDGs, there are many municipalities that have incorporated them into their respective comprehensive plans, action plans, and/or comprehensive strategies, 50 out of 59 cases. However, in relation to the municipal energy business, there were 30 municipalities that had some reference to SDGs or awareness of issues in relation to the municipal energy business, although this was within the scope of the Ministry

of the Environment (2020) and the website information of each local government.

Samuta points out that energy transmission and regional regeneration policy issues are considered in the development phase called Sustainable Development (Samuta 2015).

This paper shows that the situations and trends in municipal energy business entities, the awareness of issues among stakeholders, using the Collective Impact (CI) framework. In the operation of municipal energy entities, it is required to increasingly crystalize local issues and promote initiatives based on the SDGs.

Finally, this paper examines the community power companies and municipal energy business entity in Japan based on a literature review and website information. For further inquiry, it needs to be analyzed based on field surveys.

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Footer Notes:

P1 - 1 “Stadtwerke” is a word of German, and means public business entity funded by municipalities. It is said that there have been approximately 900 all over the country in Germany. Mainly in electricity, gas, heat supply, its represent extremely widespread service closed to civic life like waste disposal, maintenance and operation of public facilities. (Morotomi (2017)).P2 - 2 In detail, referred to UN website.P3 - 3 In detail, referred to Makhoul,Anne (2008), Makhoul & MacKeigan.,(2008) Cabal & Weaver (2019) and Kondo,K.,(2020).P4 - 4 The City of Somerville: <https://www.somervillema.gov/departme>

[nts/health-and-human-services/shape-somerville](https://www.somervillema.gov/departments/health-and-human-services/shape-somerville) (Accessed 2021/03/09)

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