

Lost in Translation: Problems of Rendering the Term *Sustainable Development* into Non-Western Languages as Demonstrated in the Case of South Korea

Zagubieni w tłumaczeniu: problem z prawidłowym wyrażeniem terminu *rozwój zrównoważony* w językach spoza świata Zachodu – przykład Korei Południowej

Kwang-Hoon Baek*, Nakil Ko**

**Alumnus Graduate School of Science and Technology Policy,
KAIST (Korea Advanced Institute of Science and Technology), Daejeon, Rep. of Korea,
Email: bkh0827@gmail.com*

** *Alumnus Master of Science Journalism Program, KAIST,
Email: kelysium@gmail.com*

Abstract

This study seeks to demonstrate the usefulness of a relatively underutilized approach to studying *sustainable development* as a term and concept. While studies on sustainable development have generally followed a normative approach seeking what the term should ideally mean, this study follows a historical approach such as recommended by the historian of philosopher Quentin Skinner to explore what changes of definition it has been capable of undergoing in the actual use. To illustrate why such changes may be a critical issue, we have deliberately focused on the case of a country – South Korea – where the very translation of the term into the native language, combined with other factors, has resulted in sustainable development being generally understood by the public as meaning something quite different from the more normative understanding of the term. Instead of a balanced development that protects the environment and promotes social welfare as well as promoting economic growth, sustainable development in the standard Korean translation has come to be understood as simply meaning *continued economic growth*, which is to be sought even at the expense of environmental degradation. For documentation and analysis, we have relied on various methods, while focusing on key sectors and select policy areas, including energy. We conclude with further reflections on why an approach such as ours might be a useful methodological addition in sustainable development research.

Key words: sustainable development, conceptual history, language, translation, South Korea, economic growth, energy policy

Streszczenie

W tej pracy podejmujemy użyteczne i relatywnie rzadko stosowane podejście do zrównoważonego rozwoju, rozumianego zarówno jako pojęcie, jak i koncepcja. Zwykle dominuje tu podejście normatywne, w ramach którego poszukuje się idealnej definicji, my proponujemy podejście historyczne, zgodne z zaleceniami historyka i filozofa Quentina Skinnera, odnoszące się do przeszłych zmian w definiowaniu i ich wpływu na obecne rozumowanie. Aby zilustrować, jak bardzo takie zmiany mogą być istotne, celowo wybraliśmy jeden kraj, Koreę Południową, w którym nawet przetłumaczenie terminu *rozwój zrównoważony*, w powiązaniu z innymi czynnikami, powoduje jego odmienne (niż to obowiązujące w podejściu normatywnym) rozumienie przez społeczeństwo. Miast rozwoju gwarantującego ochronę środowiska i społeczną pomyślność i wzrost gospodarczy, w standardowym koreańskim tłumaczeniu termin ten jest rozumiany jako *trwały wzrost gospodarczy*, do którego należy dążyć nawet za cenę degradacji środowiska. W badaniach opieraliśmy się na różnych metodach, uwagę zwracając na kluczowe sektory

i obszary polityki, włączając w to kwestie energetyczne. Wykażemy, dlaczego takie podejście może być metodologicznie użytecznym dodatkiem do badań nad zrównoważonym rozwojem.

Słowa kluczowe: rozwój zrównoważony, historia konceptualna, język, tłumaczenie, Korea Południowa, wzrost gospodarczy, polityka energetyczna

Introduction

Since 1987, when the UN World Commission on Environment and Development (WCED) formulated a working definition of sustainable development in a report that has come to be known as *Our Common Future*, there have been innumerable attempts to refine the concept suggested by the term (WCED, 1987). The general consensus among its proponents today is that sustainable development refers to a balanced development that satisfies the ecological and social imperatives along with the economic. Yet even with the general agreement that the ecological, social, and economic dimensions thus constitute the *three pillars* – three main rubrics – of sustainable development, views on what constitutes an ideal balance among them, let alone how to go about achieving it, have been notoriously varied.

Our intention in this article is not to attempt to formulate yet another definition of sustainable development. Our aim is rather to argue the necessity of a more rigorous attempt than hitherto at analyzing varying definitions of sustainable development that have been in use since 1987, and to illustrate the types of gains that could be expected from such a line of inquiry with a focused look at what we believe is a highly telling case study.

The general research problem that frames this article is in what ways the term and concept of sustainable development and their uses can vary fundamentally from country to country and, more specifically, from one language to another. The methodological grounding of our study has been inspired by *conceptual history* as practiced by the historian of philosophy Quentin Skinner. As he explains, there are two distinct approaches to refining our understanding of key concepts. One is the normative approach, where the participants engage in debates which are largely theoretical in nature, with a view to arriving at one true, normative meaning of a term like, say, liberty, justice, or sustainable development; another is the historical approach, which investigates the specific and varying ways in which the term has been used historically, with a view to documenting and analyzing the changes of meaning it has proven capable of in real-life circumstances and to ponder the contextual factors – political, social, economic, and so on – responsible for such permutations (Skinner, 2002).

The premise of this article is that our understanding of the concept of sustainable development now has much to benefit from a historical and contextual analysis of this type. We have no intention of disputing the usefulness of the normative approach, which has been thus far the most prominent mode

of inquiry for exploring the concept. What we would like to suggest, is that the historical approach also has its uses, especially in encouraging us to address the types of questions we are not likely to through the normative approach. How has the term *sustainable development* been actually understood and used by governments and the general public in varying countries? How far have the government and public use and understanding of the term deviated from the normative definitions formulated by the experts? What accounts for the deviations and what have been some of the main obstacles to the normative understanding of *sustainable development* reaching the public? Have there been examples of such a misunderstanding and misappropriation of the term having practical policy consequences?

Answers to such questions will likely vary from country to country, and in this article we deliberately chose to focus on what is likely one of the extreme cases illustrating just how far the meaning of sustainable development can mutate in the actual use. Once a country with almost the lowest per-capita income in the world, South Korea has emerged as one of the most talked-about success stories among developmental economists, by becoming a developed industrial economy in an unprecedented amount of time. Since the 1990s, it has officially adopted sustainable development as its new development paradigm and, in recognition, was chosen in 2012 over Germany to host the headquarters of the UN Green Climate Fund.

What we seek to demonstrate in this article is that the most popular and influential definition of sustainable development in South Korea has been one that focuses more or less exclusively on the economic imperative, to the utter neglect of the ecological and social. As our analysis shows, this change in meaning has been due in no small part to a factor that has been seldom recognized by scholars and experts as a possible obstacle to propagating a proper understanding of sustainable development: linguistic. Even in English the word *sustainable* can have several meanings; as it is translated into non-Western languages, it can undergo even further changes of meaning, to the point where, as in the Korean case, the original intent behind the term *sustainable development* can all but disappear.

How Sustainable Development Came To Be Understood as Meaning Continued Economic Growth in Korea

When the term *sustainable development* was first adopted by *Our Common Future*, it was largely as a

term signifying a compromise between the opposed viewpoints of the North (industrialized countries) and the South (developing countries). As became evident at UN Conference on the Human Environment in 1972, while environmental activists of the North had begun to argue the necessity of reining in economic growth in order to protect the environment, countries of the South generally regarded the focus on environmental protection as being misplaced, given that the elimination of poverty was a more urgent issue from their perspective (De Kruijf and Van Vuuren, 1998). The mission of WCED, World Commission on Environment and Development, created in 1983, was to find a solution that was acceptable to both. Its 1987 report *Our Common Future* thus described *sustainable development* as being based on two key concepts: first, *the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given*; second, *the idea of 'limitations' imposed by the state of technology and social organization on the environment's ability to meet present and future needs* (WCED, 1987, p. 125). Put succinctly, it meant development – which the countries of the South needed – that was also ecologically sustainable.

When *sustainable development* first came to be discussed in South Korea, there was some dispute over how the term should be translated. According to the Oxford English Dictionary, the verb root *sustain* has 4 main definitions: (1) support, (2) uphold, (3) keep from failing, and (4) keep in being or continue. The Korean word that best captures the spirit of the first three definitions is *ji-taeng*, which implies supporting something with a considerable amount of effort. The word that has come to be used in the standard translation, however, is *ji-sok*, which simply means to continue. While this word roughly corresponds to the 4th definition of *sustain*, it has no connotation of supporting something with difficulty as *ji-taeng* does. In fact, when *sustainable development* is translated using *ji-sok*, there is absolutely nothing to suggest development that can be supported by the environment: it simply means development that is continuable. While since the early 1990s there have been some in Korea who have insisted on the use of *ji-taeng* precisely because of its ability to evoke issues pertaining to the environment (Moon, 1995, p. 3; Moon, 1997; Park, 2004), the Korean government has continued the use of *ji-sok*. When the Presidential Commission on Sustainable Development (PCSD) was established in 2000, for example, its Korean title contained *ji-sok*, rather than *ji-taeng*.

A. Uses of the Term in the Media

To further document the process whereby *sustainable development* came to be generally understood as meaning *continued economic growth* in South Korea, we first sampled the use of the term in the news media from the period from 1990 to 2011. Two major daily papers were selected for this purpose, based on three criteria. First, they had to rank among the

top seven papers in the country, according to the number of copies sold. Second, one should be known to represent a conservative viewpoint and the other liberal. Third, they had to be among those that have been indexed to allow analysis using the same search tool. The papers satisfying these requirements were the *Dong-A Daily News* (conservative) and *Kyung-Hyang Daily News* (liberal). The search engine used was KINDS (Korea Integrated News Database System), and four keywords were used, two containing *ji-taeng* and two containing *ji-sok*, to account for all possible variations in the translations of *sustainable development* into Korean.

(1) *Quantitative Analysis.* In the period 1990 to 2011, we found a total of 550 articles containing one of the four possible translations of the term *sustainable development*, with 266 in *Dong-A Daily* and 284 in *Kyung-Hyang Daily* (Fig.1). Translations containing *ji-sok* were overwhelmingly more numerous than those with *ji-taeng*. In fact, *ji-taeng* was used only once in *Dong-A Daily* and three times in *Kyung-Hyang* throughout the entire 20 year period, and all of them in the early 1990s. Though *Dong-A* is a well-known conservative newspaper and *Kyung-Hyang* is its liberal counterpart, there was thus no noticeable difference between the two.

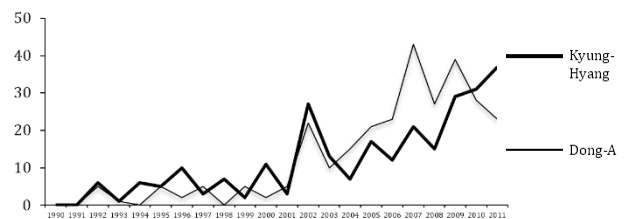


Figure 1. Counts of translations containing *ji-sok* in Dong-A Daily and Kyung-Hyang Daily from 1990 to 2011

(2) *Content Analysis.* To examine what *sustainable development* in Korean translation has come to mean, we looked closely at the specific ways in which the term was used in the above newspaper articles from 1990 to 2011. In their June 3, 1992 coverage of the Rio Earth Summit of 1992 (United Nations Conference on Environment and Development or UNCED), both newspapers discussed environmental issues in connection with *sustainable development*, though the translation they used contained *ji-sok*. But after the early 1990s, as time went on, the discussion of environmental issues generally disappeared, and *sustainable development* came to be used largely in the sense of *continued economic growth*. In fact, we found it highly indicative, that some articles referred to *sustainable development* and environmental protection as representing two *opposite* agenda. Translated into English, some of the following passages can even seem absurd.

- ✓ *Though dam construction might not be good for the environment, it is necessary for sustainable development* (March 16, 1998, Dong-A Daily).

- ✓ *More than 70% of Korea consists of mountainous regions and it is a peninsula surrounded by sea. It is impossible to preserve all of the country's mountains and coastal swamps as 'Green Belt'. The environmental groups need a realistic sense of what should be set aside for environmental conservation, and what needs to be used for the country's sustainable development (September 24, 2003, Dong-A Daily).*
- ✓ *Singapore, which is in many ways similarly situated as Korea, saw its per capita income double from \$10,000 in 1989 to \$20,000 five years later. (...) Even so, there is no guarantee that such developed countries will maintain their economic growth to ensure that they remain countries of sustainable development (April 29, 2005, Kyung-Hyang Daily).*

From 2008 and on, when the government implemented a massive construction project named the *Four Great Rivers Project* to redevelop the country's largest rivers, sustainable development even came to be used as a term to justify the government's decision against the criticism of environmental groups that the project would be an ecological disaster.

- ✓ *The government began construction without an environmental impact report most likely because of the desperate need to stimulate the economy. (...) We need to transform our major rivers so that they become more useful to our citizens; they need to be made to feed Korea's sustainable development. (...) All politicians and citizens should refrain from making useless protests that could interfere with the project's timely progress (December 30, 2008, Dong-A Daily).*
- ✓ *The country and its citizens cannot have sustainable development without certain values and virtues. Especially important to the general welfare of the nation are the efforts to protect the conservative values of democracy, the market economy, and constitutionalism (April 29, 2011, Dong-A Daily).*

B. Public Understanding of Sustainable Development Reflected in Government Surveys

For further evidence that sustainable development in the standard Korean translation has generally come to be understood to mean something quite different from *ecologically sustainable development*, we searched various government reports. Among them was a rare survey conducted in 2007 on the public understanding of the term sustainable development translated with *ji-sok*. The first question asked on the survey was whether they were aware of the significance of the term at all. Of 1000 subjects surveyed, only 253 answered in the positive (Fig. 2). To those who said they were aware of its significance, a second question was asked: what associations come to their mind when they hear the term (Tab. 1). The top five answers in the order of their popularity were: (1)

steady and continuous development for the future (16.6 percent); (2) *economic growth* (16.4 percent); (3) *improving the quality of life* (12.8 percent); (4) *preparation for the future* (7.1 percent); (5) *balanced development* (5.5 percent). The most popular answers were thus one version or another of *continued economic growth*, and apart from possible exception of the 5.5 percent who answered *balanced development*, *sustainable development* evoked no associations with environmental issues for those who participated in the survey.



Figure 2. Public Awareness of the Term Sustainable Development in 2007.

Note: Question: Are you aware of the significance of the term *sustainable development*?

Table 1. What the Public Associates Sustainable Development With

What Sustainable Development Means to the Public	Case	%
Steady and continuous development for future	42	16.6
Economic growth	39	16.4
Improving the quality of life	32	12.8
Future-oriented preparation	18	7.1
Balanced development	14	5.5

Note: N=253, who answered positive to the question in Figure 2 (5 % or more only)

The Rationale behind Government's Use of the Term: The Case of Energy Policy

Having established through various methods that sustainable development in the standard Korean translation is generally understood to mean *continued economic growth*, we have attempted an in-depth analysis of the rationale behind the government's decision to use the term in a sense that may be at variance with its true meaning and intent. To make an intensive analysis possible, we focused on one area of government policy which has been central to sustainable development debates, in South Korea as elsewhere: energy. What we have discovered is that the ambiguity of the term in Korean translation has been quite useful from the government perspective, allowing it to play up its commitment to *sustainable energy policy* as meaning *ecologically sustainable* when the context is appropriate, while its main objective has remained *sustainable energy policy* as meaning a policy to ensure a *continued and adequate supply of energy*, even if it means increased use of carbon-intensive energy sources like coal.

Since the late 1990s, sustainable development has been adopted as the central agenda of energy policy in South Korea. In 1997, the country started to use sustainable development as a key term in the first master plan for national energy (MTIE, 1997). Various master plans adopted thereafter made mention of the need for more use of renewable energy, reducing fossil fuel consumption and carbon emissions, distributing more renewable energy and nuclear power, and developing energy efficient technology (MCIE, 2002; PMO, 2008).

However, the trend in energy consumption in Korea has been moving in the opposite direction from what one would expect from the professed government energy policy. From 2001 to 2010, for example, the use of renewable energy increased, but only from 1.2% to 2.3% of the total primary energy supply, while the use of coal increased from 23% of the total to 28.9% (Fig. 3, 4). Energy used for the generation of electricity presents an even clearer picture (Fig. 5, 6). The first record of statistical data for renewable energy power generation, excluding hydroelectric power, was 0.1% in 2004. Renewable energy still counted for only 0.9% in 2010 (2.3% with hydroelectric power). Meanwhile, the percentage of coal powered generation increased from 38.7% in 2001 to 41.6% in 2010. Natural gas, which is considered a cleaner fossil fuel, increased from 10.7% to 20.4% in the same period. While the percentage of power generated by oil and nuclear energy has recently decreased, they have been replaced not by renewable energy sources, but with coal and natural gas. In fact, coal has contributed more than any other energy source to meet the national demand for electricity. Regarding this situation, many social and environmental scientists in Korea have been critical, claiming that the current energy policy more or less ignores environmental and social aspects of sustainability and that government's commitment to sustainable energy policy is in this sense simply rhetorical, and in the last analysis, just a tool for supporting economic growth (Kim, 1998; Yun 2002, 2008, 2009a, 2009b). Yet for the Korean government, ensuring a continued supply of adequate energy has always been the central objective of its energy policy. While the term used by energy experts for such an objective is *energy security*, *sustainable* translated into Korean with the use of the word *ji-sok* can also conveniently capture the same objective. *Sustainable energy* thus translated simply means energy supply that can be continued.

The origins of the Korean government's concern with energy security in fact go all the way back to the 1960s, when energy supply could not keep up with demand, because most of the power plants in Korea at the time happened to be in the Communist North, which became inaccessible to South Korea after the country's division. While South Korea first relied heavily on imported oil (up to 90% of electricity generation in 1977 and 62.8% of the total primary

energy supply in 1979), after the second oil shock of 1977 (KEEI, 1991), the diversification of energy sources to reduce dependence on oil became the focal point of its energy policy, and this came to mean increased dependence on coal, natural gas, and nuclear power to replace oil, which was an expensive and unreliable source of energy (MER, 1988; Kim, 2009). The central objective of the Korean government's energy policy thereafter remained creating a stable energy supply with a proper mixture of oil, coal, natural gas, and nuclear power (Kang, 2000; EPB, 1986).

By the 1990s, the government found a convenient new expression to convey this object and more: sustainable translated with *ji-sok* to mean continuable (Tab. 2).

Figure 3. The total primary energy supply (2001-2010) [1,000 TOE], source: KEEI, 2002, 2011

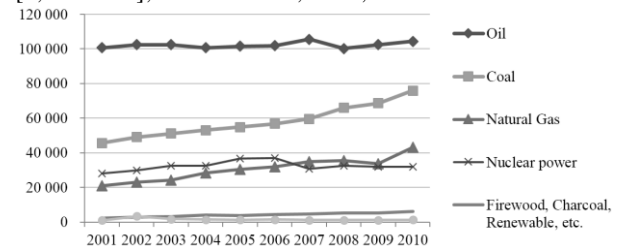


Figure 4. The total primary energy supply (2001-2010) [%], source: KEEI, 2002, 2011

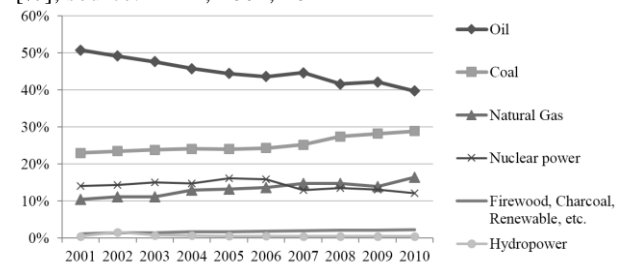


Figure 5. Energy Consumption for Electricity Generation (2001-2010) [GWh], source: KEEI, 2002, 2011

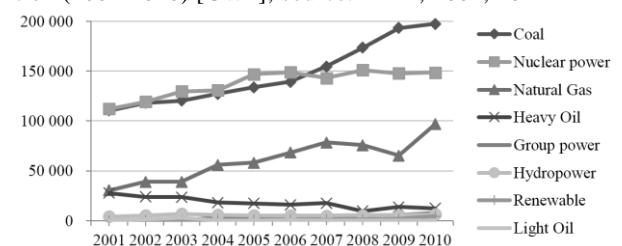


Figure 6. Energy Consumption for Electricity Generation (2001-2010) [%], Source: KEEI, 2002, 2011

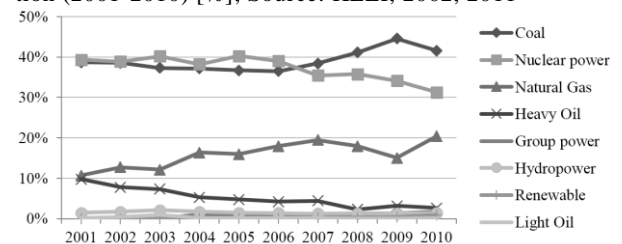


Table 2. Energy Plans before and after Sustainable Energy Policy, SOURCE: * MER, 1988, p. 23-45, ** MCIE, 2002, *** PMO, 2008

Energy plan * after the 2nd oil shock in 1979	Master Energy Plan ** 2002	Master Energy Plan *** 2008
<p><i>Reduce Oil Dependence</i></p> <ul style="list-style-type: none"> ▪ The diversification of oil import routes ▪ Increase oil reserve capacity ▪ Oil exploration ▪ Introduction to LNG and LPG ▪ Non-oil power plant <ul style="list-style-type: none"> • More coal power plant • More nuclear power plant • Stop building oil power plant • Replace existing oil power plants with gas/coal power plants ▪ Development of renewable energy technology ▪ Energy efficiency technology, and conservation 	<p><i>Sustainable Energy Policy</i></p> <ul style="list-style-type: none"> ▪ Stable energy supply • Diversification of oil import routes • Oil exploration • Plan for the oil reserve ▪ Stable LNG import ▪ Overseas resource development ▪ Environment-friendly energy supply • More LPG and LNG • Low sulfur oil, clean coal tech. • Keep nuclear power plants ▪ Energy efficiency and conservation ▪ Alternative energy distribution ▪ Reduce oil dependence 	<p><i>Low Carbon and Green Growth</i></p> <ul style="list-style-type: none"> ▪ Stable energy supply ▪ Overseas resources development ▪ More nuclear power plant ▪ Renewable energy distribution for energy security and environment ▪ Energy efficiency and conservation ▪ Ability to deal with climate change ▪ New growth engine by energy technology innovation ▪ Energy market improvement

The Master Plan for National Energy adopted in 2002 even specified that *sustainability* was the new paradigm to replace *secure energy supply* (MCIE, 2002). In the discussion concerning energy policy in Korea, the term *sustainable* thus has had essentially two meanings. While the academics and other critics have insisted on it as meaning *ecologically sustainable*, the government has not considered it an inconsistency on its part in continuing to place emphasis on securing a *stable and continuous supply of energy*, and most importantly, there has been no indication of the public at large objecting to the government's energy policy, since it understands sustainable development as generally meaning *continued economic growth*.

Conclusion

As stated, we have focused on South Korea as a case study because we suspect that it represents among the most extreme and hence among the most revealing cases demonstrating the relevance of the general research problem we proposed in the beginning: *in what ways the term and concept of sustainable development and their uses can vary fundamentally from country to country and, more specifically, from one language to another*. We feel that the approach such as ours can contribute to a better exploration and understanding of two of the top three issues that, according to Kevin Murphy, remain among the most urgent for the social pillar of sustainable development: *awareness for sustainability and participation* (Murphy, 2012). Moreover, having identified language and translation as possible contributing factors to the lack of awareness and participation, we have likely pinpointed a relatively little explored issue that may need to be tackled in carrying out the pop-

ular activist slogan *think globally, act locally*, especially in countries where the local language permits an ambiguous translation of the very term *sustainable development*.

References

1. DE KRUIJF H., VAN VUUREN D., 1998, Following Sustainable Development in Relation to the North-South Dialogue: Ecosystem Health and Sustainability Indicators, in: *Ecotoxicology and Environmental Safety*, vol. 40, no. 1, p. 4-14.
2. EPB, Economic Planning Board, 1986, The 6th Five-year Economic Development Plan: The Plan for Energy and Resources, in: *Korea Petroleum Association Magazine*, vol. 62, p. 50-57.
3. HA S., 2012, Abuse of Sustainability, in: *HERI Insight*, vol. 6, no. 1, p. 1-25.
4. KABC, Korea Audit Bureau of Circulation, 2011, *The Number Of Daily Paper Copies Sold in 2010*, <http://www.kabc.or.kr/about/issuereference/241?param.page> (4.02.2015).
5. KANG K., 2000, *5-year Economic Development Plan: the Assessment of the Goal and Execution*, Seoul National University Press, p. 90.
6. KEEI, Korea Energy Economics Institute, 1991, *Yearbook of Energy Statistics*.
7. KEEI, Korea Energy Economics Institute, 2002, *Yearbook of Energy Statistics*.
8. KEEI, Korea Energy Economics Institute, 2011, *Yearbook of Energy Statistics*.
9. KIM H., 2009, *The History of Korean Energy Policy Regime*, Ph.D. Diss., Korea University, p. 138-158.

10. KIM J., 1998, The Political Economy of Energy Transition: An Institutional Approach, in: *Journal of Environmental Policy and Administration*, vol. 6, no. 2, p. 53-77.
11. KIM P. and SAH D., 1998, Understanding and Concept-Forming of Sustainable Development, in: *Korea Political Review*, vol. 32, no. 4, p. 71-88.
12. MARK, N., NOVARIK, W., 1996, *Mass Media and Environmental Conflict: America's Green Crusaders*. Sage, Thousand Oaks.
13. MCIE, Ministry of Commerce, Industry and Energy, 2002, *The Second Master Plan for National Energy (2002-2011)*.
14. MER, Ministry of Energy & Resources, 1981, The Ministry of Energy & Resources: the keynote of energy policy, in: *Korea Petroleum Association Magazine*, vol. 11, p. 66-68.
15. MER, Ministry of Energy & Resources, 1988, *10-Year History of Energy and Resources Administration*, p. 23-45.
16. MOON S., 1995, *Ecological Strategy for Sustainable Society*, Narasarang, Seoul.
17. MOON T., 1997, *Environmental Policy*, Hyungseol, Seoul.
18. MTIE, Ministry of Trade Industry and Energy, 1997, *The First Master Plan for National Energy (1997-2006)*.
19. MURPHY K., 2012, The Social Pillar of Sustainable Development: A Literature Review and Framework for Policy Analysis, in: *Sustainability: Science, Practice, & Policy*, vol. 8, no. 1, p. 15-29.
20. PAK M., 2011, Environmentalism Then and Now: From Fears to Opportunities, 1970-2010, in: *Environmental Science & Technology*, vol. 45, no. 1, p. 5-9.
21. PARK C., 2004, Critical Understanding of Environmental Management, in: *Yonsei Business Review*, vol. 41, no. 1, p. 45-70.
22. PCSD, Presidential Commission on Sustainable Development, 2007, *On a survey of what people recognize about sustainable development*, <http://pcsd.pa.go.kr/board/download.php?id=bbs42&uid=40> (4.02.2015)
23. PMO, Prime Minister's Office, 2008, *The First Master Plan for National Energy (2008-2030)*.
24. SKINNER Q., 2002, *Visions of Politics Vol. 1: Regarding Method*, Cambridge University, Cambridge.
25. WCED. 1987, *Our Common Future*, Oxford University Press, New York.
26. YUN S., 2002, Sustainable Development and Energy Policy in the 21st Century: The Need for Energy System Transformation and Desirable Directions for Energy Policy Change, in: *Korean Public Administration Review*, vol. 36, no. 2, p. 147-166.
27. YUN S., 2008, Energy Alternatives in the Era of High Oil Prices and Climate Change: Focused on a Critical Analysis of the Third Master Plan for National Energy, in: *Environment and Life*, vol. 57, p. 126-147.
28. YUN S., 2009a, The Ideological Basis and the Reality of Low Carbon Green Growth, in: *ECO*, vol.13, no.1, p. 219-266.
29. YUN S., 2009b, The Problems of Green Growth and the Opposite Direction of Energy Policy, in: *Environment and Life*, vol. 60, p. 17-50.

