

Framing Climate Change as an Economic Opportunity in South Korean Newspapers*

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Based on newspaper content analysis, the Korean press (2007-08) accepts the anthropogenic argument—that humans have caused and are responsible for climate change. News articles stress the ecological effects of climate change and the need to mitigate and to reduce emissions through government policies. Compared to other countries, however, one point stands out—the Korean press frames mitigation as an economic opportunity, not a threat. Moreover, businesses cited in the news strongly support this idea. However, citing government and business sectors, the conservative and financial newspapers tend to define this opportunity as selling Korean nuclear power technology and green technology abroad. These papers rarely represent voices that advocate structural change in Korean society to reduce its emissions. This particular stance on mitigation as an economic opportunity results from the vulnerability of the Korean export economy to international pressures, coupled with government and business attempt to find a viable export option under the mitigation rationale.

Keywords: Climate Change, Media Analysis, Framing, Human Responsibility, Economic Opportunity

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Introduction

Mass media publicize socially important environmental issues, enhance the awareness of citizens, and affect government policy (Boykoff 2007). The media exercise strong influence in setting the agenda and developing social issues in the public policy area. Usually seen as neutralized and objective information delivery platforms, media outlets nonetheless deliver their own position to the government and other audiences as cultural stakeholders (Olausson 2009). Mass communication, then, can be a process of 'value-directed description' delivered to the public. Thus, media analysis is one important approach to understanding how environmental issues are socially understood and organized when various interests interact and conflict in a given society.

Since the 1990s, climate change has become one of the most important aspects of environmental awareness. Consequently, international attempts to deal with climate change and mass media coverage of the issue have been increasing (Boykoff 2007; Brossard et al. 2004; Fletcher 2009; Gavin 2009; McDonald 2009). Shifting from the 1990s and early 2000s, in which a lot of print space was given to scientific uncertainty, the second half of the 2000s has seen more space given to climate change mitigation and adaptation policies (Zehr 2009). In many countries, climate change is increasingly treated both as a reality and an issue requiring policy intervention.

South Korea (Korea from now on) is unique in terms of its international climate change policy situation. Apart from Mexico, Korea is the only country classified as a non-Annex I party under the United Nations Framework Convention on Climate Change (UNFCCC) despite its Organization for Economic Co-operation and Development (OECD) membership. Therefore, Korea was not asked to accept an emissions reduction target under the Kyoto Protocol. However, it is hard for Korea to justify being treated as a developing country. Korea's CO₂ emissions from fossil fuel combustion ranked 9th in the world in 2009. Since 1990, Korea has had the highest growth rates of greenhouse gas (GHG) emissions among all OECD members. Therefore, in recent years, the international community has been pressuring Korea to commit an emissions reduction target under any new agreement following the end of the Kyoto Protocol period (2012).

Korean newspapers' framing of climate change reflects this fraught national position in the international climate change regime. Media framing is the mechanism by which newspapers shape and organize their portrayal of

the real world (Tuchman 1978). Different actors frame the same policy issue differently. To clarify how this framing comes about, this paper analyzes trends and content in Korean newspaper articles concerning climate change. It examines newspaper content in terms of issue, theme, scale and other qualities, as well as the main speakers on major issues and their positions, based on the common guideline of the COMPON project. COMPON is the international research organization composed of scholars from more than 20 countries, whose full name is COMparing climate change Policy Network. It analyzes and compares climate change policy networks of different countries to understand major policy actors and their activities. Research team of each country carried out media analyses before questionnaire survey on policy networks (visit its homepage <http://compon.org> for detailed information).

Methods

The newspapers used for the media analysis are *ChosunIlbo* (CI), *Hankyoreh* (Han), and *Maeil Business* (MB). These papers were selected based on their political inclinations, subscription rates, influence, and credibility. The CI represents the conservative perspective and ranked first in a survey of subscription rates among general daily newspapers in 2008 (Korea Press Foundation 2008). The Han represents the progressive perspective and comes in first among progressive newspapers. Korea's journalists recognize the CI as the most influential paper and the Han as the most trusted one (Journalists' Association of Korea 2009). Conservative newspapers represented by the CI strongly influence policy making processes and public opinion in Korea because of the Korea's unique circumstance as a divided country facing the communist North and their war experience with it. The MB's subscription rate was the highest among business dailies and was chosen since it reflects the perspectives of economic newspapers specifically. Its ideological inclination is also conservative.

The research period for general trend analysis spans from 1995 to 2008, since 1995 was the first year in which all three newspapers became available in the web database. All the articles reporting on climate change in a substantive, detailed way in these three media between 2007 and 2008 were surveyed. Newspaper articles were downloaded from each newspaper's website. Search words included "climate change," "global warming," and "Kyoto Protocol," and were combined in a Boolean search using the search term "OR." Overlapping articles, irrelevant articles, and minor pieces were

excluded.

Subsequent to an inter-coder reliability test, six coders performed an in-depth coding of this article set in Excel. We conducted a cross-tabulation analysis to look for differences in topic, speaker, and issue category of the articles related to climate change for each year and in each media outlet. Frequency analysis was performed using Excel and SPSS. The statistical analysis used SPSS to determine statistical significance among coding results, while the analysis of media networks on climate change issues used Netminer 3 and UCINET 6. The 10 issues for which various standpoints were introduced among speakers were discovered from the articles, and speakers and the speakers' (for each organization type) standpoints (agreement on the issues) were visualized and analyzed with the network analysis software.

Analysis Results: Converging and Contesting Positions

1. Increasing Trend of Climate Change Reports

Between 1995 and 2008, 6,655 articles contained the keywords "climate change," and/or "global warming" and/or "Kyoto Protocol." These represented 0.2% of the total number of all three newspapers' articles in the same period. There were 2,150 in Han, 2,156 in CI, and 2,349 in MB, which breaks out to 0.4%, 0.2%, and 0.2% of the total articles in each, respectively. Although Han had the smallest number of articles reporting climate change, its share of total articles was the highest, implying more attention to the issue.

The trends in the number of articles containing keywords in the three newspapers from 1995 to 2008 are shown in Figure 1. With the exception of minor differences among the three newspapers, the number of articles generally increased over this time period, rising rapidly in 2007 and reaching the highest level in 2008. The number of articles related to climate change in 2008 increased by almost 14 times compared to that in 1995. The number of keywords articles between 2007 and 2008 amounted to 46.6% of the total number of keywords articles from 1995 to 2008. The skyrocketing increase of articles on climate change in 2007 occurred in most societies (Broadbent et al. 2013). But despite the increase, Korea's average coverage remained in the lower tier of societies, along with Taiwan, Portugal, Mexico and Brazil. But while in most societies coverage declined after 2007, Korea's continued to increase. The Korean newspaper rate of mentioning the Intergovernmental Panel on Climate Change (IPCC) also reached a peak in 2007, and in this

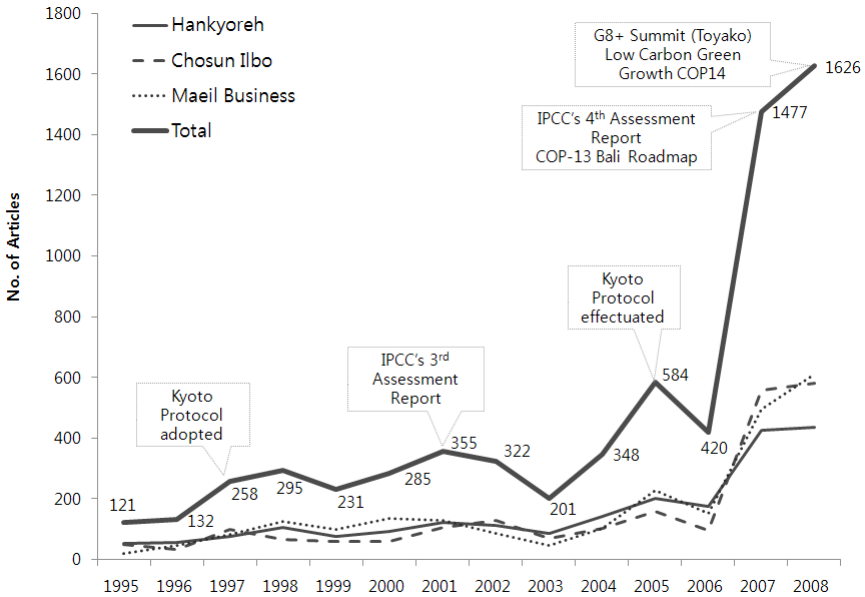


FIG. 1.—Trends of News Articles with Key Words in Three Newspapers

case reached the average rate of all the 15 societies in the COMPON sets (Broadbent et al. 2013). This comparison indicates that Korea's general level of concern about climate change was relatively low, similar to developing countries. But within that low rate, Korea's attention to the IPCC was average, indicating an acceptance of the dominant global scientific consensus.

While the number of articles covering climate change increased overall, major peaks in 1998, 2001, 2005, and 2008 were influenced by major international and domestic events. In 1998, the article volume was affected by the adoption of the Kyoto Protocol in December 1997. The peak in 2001 was possibly affected by the increased attention to the adoption of the Marrakech Accords and the United States' rejection of ratification of the Kyoto Protocol. In 2005, the Kyoto Protocol entered into force and the EU Emission Trading System Phase I started. In 2007, there were a number of articles on the adoption of the Bali Road Map in the 13th Conference of Parties (COP-13) to the UNFCCC, the announcement of the 4th Assessment Report (AR4) by the IPCC, and the IPCC and Al Gore's joint winning of the Nobel Peace Prize. In 2008, the first commitment period for GHG emissions reduction under the Kyoto Protocol commenced. Although domestic events which led to increases in articles dealing with climate, including the announcement of the

3rd and the 4th comprehensive measures on climate change (2005 and 2007 respectively), and the announcement of “low-carbon green growth” as a new national vision by the Lee Myung-bak administration in 2008, the share of articles concerning international events was still greater. This implies that international events strongly influence climate change reports in Korean newspapers.

2. Thematic Frame, Rhetorical Frame, and Scale

The three newspapers contained a total of 451,327 articles in 2007 and 2008 combined. Of these, the number of articles that contained the keywords was 3,103 (0.7% of the total). Among the keyword articles, those that contained a substantive discussion of climate change were coded for in-depth analyses (total 925; 517 in 2007 and 408 in 2008). These substantive articles accounted for 30% of total keyword articles.

As for the thematic frame of the coded articles, policy-making accounted for the biggest part (40%) as typical of most countries (Broadbent et al. 2013). This was followed by economic and energy interests (21%), ecology/meteorology (18%), science and technology (10%), culture (9%), and civil society (2%). Compared with other societies, relatively more concern was given to ecology/meteorology and less concern to civil society. The interest in policy-making increased in 2008, as shown in Figure 2. While in the CI and the Han the proportion of ecology/meteorology was the second highest (CI 23% and Han 20%), in the MB, the proportion of economic and energy interests was the second highest (31%).

As for rhetorical frames, the prognostic frame (how to solve the problem) accounted for the biggest part (62%) followed by the symptomatic (effects) and diagnostic (causes) frames (14%, 13%) in total three newspapers. This distribution indicates a high proportion of articles on countermeasures. The prognostic frame increased from 56% in 2007 to 69% in 2008, indicating an increasing focus on countermeasures.

These articles were mostly about mitigation, not adaptation. The proportion of mitigation articles increased from 54% in 2007 to 70% in 2008. The progressive Han, due to its concern for social justice, covered adaptation relatively more than other newspapers (20%). The increasing focus on mitigation resulted from international pressures on Korea; the 2007 Bali Conference (COP-13) favored mitigation targets for developing countries.

The scale of most articles concerned the Korean society or nation (46%) followed by the global (26%), regional/multinational (20%), state/prefecture

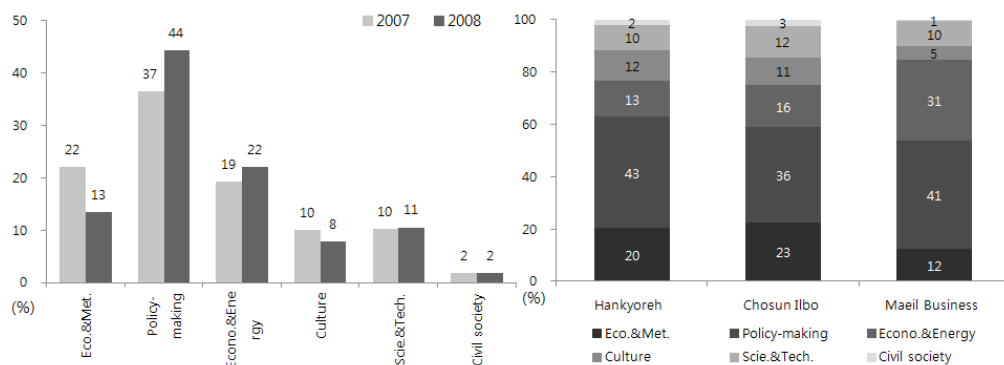


FIG. 2.—Thematic Frame by Year and by Media

(6%), and local scales (3%). The proportion of the national scale increased in 2008, whereas the proportions of the global and regional/multinational scales decreased. In terms of the distribution, the national scale was dominant in all three newspapers. This implies that climate change had become a part of Korea's national policy agenda by 2008. The Korean media have a huge agenda-setting power in the nation. Its focus on climate change mitigation as a national concern stimulated the setting and announcement of a national GHG emissions reduction target in 2009.

3. Actors

A total of 1,503 actors appeared in coded articles. The speakers who most frequently appeared in the media were in general representatives of government (46%), followed by the civil society, the media, and businesses. In the MB the most frequently cited speakers after government representatives were business people (Figure 3). In 2007, foreign speakers accounted for 51.8%, a greater portion than domestic ones (48.2%), likely due to international events. In 2008, domestic speakers became the majority (56.6%), as they took up the Bali challenge and focused on domestic climate change policy-making.

4. Issues

Issues were inductively derived from the coded articles. The ten most frequently mentioned issues show the main lines of debate (Table 1). The

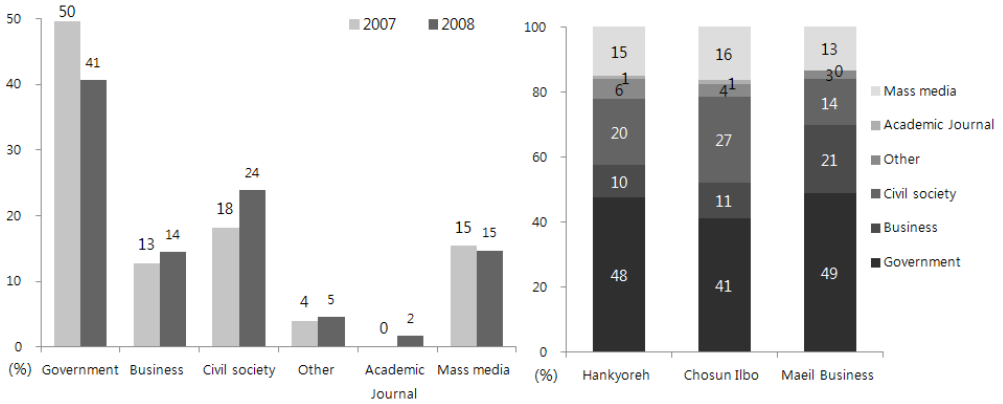


FIG. 3.—Actors' Frequency by Years and Media

TABLE 1
TOP TEN ISSUES

Rank	Acronym	Issue	Percent
1	EO	Economic Opportunity: Climate change provides economic opportunity.	20.3%
2	KEC	Korean Ecological Change: Korea has witnessed ecological changes.	19.7%
3	DCR	Developed Countries' Responses: Developed countries' mitigation responses are sufficient.	14.6%
4	KR	Korea's Response: Korea's mitigation responses are appropriate.	8.9%
5	CB	Consumers Behavior: Reduce amount and carbon intensity of consumption	7.3%
6	NP	Nuclear Power: Nuclear power is a proper solution to climate change.	7.1%
7	HR	Human Responsibility: Humans are responsible for climate change.	6.5%
8	KBT	Korea's Binding Target: Korea should have binding emission target.	6.5%
9	BF	Biofuel: Biofuel is a solution of climate change	5.3%
10	LCGG	Low Carbon Green Growth: Low carbon green growth is an appropriate response.	3.9%

issues are stated as an affirmative sentence. But this does not mean that all the papers and cited spokespersons agreed with this affirmation. The affirmative sentence is used so that cited speakers could either agree or disagree with it. Therefore, Table 1 shows the top issues, but does not reveal the balance of agreement or disagreement with them. The agree/disagree balance is presented in the following section.

The number of articles that dealt with the ten issues was 316 in total, accounting for around 34% of the coded articles. A total of 546 speakers were cited on these ten issues, accounting for 36% of the speakers in the total coded articles. The issue with the most speakers is Economic Opportunity (EO), followed by Korean Ecological Change (KEC) and Developed Countries' Responses (DCR). The fact that these three have the most speakers, along with its frequent mention in reports, reflects significant interest in these issues in Korea. The business newspaper MB focused on the EO theme (34.5%), while the CI (22%) and the Han (13.8%) gave much less emphasis. The KEC theme was tops in the CI (26.6%) and the Han (21.3%). As this shows, the possibility of economic opportunity associated with climate change was one of main concerns in Korea, especially in the financial newspaper.

5. Issue Agreement and Disagreement

In order to figure out the positions of the speakers cited in the articles, we coded whether they agreed (pro) or disagreed (con) with the affirmative sentence. This method allowed a clear portrayal of the distribution of pro and con for each issue in each newspaper. The same speaker can express different opinions on the same issue. Even within a single organizational type, different organizations and individuals can take different positions. Table 2 summarizes the result.

The issues that showed the greatest agreement were that consumer's behavior should become more ecological (CB) (100%), that Korea has witnessed ecological change (KEC, 98%) and that humans are responsible for climate change (HR, 84%) (Table 2). Concerning HR, Korean newspapers showed general consensus; CI and MB rarely cited skeptical speakers, while Han sometimes cited them, but then strongly refuted them. Three more issues also showed high levels of agreement: that Korea should have a binding emissions target (KBT, 81%), that Korea should use nuclear power to combat climate change (NP, 80%) and that climate change represented an economic opportunity for Korea (EO, 79%).

The issues that showed the greatest conflict were that developed countries' mitigation responses were sufficient (DCR, 49% pro / 51% con) followed by Biofuel (BF, 62% pro / 38% con) and that Korea's mitigation response is appropriate (KR) (34% pro / 66% con). Concerning the appropriateness of (KR), far more speakers disagreed than agreed with this statement. Since the issue of Low Carbon Green Growth (LCGG) appeared in August 2008, the number of speakers cited on this issue was the smallest.

The preceding statistics represent the average of three newspapers. But for some issues, the newspapers cited a very different balance of pro and con. This difference was most prominent for the issue KBT. Most cited speakers agreed in the Han (92%) and CI (100%), but in MB, most cited speakers disagreed (71%). The balance between pro and con also differed among the three newspapers for issues LCGG, DCR and NP. Concerning BF and NP, Han cited pros and cons in a balanced manner, while CI and MB cited more pros.

Korea's unique status as a non-Annex I party but still an OECD member incited controversy in the papers. Speakers seeing Korea as a developed country called for strong emissions reductions. But those seeing Korea as a developing country rejected such calls. The disagreement rates over KBT (81% pro / 19% con) and KR (34% pro / 66% con), while predominantly in favor of reductions, illustrate that split (Table 2). In addition, since nuclear power is under debate in Korea, the three newspapers showed relatively strong disagreement over its eligibility as a low-carbon energy option. Also, speakers' opinion differences on LCGG as an appropriate response were relatively big (Table 2).

6. *Climate Change Discourse Networks*

While it is useful to analyze each issue separately as above, it is also helpful to see the entire Korean discourse field in one diagram. Figure 4 below provides this overview. To look at the debates over the issues in greater detail, we categorized the cited speakers by the type of organization they represented. We used ten types of organizations: Domestic Government, Domestic Civil Society, Domestic Business, Foreign Government, Foreign Civil Society, Foreign Business, Mass Media, Academic Journal, Domestic Other and Foreign Other (circles). Their level of agreement and disagreement with the ten issues (squares) is shown in Figure 4. The size of the red circles represents the number of times an organizational type is cited on any issue in the news. Among speakers, the node for domestic government is the biggest,

TABLE 2
SPEAKERS' VIEWPOINT ON 10 ISSUES BY MEDIA 2007~2008

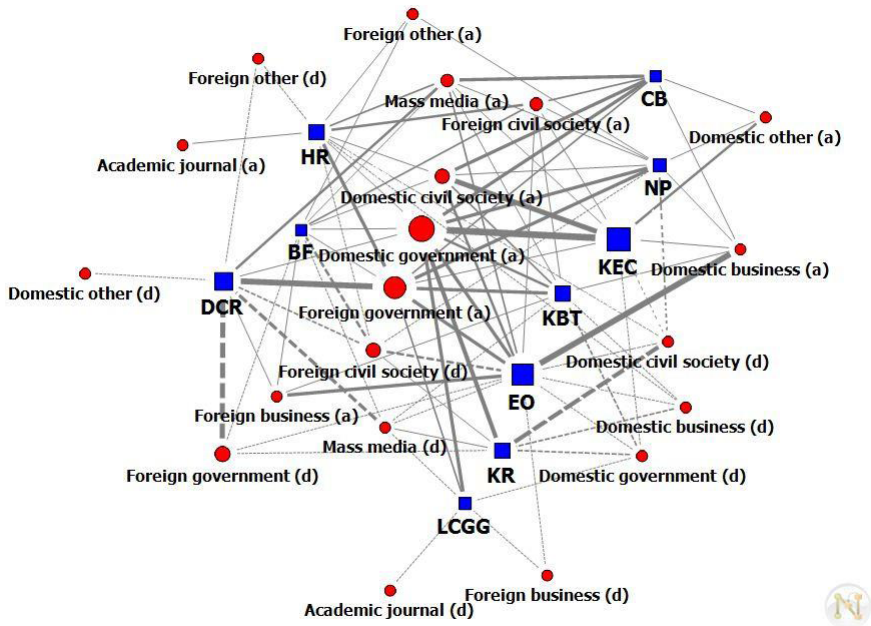
(Unit: number, (%))

Media	Stance	EO	KEC	DCR	KR	CB	NP	HR	KBT	BF	LGGG
Total	sum	100 (100)	97 (100)	72 (100)	44 (100)	36 (100)	35 (100)	32 (100)	32 (100)	26 (100)	19 (100)
	agree	79 (79)	95 (98)	35 (49)	15 (34)	36 (100)	28 (80)	27 (84)	26 (81)	16 (62)	13 (68)
	disagree	21 (21)	2 (2)	37 (51)	29 (66)	0 (0)	7 (20)	5 (16)	6 (19)	10 (38)	6 (32)
	a-d*	58	96	-3	-32	100	60	69	63	23	37
Han	sum	20 (100)	36 (100)	21 (100)	21 (100)	10 (100)	11 (100)	10 (100)	13 (100)	12 (100)	5 (100)
	agree	14 (70)	36 (100)	9 (43)	8 (38)	10 (100)	6 (55)	7 (70)	12 (92)	6 (50)	2 (40)
	disagree	6 (30)	0 (0)	12 (57)	13 (62)	0 (0)	5 (45)	3 (30)	1 (8)	6 (50)	3 (60)
	a-d*	58	96	-3	-32	100	60	69	63	23	37
CI	sum	33 (100)	50 (100)	30 (100)	8 (100)	19 (100)	10 (100)	14 (100)	12 (100)	7 (100)	1 (100)
	agree	28 (85)	49 (98)	9 (30)	2 (25)	19 (100)	10 (100)	13 (93)	12 (100)	5 (71)	1 (100)
	disagree	5 (15)	1 (2)	21 (70)	6 (75)	0 (0)	0 (0)	1 (7)	0 (0)	2 (29)	0 (0)
	a-d*	70	96	-40	-50	100	100	86	100	43	100
MB	sum	47 (100)	11 (100)	21 (100)	15 (100)	7 (100)	14 (100)	8 (100)	7 (100)	7 (100)	13 (100)
	agree	37 (79)	10 (91)	17 (81)	5 (33)	7 (100)	12 (86)	7 (88)	2 (29)	5 (71)	10 (77)
	disagree	10 (21)	1 (9)	4 (19)	10 (67)	0 (0)	2 (14)	1 (13)	5 (71)	2 (29)	3 (23)
	a-d*	57	82	62	-33	100	71	75	-43	43	54
Difference**		30	18	102	26	0	91	46	143	43	120

NOTE.—Figures without parentheses are the number of speakers; Figures with parentheses mean percentage.

*points to differences between rates of agreement and disagreement. Plus figures mean more pros, and minus figures mean more cons. Values come between 100 (all agreement) and -100 (all disagreement). Figures closer to '0' mean that the issue is very controversial.

**means differences between maximum number minus minimum number of sources by media. The bigger the number, the more differences among speakers on the issue in the media.

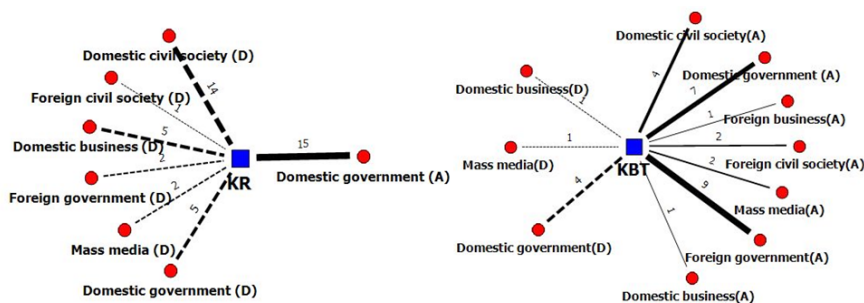


NOTE.—squares represent issues, circles represent speakers/actors (types of organizations); plain lines indicated “agree” and dotted lines indicate “disagree”; the size of each node indicates the number of times an organizational type is cited on any issue. This figure incorporates all data from three newspapers 2007 and 2008.

FIG. 4.—Discourse Network Analysis: 10 Orgs’ Position on 10 issues

indicating that it is the loudest “voice” in the news. The size of the issue squares represents the number of times that issue is cited by any organization. So, among issues, the Economic Opportunity (EO) node is the largest, since the most speakers commented on this issue. The thickness of the connecting lines indicates how many times a speaker was cited on a specific issue. A solid line from the organization type to an issue means agreement with the issue, whereas a dashed line means disagreement. The analysis showed that the agreement link between the issue of KEC and the domestic government was strongest. As for the issue of climate change being an EO, domestic businesses agreed with this issue most frequently.

What does this figure indicate about Korean climate change politics? Domestic government, at the very center of the whole diagram, frequently agrees that Korea has witnessed ecological change, that climate change is an economic opportunity, that Korea’s mitigation actions are sufficient, and that



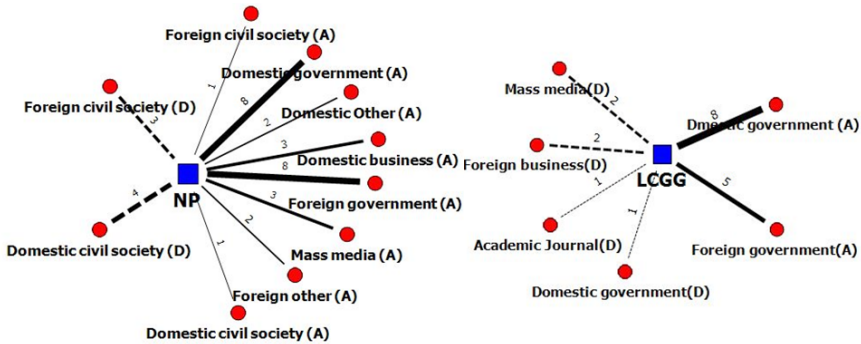
NOTE.—The circles indicate the type of organization. The thickness of the lines indicates the number of times each type was cited in the news on the issue.

FIG. 5.—Discourse Network on Korea's Responses and Binding Target

consumers must become more ecological. Foreign governments, in contrast, disagree on whether developed countries mitigation actions are sufficient. But they agree that Korea should adopt a binding target. This indicates the foreign pressure on Korea to mitigate. Domestic business strongly supports climate change as an economic opportunity. Domestic civil society, in contrast, is the strongest critic of Korea's mitigation sufficiency and also tends to disagree on the use of nuclear power to fight climate change.

Since this whole network is very complex, it will help to analyze single issue discourse networks (Figures 5 and 6 below). In the issue network on KR, most speakers disagreed (66%). The only agreeing speaker was the domestic government (Figure 5). The most frequent disagreement came from domestic civil society which criticized Korea's response as too weak. Domestic business also disagreed with this issue, but for the opposite reason. Business believed Korea's action is excessive. The issue network on KBT, in comparison, showed most speakers in agreement. Among the agreeing speakers, foreign governments were most often cited with a positive opinion on this issue. Interestingly, domestic government speakers did not agree with each other on this issue.

Nuclear power (NP) and Low Carbon Green Growth (LCGG) are the two most important climate response strategies considered in Korea (Figure 6). The great majority of speakers agreed with the use of NP (80%), with domestic government and foreign government showing the strongest agreement. Only domestic and foreign civil society speakers opposed NP (Figure 6). Given the strength of opposition to NP in Korean society, it appears that the newspapers have not fully represented the opposing opinion.



NOTE.—the same as the note of Figure 5

FIG. 6.—Discourse Network on Nuclear Power and LCGG

Moreover, the relatively weak support from business indicates that NP is mainly pushed by the government as a plan for economic growth. Concerning LCGG, domestic and foreign governments were cited as supporters, while other speakers showed negative opinion.

Interpretation and Discussion

Based on our results, the question raised at the beginning—“How do Korean newspapers frame the issue of climate change?”—can be answered. Korean newspapers see climate change as an anthropogenic problem. Based on concerns and observation about ecological consequences in Korea, human responsibility was addressed as one of ten most frequent issues and supporting arguments were dominantly cited. IPCC’s reports (in particular, AR4) were the main sources of newspapers’ confident positions on the advent of climate change and human responsibility. In spite of slight differences among the three newspapers, the general tone of the reporting was very similar. There was little skepticism about climate science in Korea, because the Korean media greatly respected the scientific authority of the IPCC. This tendency is different from that of American media and the British tabloids, which gave similar coverage to critics of the IPCC science in the name of “balance” (Boykoff and Mansfield 2008; Kuban 2008).

Based on their recognition of the undeniable need for responses to climate change, the Korean press handled this issue predominantly from the

standpoint of policy determination with regard to mitigation. Even though the country's rapid industrialization has mainly been powered by fossil fuel combustion and driven by the energy-intensive industrial structure, each of which is a big barrier in responding to climate change, Korean newspapers seldom recommend changes in the current energy system and socio-economic structure beyond what the government and society will be likely to tolerate. The problem of "fossil capitalism" (Altwater 2007), capitalism based on fossil fuel combustion, was not fully discussed in any of the articles we surveyed. Instead, the government's nuclear expansion policy was strongly supported by the CI and the MB as a wise primary response strategy. In addition to policy intervention, changes in consumer behavior were urged by all three newspapers, and all of the speakers cited showed unanimity on this point. Thus, problems embedded in the social system were turned into policy-related and individual behavior problems. Only the progressive paper Han took a critical position on a highly risky and big-technology-based energy system centered on nuclear power.

The fact that most news covered climate change on the national scale indicates that the Korean press considers this a national issue to be solved by Korea, rather than the responsibility of developed countries or an abstract international issue. However, Korean newspapers are aware of South Korea's strategic economic situation. Korea's export-oriented economy is sensitive to global climate policies and the global market. South Korea does not have the political power to retain its current advantage in being classified as a developing country; it also faces great international pressure to commit to emissions reduction targets. International events strongly influenced reporting and there were significant number of articles around major international policy events. Rather than obstinately resist international pressures, Korean newspapers might run articles promoting the necessity for Korea to mitigate its emissions. In 2009, Korea adopted a voluntary emissions reduction scheme. In this way, the Korean government and newspapers may be trying to appease the foreign demand while still not advocating real changes that would reduce emissions. Therefore, newspapers may have purposely increased the representation of voices and actions favoring a national GHG reduction target and low-carbon technology development and export.

The discourse on climate change as an economic opportunity rather than an economic cost gained prominence in all three newspapers in the period of our study. On average, articles and speakers related to economic opportunities were most prominent among the ten focal issues. Even in 2007

(that is to say, before the official announcement of LCGG in 2008 as a new national development paradigm), discussion about economic opportunities that might be created by tackling climate change was pervasive in Korea. This is similar to the trend of increasing hybrid frames of economic growth and tackling climate change in the American media in the late 2000s (Zehr 2009) and resembles the ecological modernization discourse dominant in European societies. This trend shown in Korea is interpreted as being one of backgrounds for the LCGG paradigm. However, the Korean sense of economic opportunity was slightly different from the win-win greening strategy assumed by ecological modernization. Korean government speakers and Korean newspapers, except for the progressive Han, gave more attention to economic opportunities provided by Korea's increasing export of its nuclear power plants, with other green technologies. They expected that climate change would increase global demand for nuclear power as a low carbon energy source.

The government, not only as the major source of information about climate policy but also as a negotiator in international policy arena, dominated the climate discourse in all three newspapers. This tendency has also been found in previous analysis of the Canadian media (Klinsky 2007). Even for climate science, the government was the main source of information in Korea. The Meteorological Agency and the Korea Energy Management Corporation translated the IPCC reports into Korean and presented them on their websites. In the case of civil society, the second largest number of speakers attributed climate change to human responsibility. However, the conservative newspaper and the financial newspaper seldom cited speakers from civil society who opposed nuclear power as a low-carbon energy option. This implies that the news media largely pick speakers that justify their own stance on the issue (Yun 2012).

Even though there was general consensus on the necessity of climate change mitigation actions, specific differences in policy positions were observed among the three newspapers. Korea's economy is based on heavy and chemical industry, and it is relatively energy-intensive. Thus, there are strong industrial forces opposing active climate actions. As Schreurs (2002) argued, environmental politics in Korea is similar to that in Japan, where the government works with business in the form of agreements, and civil participations are limited in the policy decision-making and implementation processes. However, departing from Japan, in Korea confrontation and conflict are pervasive in political decision-making because of the lack of societal corporatist culture (Lee 2006). In particular, after the Asian financial

crisis in 1997, the influential power of the market has been strengthened and environmental concern among the public has withered. As a result, when conflicts occur between economic growth and environmental protection, the public tends to give more weight to economic growth. Since the mid-2000s, when the government successfully placed a low- and medium-radioactive waste disposal site by offering huge economic compensation with local residents' votes, anti-nuclear movements have been weakened. In this kind of economic, political, and cultural climate, social support for economic growth is dominant in Korea.

Korean newspapers (especially, conservative and financial newspapers) actively shape the economic opportunity frames and that frame is accepted by the Korean public with little disagreement because of the public's economic inclination. Conservative CI and business MB newspapers particularly support green growth policies focusing on technological fixes along with a sustained pursuit of economic growth as appropriate climate responses. The ideological inclination of these newspapers is to stick to the existing socio-economic order. They share the interests of industrial forces, who are their main advertisers. The progressive newspaper Han, however, has called for active GHG emissions reductions and has taken a critical position on high-risk and big technologies such as nuclear energy, focusing on ecological and social solutions-based regulatory approach.

The CI and the Han paid relatively more attention to ecological changes in Korea than the MB, and criticized the government for not taking more active responses including setting a binding emissions reduction target. The MB gave a good deal of column space to mitigation policy measures, but it opposed a binding target because of its immediate economic burdens. It can be inferred that MB wishes to reorganize the climate change issue as a discourse involving economic expenses or opportunities by framing it as "an economic issue," using climate change to produce more economic opportunities, while refusing mandatory reduction obligation. Meanwhile, though there was general agreement, we found differences between the conservative CI and the progressive Han. The CI emphasized universal risk caused by climate change, which jeopardizes the survival of the human race, while the Han paid more attention to differentiated impacts on the vulnerable as shown in more reports about adaptation. The CI supported climate response actions and the government's green growth policy positions as a Korean style of environmental modernization. In comparison, the Han criticized green growth strategy by citing speakers who said that it still adheres to quantitative economic growth with little consideration for

equitable distribution and nuclear power expansion.

Conclusion

In conclusion, this study confirmed that the climate change issue has been accepted as a “scientific fact” and an anthropogenic problem in Korean society, and has been discussed in this way as an important national media story since 2007. The announcement of the IPCC’s AR4 contributed to scientific agreement on and confidence in the reality of climate change in Korea. A general recognition of climate change as a problem of common risk and responsibility has led to much consensus in Korea.

This study has also found that the economic opportunity that may be created by the response to climate change is of central concern in Korean media, in spite of slight differences among newspapers. The reason that the economic opportunity frame gained dominant position in Korea can be interpreted in two ways. First, climate skepticism or denial has lost its legitimacy, and second, Korean officials and politicians have concluded that proactive actions to climate change are necessary and inevitable for continuous economic growth in the face of increasing international pressure. This can be interpreted as a passive reformation of the state and capital, especially for the export-oriented and, consequently, global market-sensitive economy. Korea, as a country standing on the very dividing line between developed and developing countries, cannot ignore international pressure for GHG emissions reduction given international and scientific events. Thus, trying to support a positive solution to this dilemma, Korean media have paid attention to economic opportunity created by climate responses rather than focusing on economic burden. They have preached the necessity of climate responses. Policy-making, technological fixes, and consumer behavior change, rather than significant social change towards reducing emissions, are proposed as the proper climate responses and each is framed as a path to economic opportunity.

Finally, based on the climate discourses constructed in its newspapers, Korea seems to be entering an era in which ecological modernization is the predominant discourse. However, ecological modernization reproduced in dominant Korean media is technology-and economy-centered. It takes nuclear power as its cornerstone with little concern for policies that would green society itself, such as the carbon tax and localization.

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