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## **Abstract**

The International Energy Agency's *World Energy Outlook 2011* points out that without the adoption of new policies the world is heading for more than 6 degrees global warming – a climate disaster. A major reason is the lack of consensus across developing, rapid growth and mature economies.

Against this background, this paper explores the diversity in framing the climate issue across the rich West (as represented by Norway), the rapidly expanding East (China) and the developing South (Ghana) and to help us understand the present climate policy divide. By systematic analysis of press articles in each country it seeks to answer questions such as: what are the public debates and mindsets? In what terms is the climate issue framed? And what are the solutions proposed?

The analysis shows that climate-related media stories vary extensively as they span across the threat of global warming to Ghanaian agro-forestry, the climate policy dilemma of the expanding Norwegian petro-economy and the challenges of China's massive growth. Yet the climate stories also flag regional solutions. The media depicts Ghana moving out of a climate-victim role towards an active climate policy for development; China actively spearheading energy efficiency and clean technologies for growth; while Norway is depicted as focusing its climate action abroad.

The study concludes that a pluralistic 'green growth' agenda with local adaptation is a more likely common denominator for climate policy across continental divides than international carbon pricing, which may be more suitable for a club of mature economies such as the European Union.



## **Introduction**

Over the last four or five years the world has seen a dramatic change in the international climate negotiations from an ambitious agenda launched in Bali in 2007 to what many observers have seen as a failure in Copenhagen in 2009, followed by a search for new strategies to ensure greater success in Rio in 2012.

High expectations for the Copenhagen meeting were built up at the Bali climate meeting (COP 13) and were spelled out in the “Bali Action Plan” and the “Bali Roadmap”. However, it proved impossible to meet the Bali-expectations in Copenhagen in December 2009. The Copenhagen climate summit failed to reach commitments for a second Kyoto period of emissions reductions from the Annex I - mature economies, as well as clear commitments to common principles and transparency for national mitigation actions from Non Annex I - developing and catch-up countries.

Instead, the conference produced a tentative political declaration and a commitment to continue UN negotiations, which was supported by most countries, except for a small group of mainly Latin American countries. The declaration, termed an “accord” and scrambled together in the last hours by heads of state, made a non-binding allusion to limiting temperature rise to 2°C. The accord suggested that targets for industrialised countries and actions for developing countries were to be decided voluntarily and communicated to the Secretariat by 31 January 2010.

This study explores the cognitive background for the climate policy divide through the lens of leading newspaper articles from Norway, China and Ghana. The choice of countries was made to represent mature, catch-up and developing economies, in order to capture the critical diversity of positions in the climate debate. The choice of a newspaper review as an entry point to the climate policy debate rests on the view of the press as a major framer of public debate and conveyor of influential framing by other actors. The use of the national newspapers as a lens allows penetration beyond the rhetoric of official national perspectives on climate issues into the broader climate debate, for which the press to some extent acts as a public space.

Yet the media framing has built-in biases set by routines, norms and attitudes of the press itself. Therefore the role of media in setting the agenda of climate change has to be discussed first.

## The Framing Approach

Against the backdrop of the shifting international climate negotiation agenda, this mapping of newspaper articles related to climate change in the three selected countries shows how the global climate challenge permeates through to public debate in specific national settings and blends with issues of local and national concern. It has been established in media analysis that global events, such as high-level negotiations over climate change policies, tend to be translated into domestically relevant stories by national media (Eide et al, 2010).

This analysis draws on conceptual ideas from discourse and frame analysis, going back to Goffman's work on interpretive schemas (e.g. Goffman, 1974). Frames at the most basic level are "schemata of interpretation" that allow individuals "to locate, perceive, identify, and label" issues and topics within their own personal context (Goffman, 1974, p. 21, (8)). Through the lens of the chosen sample of press articles the research study seeks to elicit core themes that capture the climate challenge in China, Ghana and Norway and in particular how the press tries to connect abstract scientific knowledge to people's lived experience through local and national stories and imagery.

The political communication researcher, Jim A. Kuypers (2009) has described frames as powerful rhetorical entities that "induce us to filter our perceptions of the world in particular ways, essentially making some aspects of our multi-dimensional reality more noticeable than other aspects". Framing is therefore seen as a process whereby communicators, consciously or unconsciously, construct a point of view that encourages the facts of a given situation to be interpreted by others in a particular manner. In a similar vein Gamson and Modigliani (1989) describe frames as interpretive packages that give meaning to an issue by presenting "a central organizing idea . . . for making sense of relevant events, suggesting what is an issue". Through content analysis of press articles this study therefore explore the interpretations, meanings and values evoked by media when reporting on global warming and climate change in China, Ghana and Norway. This allows us an exploration of how the climate challenge gets woven into different political, social and cultural contexts of society and takes on different slants as it is narrated through concrete stories and visualisations linking it to national traditions.

As pointed out by Snow and Benford (1988), framing may imply both formulation of the problem as well as the identification of solutions. They therefore speak of diagnostic framing for the identification of a problem and assignment of blame, prognostic framing to suggest solutions, strategies, and tactics to a problem. In addition they point out that framing also plays a third motivational role, as it serves as a call to arms or a rationale for action. For each of the three countries, this study identifies the salient images that newspapers choose to represent the threat of climate change, possible solutions to it and motivation or de-motivation to act.

However, the press is not just a passive lens, but also an active shaper of public images and public debate.

Firstly, instead of concentrating on power, context, and process, the media tend to personalise social issues (Boykoff & Boykoff, 2007). The personalised, human-interest story conforms to the idea that news should be about individuals and personalities rather than group dynamics or social processes (Boykoff & Boykoff, 2007; Gans, 1979).

Secondly, news tend to be dramatised, emphasising crisis over continuity, the present over the past or future conflicts (Bennett, 2002). The propensity to dramatise is often combined with the norm of balance. Journalists “present the views of legitimate spokespersons of the conflicting sides in any significant dispute, thereby simultaneously achieving dramatic tension”.

Thirdly, the press has a predilection for novelty. There is a “repetition taboo” whereby journalists reject stories that have already been reported in favour of news that is fresh, original, and new (Gans, 1979, p. 169). Persistent structural challenges may therefore be left behind.

The framing of climate change as conveyed by the press is therefore personified, dramatised and rejuvenated, but the press articles still reflect societies in important aspects. The very shaping of stories, images and messages by the media relies on a translation addressing the relevance of the local context. We therefore argue that we can use the media as a lens, while acknowledging the media’s structural biases from journalistic norms.

## **Methodology**

This study was carried out by in-country teams from the Norwegian Business School, the Sun Yat-Sen University School of Government and the University of Ghana, School of Communications Studies, following parameters agreed in a series of CERES21 international workshops (Midttun & Staurem, 2011; Wang, 2011; Gadzekpo, 2011). In each of the three countries researchers closely monitored coverage over a six-month period of 2010 in three leading newspapers – an elite paper, a more popular paper and a specialist business paper. The 2010 study was preceded by a pilot study in 2008 using the same methodology and involving the same principal researchers though with a slightly simpler design. For reasons of comparison the same January/June period was studied in 2010 as in the original research pilot in 2008.

Each research team made an initial search for articles covering climate change in relevant databases, using agreed translations of two search terms, Climate Change and Global Warming. By counting the number of articles (not the number of words) where these terms are mentioned, a pool of articles containing one or both of the keywords was assembled. Articles containing a single stray mention of Climate Change or Global Warming on a theme unrelated to climate change issues were discarded from this pool.

Then a sample of 100 articles per country containing these words was selected on a random basis for close content analysis, looking at the different categories of sources for information quoted in the articles, identifying the main recurrent themes addressed and sorting the articles into different story types.

Drawing on their local knowledge of language, media and politics and their social science expertise, the research teams, as in the 2008 pilot, were able to subject the selected newspaper articles to critical review and analyse how climate change was being framed by their national media. This research was supplemented by in-country interviews with some senior journalists or editors to gain further in-depth insight into the media production process for news and commentary on climate changes issues.

### ***The Selection of Newspapers***

Although every effort was made to find comparable popular, business and elite newspapers in each of the countries under study, national variations in media systems between Norway, China and Ghana are pronounced and these need to be taken into account. One instance is the huge disparity in rankings under Freedom House's 2011 Global Press Freedom Index: of the 196 countries assessed, Norway attains a top second position and Ghana is in 54th position, both being categorized as Free Countries, while China comes in as no. 184 and in the category of Unfree Countries.

## **Norwegian Press**

Norway has universal literacy and boasts a vibrant and diverse press. Norwegians top the list of the world's most avid newspaper readers. The press is financially stimulated by a state subsidy scheme for daily newspapers but both the government and the press, however, agree that this scheme should not be allowed to infringe upon the independence and freedom of the press in any way. The government has therefore adhered strictly to the principle of non-interference in editorial matters in newspapers receiving financial support. In the matter of climate change, therefore, the media in Norway can provide useful and relatively uncensored insights into levels of public awareness and concern on the issue.

*Aftenposten*, Norway's newspaper of record and the newspaper with the widest circulation, is privately-owned and has broad coverage of news, culture, public policy and business. It fits the category of elite newspapers for this study. *Dagbladet*, a leading, privately-owned tabloid which traditionally has been a moderate left-wing publication represents what we considered to be a popular newspaper. Finally, as its name implies, the privately-owned *Dagens Næringsliv (Business Daily)* is aimed at the business world and thus represents the category of specialised newspapers.

## **Chinese Press**

In China the Propaganda Department of the Chinese Communist Party (CCP) at both the central and local levels still closely supervises all media operations inside the country, whether state-owned or commercial, though the department is perceived to be generally more effective in dictating what not to report rather than what ought to be reported. And in the area of environmental policy and climate change issues in particular Chinese journalists have considerable lee-way: a recent report on the subject by China Dialogue finds that climate change reporting in China "continues to increase in quantity, originality and detail – and divergent opinions on the topic are represented by different outlets".<sup>1</sup>

*The People's Daily* is the official newspaper of the Chinese Communist Party (CCP) and the central government. It is the party's news media of choice for policy announcements and official statements and therefore the obvious candidate for the elite newspaper category of this project.

The choice of popular newspaper was more problematic as there are several candidates. Our original choice was for the *Southern Metropolitan News* which, although a regionally based paper, had acquired something of a national reputation for more innovative and populist reporting. However, it transpired that Southern Metropolitan News was not part of the national newspaper database, making it

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<sup>1</sup> *Climate-change Journalism in China: Opportunities for International Cooperation*, International Media Support, Copenhagen, Caixin Media, China and China Dialogue, London, 2011

impossible for our keyword-search-based methodology to work. So its sister paper, *The Southern Daily*, was selected instead. It operates under the directives of the Propaganda Department of the CCP's Guangdong Provincial Committee.

The choice of a business newspaper was more straightforward. *The Economic Daily* was founded in 1983, at the very beginning of the reform era, by the State Council of the Chinese government. It is an important channel through which the CCP and the government announce their economic policies.

### **Ghanaian Press**

In Ghana the media industry has been expanding rapidly with new newspaper titles and radio stations being set up. In a country with relatively low literacy rates radio has become the most widespread and powerful medium but newspapers are drawn on extensively by radio journalists and producers for their news bulletins and current affairs shows.

There are other special local factors at play: the elite newspaper selected for this study, the *Daily Graphic*, is 100% state-owned. It has plenty of resources and although it is Ghana's newspaper of record and reflects officialdom closely it also enjoys the widest circulation of any Ghanaian paper. The paper with the second highest circulation, the *Daily Guide*, is a privately-owned tabloid with a penchant for covering the underbelly of politics. It was selected as a newspaper representing popular attitudes rather than those of the elite. *Business and Financial Times*, as its name implies, represents a specialized newspaper aimed at the business world. It is privately-owned and is published three times a week.

## ***The Newspaper Articles***

A grand total of 603 relevant articles were identified in the three countries' selected newspapers over the January-June 2010 period, down from the 2008 total of 638 articles – see Table 1.

**Table 1 Number of relevant articles by country and newspaper in 2010 and 2008**

<b>Norway</b>	<b>2010</b>	<b>2008</b>
<i>Aftenposten</i>	107	110
<i>Dagbladet</i>	38	67
<i>Dagens</i>		
<i>Næringsliv</i>	30	64
<b>Total, Norway</b>	<b>175</b>	<b>241</b>
<b>China</b>	<b>2010</b>	<b>2008</b>
<i>People's Daily</i>	276	187
<i>Southern Daily</i>	33	18
<i>Economic Daily</i>	44	57
<b>Total, China</b>	<b>353</b>	<b>262</b>
<b>Ghana</b>	<b>2010</b>	<b>2008</b>
<i>Daily Graphic</i>	41	75
<i>Daily Guide</i>	16	41
<i>Business &amp;</i>		
<i>Financial Times</i>	18	19
<b>Total, Ghana</b>	<b>75</b>	<b>135</b>
<b>Total coverage</b>	<b>2010</b>	<b>2008</b>
<b>Total all three countries</b>	<b>603</b>	<b>638</b>

There are, however, marked differences between the countries in the amount of coverage devoted to climate change. Whereas in the first six months of 2008 the Norwegian and Chinese newspapers surveyed had given a comparably large number of articles to the subject (241 and 262 respectively) with Ghana lagging behind (135 articles), for the same period in 2010 Norway's coverage had dropped markedly to 175 articles while China increased its coverage to 353 articles. This rise is very largely accounted for by the issue's increased profile in the official newspaper, *People's Daily*, but there was also an increase in the populist *Southern Daily* (from 18 articles in 2008 to 33 in 2010).

Ghana's coverage, however, slumped to a total of 75 articles in 2010. In this Norway and Ghana seem to be part of the wider fall-off in climate change coverage observed in Western countries following the perceived near-fiasco of the Copenhagen conference at the end of 2009 and the 'Climategate' controversy at the same time. Certainly in both these countries the number of relevant articles in the popular newspapers fell from 67 in 2008 to 38 in 2010 in the case of the Norwegian *Dagbladet* and from 41 in 2008 to a mere 16 in Ghana's *Daily Guide*.

## Story Themes

A core part of this analysis of the press articles has been a systematic exploration of the stories in the newspaper articles, the themes they highlight and the stories they tell. This, the study argues, provide a unique window of insight into national framing, sense-making and interpretations of climate change and global warming in Norway, China and Ghana.

The research teams in Norway, China and Ghana have carefully examined articles in their national press and grouped them under more overarching story themes. This resembles factor analysis in statistics, where scores on a broad set of questions are reduced to scores on more fundamental underlying factors through a quantitative technique. The difference is that in our case, the grouping is qualitative and judgmental, based on local knowledge and undertaken by national social science experts. The group of researchers met for several workshops, under the early pilot study as well as the 2010 main study, to consolidate a common understanding and a common approach.

### *Norwegian Story Themes*

The newspaper stories highlight two main trends in Norway's climate orientation: the first is the Norwegian propensity to leave untouched the growing domestic petro-economy and petro-wealth. The other is the trend to engage with the South and relegate climate policy to international markets. Both trends are prominent in the 2010 as well as the 2008 press review.

Illustrative of the first trend is the opinion piece "Norway is not showing the way" (*Aftenposten*, June 5, 2010) where *Aftenposten's* political editor Ole Mathismoen states that :

Norway is not an environment nation. Norway is an oil nation. Money is more important than climate and the environment. [...] Norway has definitively been the best on words. The first to acknowledge different environmental threats, from acid rain to climate change. The first to promise sensationally large emission cuts of both NO<sub>x</sub> and CO<sub>2</sub>, and the first to demand that others must do the same. But we are not cutting our own emissions. We are increasing them without even blinking.

Against this background, the engagement with the South, takes on a combined moral and pragmatic meaning. Many stories highlight the North's responsibilities towards developing countries, both in terms of technology transfer and moral obligations. Yet many of the engagements with the South also have a pragmatic side, namely the effect of taking the heat of continued high CO<sub>2</sub> emissions to facilitate petroleum growth and the continuation of a CO<sub>2</sub> lavish lifestyle. Forest conservation in South America has been one of Prime Minister Jens Stoltenberg's main initiatives for helping mitigate carbon emissions and climate change, and the press reports on government officials

travelling across the world to look for CO<sub>2</sub> offset opportunities across the developing world (“Slaughters the Norwegian climate comrades”, *Dagbladet*, June 22, 2010) .

Norwegian press stories continue to focus on the contrarian debate as they did in 2008. The “Climategate”<sup>2</sup> controversy gave climate sceptics new “evidence” for disclaiming the urgency and gravity of climate change in Norwegian media. Siv Jensen, leader of the right-wing Progress Party, openly attacked the IPCC in the *Aftenposten* article “No more talk about global warming” (January 31, 2010). She claims that: “We must not impose drastic measures when it appears that the foundation of the [IPCC] report is not correct”. Even the volcanic eruptions on Iceland in April 2010 were used by some to parallel to Norway’s vulnerability to climate change (*Dagbladet*, April 18, 2010). Climate skeptics also fed on the fact that very cold winter weather of 2009/2010 seemingly caused a lot of Norwegians to doubt the “warming” part of climate change. This again engaged a broad set of environmental NGOs and agencies, such as Greenpeace and the Climate and Pollution Agency (KLIF) to engage in defending the IPCC position, as described in the article with a rather misleading title “The end of global warming” (*Dagbladet*, January 21, 2010).

In spite of the prominence of heated contrarianism, several articles in the Norwegian media are focused on the facts and science behind the climate issue. They seek to explain, in a simpler language than that used in textbooks and scientific reports, the physical causes and effects of climatic changes. Examples include the ice melt processes in the Himalayas and the polar areas, the links between greenhouse gas emissions and global warming, or how volcanic eruptions can influence the climate. These articles are surprisingly free from tabloid focus on how climate change will affect *you* (on an individual basis), but focus more on the broader physical effects and processes.

While the development of climate policies in the United States and other Western countries is far from ignored by Norwegian press, they seem to be giving increased attention to the fast developing block of economic giants dubbed the BRICS; Brazil, Russia, India, China and South-Africa. The spotlight was particularly on China in 2010. As the largest carbon emitter and with a growing middleclass increasing consumption, China is on the one hand seen as a barrier to solving the global climate crisis. On the other hand, China is also depicted as holding a crucial part of the solution. According to the article “*Greener China-energy*” (*Aftenposten*, March 23, 2010), the country is now at the top of the list of countries investing in renewable energy, overtaking the US for the first time as the largest investor.

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<sup>2</sup> The “Climategate” controversy happened after a server was breached at the University of East Anglia’s Climate Research Unit and thousands of e-mails were copied and spread on the internet. Some of it was picked up by climate skeptics who accused scientists of manipulating data and suppressing their critics of the of climate change consequences.

Norwegian press in 2010 has maintained its 2008 focus on the melting Arctic. The relatively extensive media reporting on polar issues can also of course be attributed to the fact that this is where we have seen the most dramatic consequences of climate change as of yet, and because many Norwegian scientists are working on issues related to the poles. In the article *"Polar research: The Earth on the tipping point"* (*Aftenposten*, June 16, 2010), we learn about large international polar research projects particularly focusing on the development of the ice and of weather systems in the Polar Regions. The researchers affirm that the rapid melt by the poles will have repercussions all over the world.

Another recurring theme for articles in Norwegian newspapers is the political struggle over the Arctic and the potential future sea passages. As described in the article *"Russian-Chinese power struggle over sea route in the Arctic"* (*Aftenposten* March 4, 2010), climate change is leading to ice-free passages in the Arctic, and China and Russia are already at odds over who will have the right to pass.

*Aftenposten*, in particular, has given a voice to young people on the climate issue. 30% of *Aftenposten's* opinion pieces were written by young people in the special debate pages "Si;D". Among all the articles by or about young people in 2010 there is almost a universal belief in the gravity of the climate issue and the importance of making radical changes. Only two pieces could be categorised as contrarian. The young writers raise many issues related to climate, some of which are reflected in the broader debate. In the opinion piece *"We need an energy revolution"* (*Aftenposten*, June 3, 2010) the young author clearly states that drilling for oil is passé and that we should transform our energy sector instead of searching for more oil. Young people also advocate environmental and climate measures at the individual and local level in Norway, which is to some extent in contrast with PM Stoltenberg's "do-it-abroad" policy. Many of them urge their peers to take individual action since adults are not taking it seriously enough.

### ***Chinese Story Themes***

Chinese press coverage on climate change in 2010 is dominated by government and official sources as was the case in 2008. This is most evident in the *People's Daily*. Among the 34 articles randomly selected, 28 are from government and official sources or about government or official activities. Among them, several articles are stories about government officials meeting with foreign visitors or on foreign trips, attending international meetings. Most of these articles would have the same single "passing" reference to global warming or climate change, usually mentioned among a host of other issues, as pointed out in the previous analysis. Articles in the *Southern Daily* of the same type have the same characteristics too except that the *People's Daily* articles are about national leaders and the *Southern Daily* articles are usually about provincial leaders receiving international guests.

Given that there are potentially countless bilateral or multilateral issues to be covered on these occasions, that global warming and climate change made the cut and entered the “top ten list” during such bilateral talks or international events indicates the importance the Chinese government attaches to the climate challenge. One way of characterizing this would be to say that the Chinese government is obviously “talking the talk” on the international stage.

As the period of our 2010 press review followed hard on the heels of the 2009 Copenhagen summit, it features several articles reporting on and analysing international climate negotiations and China’s role and positions. Most of these articles present the international events in a rather matter-of-fact fashion, many of them quoting high-ranking government officials who were involved in such events or whose work is related to climate policies.

However, some articles dealt directly with the failure to achieve a binding agreement in Copenhagen and the West’s blame of China for the failure. China is here described as a responsible player in the international climate negotiations. For example an article in the *People’s Daily* on January 2, 2010 quotes an article on the Guardian website extensively, which argues that it was Denmark’s fault because the Danish prime minister decided to hold talks among the 26 large countries in the last two days of the Copenhagen meeting instead of involving all the 193 countries participating at the meeting. The article claims that it was the Danish who tried to overturn the negotiations and agreements reached by the whole international community over the past two to four years that caused the collapse of the Copenhagen negotiations.

Like in 2008, the Chinese press in 2010 continues to report on government policies on the basis of government and official sources. A wide range of policy fields are covered, such as the central government’s macro policy on economic development, energy policies, environmental policies, and various local government’s economic, industrial, or agricultural policies. Many articles confidently describe the government’s policy achievements in energy conservation, pollution control, and carbon emission reduction. Other articles describe the policy challenges facing the central as well as local governments in terms of economic, energy, and environmental issues.

Extreme weather and natural disasters, especially the severe draught that affected a large part of China in 2010 are another major theme. Most of these articles refer to global warming as one possible cause for such extreme weather conditions, and the connection was assumed to be true and was taken for granted. The natural disaster theme was also strongly present in the 2008 pilot press review.

Compared with the 2008 articles, “low-carbon”, “green”, and “climate friendly” seem to have become really popular buzz words in the Chinese media in 2010. This is particularly the case with the *Economic Daily* and the *Southern Daily*, which each have more than half their articles (18 articles out of 33) about low-carbon economy, green or climate-friendly technology, or climate-friendly development models.

The *Economic Daily* carries several stories on the achievements by Chinese government and industry in reducing carbon emissions and improving energy efficiency. One article at the beginning of 2010, for example, reports that in 2009 Chinese industry has reduced per unit GDP energy consumption by 9%, but asserts that industry has to do more and faces even tougher energy efficiency challenges because the central government has committed that China will reduce its carbon emission by 40-45% over 2005 level by 2020 to fight climate change. Industry will have to shoulder the majority of this projected reduction.

There is a similar pattern in the *Southern Daily* articles. For example, one article is a report of a meeting convened by the Guangdong provincial government at which several invited experts gave advice to the Guangdong government on how to upgrade its manufacturing-oriented industries to more high-end industries, and how to move from the traditional industry model to low-carbon industry models. One expert argues that Guangzhou should try to become the leader of low-carbon economy in China given its leadership position over the past thirty years in spearheading the country's industrialisation process.

Another article reports on a story that many businesses in China are concerned with—the EU and the US considering imposing carbon tax on Chinese products. It is a rather long article and details possible motives of such moves by the EU and the US, whether it is illegal or not under the WTO rules, and how Chinese government and Chinese industries should react to such a threat. It cites several experts as saying the best strategy for Chinese industries to react is to try to upgrade their technologies and become leaders in the new low-carbon economy, and the Chinese government should impose its own

A couple of articles in our 2010 sample question the global warming thesis. One article reports on a scientist from Beijing University who is openly sceptical of the connections between human activities and global warming. Another article presents an interview with the lead weather forecaster at the Central Meteorology Station on the question of severe winter storm and global warming and how the two could be related. The 2008 pilot press review did not contain any climate scepticism at all.

Overall, the articles give the impression that China, particularly the Chinese government, has been quite active in participating in the global efforts at climate mitigation, and the central government as well as the local governments is trying to push the idea that global warming and climate change are at the same time challenges and opportunities facing China and Chinese industry. With a small exception most articles assume such connection as established scientific fact, and the emphases are almost always on what China and Chinese industry need to do to be better prepared for the future uncertainties caused by global warming and also seize the opportunities to become the leader in the low-carbon economy of the future.

### ***Ghanaian Story Themes***

A core focus of the Ghanaian press stories has been on local effects of climate change and the threat they pose for Ghana agro-forestry based economy. The *Daily Graphic* (May 22, 2011), for example, published a feature, accompanied by a photo of a truck-load of timber, which discussed activities in the Volta Region that cause desertification. The article appeared to have been triggered by an earlier report carried in the newspaper (May 12, 2011) in which the Volta Regional Minister complained about deforestation due to bad farming practices.

As in 2008, the articles in 2010 continue to observe how Ghana is impacted by the effects of climate change, such as flooding and food insecurity, and climate change understandings in newspapers are largely expressed in terms of changes in Ghanaian weather and seasons rather than other more global factors. However, articles in 2010 paint a significantly different picture of Ghana as an active participant in climate change discussions. While there were several articles, as in 2008, on international policies, in 2010 there were other articles which informed readers on the Ghanaian government's positions, policies and plans to address climate change.

This new, more active, climate engagement on the part of the Ghanaian government comes out of linking climate to development. For example, the press reported on a meeting of ministers from the Economic Commission for West Africa (ECOWAS) on climate change at which a Ghanaian minister was reported as advocating urgent action on climate change because it was impacting negatively on the country's economy and an impediment to the achievements of the Millennium Development Goals (MDGs) (*Daily Graphic*, March 19, 2011). Climate policy engagement is thus part of the country's aspirations of achieving middle income status by 2020. The news stories to this effect are also corroborated by national climate policy which has recently been framed in the context of a larger developmental agenda under the "National Action Programme to Mainstream Climate Change into Ghana's Development" (*Ghana Goes for Green Growth*, 2010).

One of the striking features of Ghana press stories when comparing the 2010 to the 2008 sample, is the shift from climate victimhood towards a more active domestic climate management role. The victim narrative found in 2008 was exemplified by articles which lamented the fact that Africa bore little responsibility for climate change but suffered most from its consequences. A story found in the *Daily Guide* reported the UN Secretary-General, Ban Ki-Moon, as blaming the devastating effects of climate change on the actions of developing nations. Mr. Ban Ki-Moon was quoted as arguing that since Africa contributed so little to climate change, it should not be expected to bear the burden (*Daily Guide*, April 23, 2008). By contrast the tone of 2010 articles suggested a willingness of Ghanaians to take responsibility for climate change and expressed commitment from policymakers to address the problem with more urgency. For example, Ghana's Interior Minister was reported to have urged ECOWAS countries to emulate the example of Ghana where a platform for disaster risk and

climate change adaptation had been established, as part of climate measures (*Daily Graphic*, June 15, 2010).

Following Copenhagen, Ghanaian press stories have become more critical of the global climate agenda and more focused on what Ghanaian can do themselves. For example a *Daily Graphic* article (January 30, 2010) titled “*The Palaver*” points out that there has been extensive coverage of Copenhagen summit. As the summit fell short of expectations, civil society has to take a lead in raising awareness. Besides more government involvement on climate change, press articles also point to the need for civic engagement and change of local practices. Several stories, like one titled “*Bushfires and Climate Change*” (*Daily Graphic*, January 27, 2010) and another with the headline, “*Who protects our environment,*” (*Daily Graphic*, March 29, 2010) dwell on such local causes to environmental degradation as bushfires, tree felling, mining activities, use of chemicals on the soil, cattle grazing, and link such activities to climate change, pointing to the need for civic participation on how to tackle the problem. The press also brings in the voice of traditional chiefs, who on the one hand are seen as custodians of ecological balance (*Daily Graphic*, June 14, 2010; but on the other hand are also seen as uncooperative in the fight against climate change because of their reluctance to release land for tree planting (*Daily Graphic*, June 19, 2010).<sup>3</sup>

Nevertheless, there is also a recognition in the Ghanaian press of the vicious interplay between poverty and the climate. Some stories point out how climate change not only alters growing conditions for small scale farmers, but also exacerbates competition for finite natural resources (*Daily Guide*, February 15, 2010). Such articles see poverty as a causal factor because it leads people to engage in activities detrimental to the environment by overloading the eco-system. However, other stories point out that climate change aggravates poverty such as one published by the *Business & Financial Times* (March 10, 2010), which argues that without action on climate change Africa could plunge into more poverty and instability. Another article in the *Daily Graphic* (March 22, 2010) discusses how climate change will aggravate the plight of many people who already have poor access to water.

Finally, the media stories also indicate how Ghana is at a transition point on the issue of climate change. The country has recently discovered oil and gas and is becoming a net emitter of greenhouse gases. Press articles promise Ghana would be green in its oil operations. One article explains that the government has asked the Environmental Protection Agency (EPA) to assess the entire oil production processes for adverse effects on environment and advise on mitigation (*Daily Graphic*, March 16, 2010). Another warns that operations in the new oil industry can pose a threat to marine life (*Daily Guide*, May 28, 2010).

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<sup>3</sup> Traditional rulers control land in many parts of Ghana and hold them in trust for the people.

## Media Analysis

A closer analysis of both the main sources used for the newspaper articles and the type of story approaches adopted tends to confirm the major themes identified above.

### Sources

The study identified six major sources of information from the articles sampled: government or public official; scientific or academic expert; company or business; international institution; local NGO or community leader; and ordinary citizens - see Table 2.

**Table 2 Use of sources by country in 2010 and 2008 for all three papers in total (weighted totals)\***

<b>Norway</b>	<b>2010</b>	<b>2008</b>
<i>Politicians/Public officials</i>	14 %	25 %
<i>Scientific/Academic community</i>	40 %	31 %
<i>Business/Company</i>	4 %	10 %
<i>International actor</i>	15 %	10 %
<i>Local NGO/Civil society</i>	14 %	16 %
<i>Ordinary individual</i>	13 %	8 %
<b>Total</b>	<b>100 %</b>	<b>100 %</b>
<b>China</b>	<b>2010</b>	<b>2008</b>
<i>Politicians/Public officials</i>	76 %	65 %
<i>Scientific/Academic community</i>	9 %	10 %
<i>Business/Company</i>	7 %	18 %
<i>International actor</i>	8 %	4 %
<i>Local NGO/Civil society</i>	0 %	1 %
<i>Ordinary individual</i>	1 %	2 %
<b>Total</b>	<b>≈ 100%</b>	<b>100 %</b>
<b>Ghana</b>	<b>2010</b>	<b>2008</b>
<i>Politicians/Public officials</i>	31 %	19 %
<i>Scientific/Academic community</i>	20 %	16 %
<i>Business/Company</i>	6 %	2 %
<i>International actor</i>	29 %	54 %
<i>Local NGO/Civil society</i>	9 %	9 %
<i>Ordinary individual</i>	5 %	0 %
<b>Total</b>	<b>100 %</b>	<b>100 %</b>

\* Table 2 counts the number of articles in each category in the sample as a whole, weighted according to the relative share of each paper in the coverage of the climate issue.

Ghana's newspaper coverage of climate change in 2008, for instance, had reflected an unhealthy over-reliance of information from foreign sources, with over 50% of climate change stories emanating from international organisations. By 2010, however, this level of dependency has been reduced (to 29% of stories) while the number of local Ghanaian officials and politicians used as sources has increased markedly (from 19% to 31%). The number of scientists and academics, business sources and ordinary individuals used for information has also increased. This more domestic sourcing of media stories underpins a stronger national voice and a more active green development strategy.

State control of China's media skews sourcing towards a preponderance of government and other official sources (accounting for 76% of all stories surveyed in 2010). Nevertheless, with nearly half of all relevant Chinese articles being focused on energy conservation and a low-carbon economy, this would seem to reflect the seriousness of intent with which policy-makers in China approach the climate change issue. The 'green growth' message can be seen to be more in line with their agenda than carbon pricing.

Norway's press had already been using a diverse range of sources in 2008 for its climate change coverage – the only country to draw substantially on civil society organisations and reflect the views of ordinary citizens – and this again was the pattern in 2010. Sources within the scientific and academic communities are still the most used category of source by Norwegian journalists, indeed the number of articles drawing on their information increased from 31% in 2008 to 40% in 2010. This increase may be in part a function of the public debate around the 'Climategate' affair but the consistently prominent role of academics as article sources reveals the degree of trust in the scientific community within Norway.

## ***Story Types***

Many of the newspaper articles on climate change fall under the category of ready-made or ‘routinised’ stories but between 2008 and 2010 an encouraging increase in the number of stories involving journalistic enterprise can be discerned – see Table 3.

**Table 3 Story types by country in 2010 and 2008 for all three newspapers (weighted totals)\***

<b>Norway</b>	<b>2010</b>	<b>2008</b>
<i>Routinised</i>	31 %	34 %
<i>Enterprise</i>	25 %	23 %
<i>Editorial</i>	3 %	5 %
<i>Opinion</i>	42 %	38 %
<b>Total</b>	≈100%	≈100%
<b>China</b>	<b>2010</b>	<b>2008</b>
<i>Routinised</i>	68 %	59 %
<i>Enterprise</i>	8 %	4 %
<i>Editorial</i>	2 %	21 %
<i>Opinion</i>	22 %	16 %
<b>Total</b>	100 %	100 %
<b>Ghana</b>	<b>2010</b>	<b>2008</b>
<i>Routinised</i>	63 %	79 %
<i>Enterprise</i>	23 %	13 %
<i>Editorial</i>	15 %	3 %
<i>Opinion</i>	1 %	6 %
<b>Total</b>	≈100%	≈100%

\* Table 3 counts the number of articles in each category in the sample as a whole, weighted according to the relative share of each paper in the coverage of the climate issue.

In the 2008 pilot survey the majority of climate articles in Chinese and Ghanaian newspapers (59% and 79% of articles studied, respectively) emanated from official press releases and other routine content such as conference speeches; only in Norway had significant numbers of journalists taken reporting initiatives which unearthed other angles on climate change issues than those of government and other institutions.

Even in Norway’s lively press a large number of stories (34%) in 2008 were “routinised” i.e. releases originally produced by other organisations were essentially recycled and reformatted to fit the paper’s requirements rather than journalists digging up new stories or new angles on existing stories. In 2010 the number of

stories reflecting journalistic enterprise had increased slightly with a concomitant decline in the more routine fare. This positive trend could be seen in Norway but also in Ghana and China where, although a majority of relevant articles were still largely rehashes of official information, the number of stories reflecting journalistic initiative have shown an encouraging rise.

This increase in enterprise stories in China and Ghana appears to indicate deeper journalistic involvement in the climate change issue and may signal a wider societal capacity to engage and act.

## **Comparative Analysis and the Climate Negotiating Context**

Through the lens of our sample of press articles the climate challenge and its consequences in China, Ghana and Norway get interpreted in rather different ways as journalists seek to connect with people's immediate daily experience through local and national stories and imagery.

As a first observation, climate change agenda is clearly shaped to different levels of economic development: agro-industrial issues are strongly voiced in developing Ghana, where this sector still plays a dominant role in the economy. Resource constraints and local pollution are strongly voiced in China, where rapid growth is challenging the national resource base and creating extensive local pollution. As a rich, mature economy Norway seems more willing to relate to more abstract and long term global climate concerns.

Secondly, differences in political culture also come across clearly. A strong NGO voice is expressed in the critical debate around government policy in Norway, while the dominant party voice attracts less critique in the Chinese press. As Ghanaian climate policy is only recently evolving, Ghanaian press is more supportive than critical.

Thirdly, the press review also reveals how climate exposure and natural conditions caused different concerns to be voiced. Both Chinese and Ghanaian press are offering considerable attention to climate-related natural catastrophes. Norwegian press has far less on this issue, presumably because of Norway's lower exposure, and media coverage concentrates more on international matters.

How do the three storylines relate to the global climate debate? Over the last four or five years the world have seen a dramatic change in the international climate negotiations from an ambitious emissions trading agenda reinforced in Bali in 2007 to what many observers have seen as a failure in Copenhagen in 2009 (Dimitrov, 2010). Out of the search for new approaches to ensure greater success in Rio in 2012, "green growth" seems to appear as a new focal strategy.

The signing of the Kyoto protocol in 1997 set a central focus on limiting carbon emissions preferably by pricing carbon. It mobilised mature industrial economies (Annex I countries) to take on binding commitments to lowering CO<sub>2</sub> emissions and preferably to participate in a common emissions trading regime. The Protocol allows for several additional "flexible mechanisms", such as emissions trading, the clean development mechanism (CDM) and joint implementation to allow Annex I countries to meet their GHG emission limitations by purchasing GHG emission reductions credits from elsewhere.

The emerging green growth agenda focuses on promotion of new CO<sub>2</sub> neutral technologies and resource efficiency improvements to drive economic growth in a climate compatible manner. It is thus a more innovation-oriented approach, where development of new green technology is in focus, rather than economic incentives to

limit the old carbon economy. The innovation and growth focus has come in response to the financial and sovereign debt crisis since 2008.

At a first glance there seems to be greater compatibility between the national framing and emissions trading in Norway, while China's and Ghana's orientation seem more aligned with green growth.

The Norwegian focus on the international dimensions of climate change and the engagement in international climate mitigation reflects dilemmas of a mature Western petro-economy with limited scope for domestic improvement, given its hydro-based electricity. The increasing emissions from oil and gas extraction give the country a need for access to international emissions trade, to compensate for CO<sub>2</sub> emissions at home. The internationally oriented framing of the climate challenge plays well up to this, and a host of internationally oriented "green development mechanisms" – organised to ease the climate burden on western economies in return for transfers to developing countries. Besides accommodating petro-expansion, this also fits well with Norway's high ambition in development aid.

The Chinese press reflects a resource-constrained growth agenda, where climate concerns are focused on resource efficiency and local pollution abatement. Chinese press, when comparing the 2008 and 2010 reviews, illustrates the country's changing position, following its extensive growth. Having overtaken the US to become the world's largest CO<sub>2</sub> emitter, it has taken on board more extensive climate rhetoric around its resource efficiency strategies. It can at the same time still fall back on a rather moderate per capita CO<sub>2</sub> emission, which legitimates its claim to a different climate-responsibility than the rich West. For China, growth is an overriding concern, and green growth suggests a way out of resource constraints and the pollution trap.

Comparing the 2008 and 2010 press reviews clearly reveals Ghana in transition. Our 2008 pilot study uncovered Ghana rather passively taking a climate victim role, and passively awaiting international transfers and solutions. The 2010 framing shows Ghana moving out of a climate-victim role towards an adaptation strategy, where the inhabitants and its authorities engage to link adaptation to climate challenge to economic development. There is an awareness of the country's vulnerability – given the important role of its agro-industrial sector, but also an awareness that solutions must be found in local adaptation, preferentially through green growth. However, the 2010 review conveys an emerging focus on the coming petroleum economy that may put the country in a similar dilemma to that of Norway.

On the basis of the concerns and positioning revealed in the media analysis, engaging in climate mitigation primarily through carbon pricing/taxation may be a very difficult road to pursue. A unilateral pursuit of carbon pricing only by Europe will now be too limited to have the necessary impact, and the pricing will have to be too weak to really matter, given the concerns of European industry to stay competitive. The financial and sovereign debt crisis is also currently de-motivating even the most enthusiastic nations from carbon pricing-based climate frontrunnership.

A green growth strategy as a central climate mitigation approach seems more likely to succeed, in so far as it can more easily be aligned with the aspiration of rapid growth economies, as well as developing economies. Given that initial learning costs have been taken by rich western economies on small portfolios of new green technologies, China and other rapid growth economies will be eager for reasons of resource constraints to take these technologies on board. When they do so on a massive scale the unit costs will come further down, and gradually make the technologies affordable to developing countries, who will then continue to develop them to their conditions.

The press review reveals that the debates across rich, rapid growth and developing countries, signal potential acceptance for such scenarios. The reframing of the response to the climate challenge from victimhood to development and sustainable growth in Ghana gives reason for hope. As Snow and Benford (1988) point out, framing does not only define problems, but often also solutions. The bold tone exposed in the Chinese articles builds up expectations for strong environmental action which the Party can hardly afford to neglect. Norway remains more ambivalent, with one storyline promoting climate engagement abroad to safeguard domestic carbon consumption, while another critical storyline promotes radical domestic climate action. Nevertheless, green growth and development seems more likely to align the three countries than greening through austerity and carbon pricing.

This new policy switch will require greater attention to be paid by media organisations around the world to the business and economics of green growth which, outside of the specialist financial press, has tended to be overshadowed by the geopolitics of international carbon negotiations and the climate science itself (the latter focus abetted, in the West only, by a vociferous lobby of climate science sceptics and denialists). The survey of newspaper sources above has found that in both Norway and Ghana the business sector is not seen by newspaper journalists as providing a major source of information on climate change. Editors, environmental specialists in the media as well as generalist reporters who cover this beat will need to acknowledge that the low carbon economy has to become a more central focus of climate change reporting. Journalists in future will need to be better equipped to handle the stories coming out of this policy shift, collaborating with their business journalist colleagues more closely on the coverage of climate change.

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# CERES<sup>21</sup>

CERES21 - Creative Responses to Sustainability - is an international research project exploring cultural, political and economic innovation for a sustainable future. The unique features of the CERES21 work include:

- Elaboration of a humanist agenda that supplements the Brundtland Report on Sustainable Development;
- Exploration of new models of governance for sustainability in a globalizing world;
- Studies of technological innovation and business models for green transition;
- Broad, comparative studies of responses to climate shift and innovation for sustainable future in the poor South (Ghana), the fast expanding East (China), and the rich West (Norway).

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