

CLINGENDAEL INTERNATIONAL ENERGY PROGRAMME

ANNUAL REPORT 2009



Clingendael International Energy Programme (CIEP)

Affiliated to the Netherlands Institute of International Relations, 'Clingendael', CIEP acts as an independent forum for governments, non-governmental organisations, the private sector, media, politicians and all others interested in changes and developments in the energy sector.

CIEP organises lectures, seminars, conferences and roundtable discussions. In addition, CIEP staff members lecture in a variety of courses and training programmes. CIEP's research, training and activities focus on three themes:

- Regulation of energy markets (oil, gas, electricity) in the European Union;
- International economic and geopolitical aspects of oil and gas markets, particularly with respect to the European Union security of supply; and
- Energy and sustainable development.

CIEP is endorsed by BP, the Dutch Ministry of Economic Affairs, Eneco, Energie Beheer Nederland, Essent, the Dutch Ministry of Foreign Affairs, GasTerra, Nederlandse Gasunie, ING, NAM, NUON, Oranje-Nassau Groep, Port of Rotterdam, RWE, Shell Nederland, Total E&P Nederland, the Dutch Ministry of Housing, Spatial Planning and the Environment, Vopak Oil Europe Middle East, Wintershall, Delta, Electrabel, and Esso Nederland.

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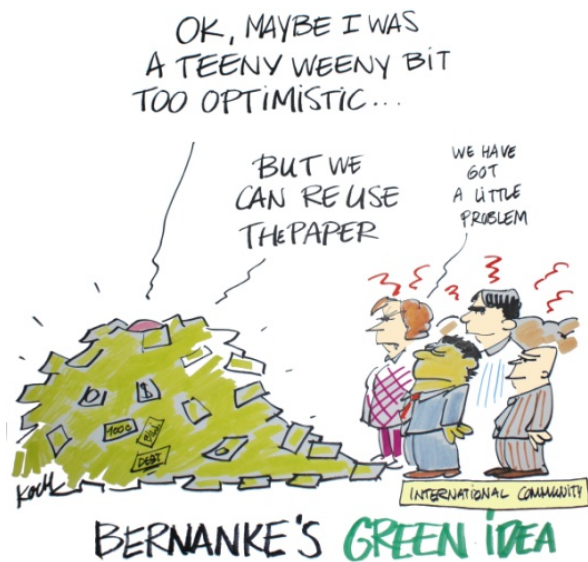
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2009 was not a year for the faint of heart

The deepening of the financial crisis in the autumn of 2008, which led to a breakdown of many banks and other financial institutions, and the resulting unprecedented drop in international trade and production, was still ongoing at the start of 2009. Governments were reeling from the severity of the economic impact of the financial crisis and were forced to stopgap the failures in the financial sector and at the same time increase government spending to compensate for lost economic activity and jobs.

The spectacular crisis came as a shock after the strong upswing in economic growth of the past few years and heralded a new period in international political and economic relations. The first visible results were that particularly the open OECD countries lost relative economic and political clout compared to the somewhat shielded Asian economies. The impact of the crisis remained unclear in 2009, as the crisis worked its way through the global economy, claiming victims throughout the year. Effects will possibly continue to reveal themselves in the years to come in this major reshuffling of economic strengths and weaknesses. The vigour of government coffers determined countries' abilities to spread the impact over time rather than absorbing the blows all at once. Economically weak countries, such as Ukraine, defaulted almost immediately, triggering a nasty new round in the Russia-Ukraine gas dispute in early January which left many South-eastern Europeans literally in the cold.

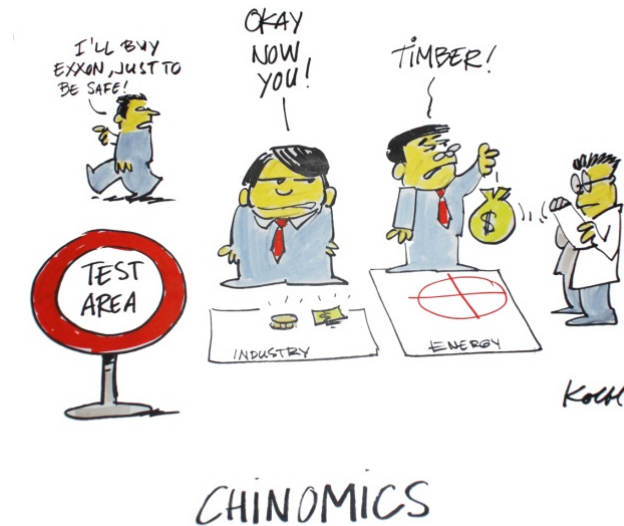


Against the backdrop of the crisis and the impact on economic growth, the weakening energy markets had to absorb the new production capacity that came on-stream amidst a steep decline in demand. The investments in the various energy value chains needed to be radically reassessed because energy prices had collapsed from their unprecedented levels of mid-July 2008 and demand seemed uncertain for the near future. The energy market drivers had completely changed and, as a result, so had the outlook for the oil and natural gas markets and the context in which the transition to a more sustainable energy mix must be realised. In the first six months, the main mission at CIEP (and elsewhere) was to assess the impact of the crisis on the energy markets and investments, while from the summer onwards, with more data available, the changing market structure came to the fore in our research, publications and activities.

Oil

The drop in the price of oil in the autumn of 2008 forced OPEC to drastically reduce production in an attempt to stabilise prices. The urgency of stabilisation created strong adherence to the agreed production cuts of approximately 5 million barrels a day and, after a few months of floating between \$37 and \$50 a barrel, prices recovered to the desired OPEC level of \$70-80 a barrel and remained so from the summer of 2009 onwards. Despite OPEC's attempts to stabilise prices, international oil companies quickly reassessed their investments in

the most expensive oil projects. Projects in Africa continued largely as planned, underlining the importance of these projects to the major consumer markets in their goals to diversify supply. China has become very active in gaining access to resources, including oil developments across the globe, in an attempt to manage its import dependency on the Middle East. The activities of Chinese oil companies around the world have ignited a discussion about Chinese energy policy and its impact on globalisation, international relations and oil trade. The international economic crisis and the relative strength of the Chinese economy with its large foreign currency reserves



had placed China in a strong position to gain more access to resources abroad. In a world in which access to oil reserves is restricted by national governments so as to benefit their own national oil companies, the Chinese companies encroached on the international oil companies' shrinking share of production with support from their own government. The debate about the governance of the international economy, including the oil market, had been intensifying for several years, and China's success in gaining access to oil reserves abroad exemplified the changes in the international economic system.

Natural Gas

Perhaps the most dramatic changes in the energy sector took place in the natural gas sector. Although the drop in oil prices from their July 2008 highs to December 2008 lows was spectacular, the impact on the natural gas sector was slower but more profound. As in the oil and coals sectors, demand dropped as a result of the deep economic recession. But this drop in demand coincided with two important other developments in supply: more LNG supplies and the introduction of unconventional gas. The long lead times of gas export projects resulted in new LNG trains coming on-stream in Qatar when the energy market was in decline. Moreover, part of this new export capacity was developed for the US market, which was expected to become increasingly dependent on LNG imports. In 2009, amidst a shrinking natural gas market, the rapid expansion of unconventional gas changed this outlook. Helped by robust natural gas prices in the preceding years, small independent gas companies had begun to combine several fairly new techniques and managed to unlock the vast unconventional gas reserves. When the financial and economic crisis struck, it was expected that these small producers would be squeezed out of the market, but this did not happen. They were able to maintain production at much lower prices than that of natural gas and subsequently kept the new LNG flows out of the US market. These LNG flows had been

developed by the large international oil companies in joint venture with the Qatari national company. Two business models collided here and left the international gas market largely oversupplied. The absorption of these natural gas flows in other markets was difficult because of the limited flexibility of long-term contracts, which are predominant in Asian and European markets. Downward pressure on prices and requests for more flexibility were high on the agenda of power companies in their discussions with their gas suppliers. Ironically, for the European power companies the year 2009 had started with supply shortages when the Ukraine-Russia conflict over gas contracts flared up shortly after the New Year. The duration of the conflict left many consumers without heat and pressed the EU to develop more robust crisis management policies and infrastructures in addition to the other parts of energy policy. The fact that the Lisbon Treaty finally came into force in December will stimulate further EU energy policy initiatives.

Copenhagen

For the energy sector, 2009 was supposed to be the year of the Copenhagen Conference, providing the energy industry with a new framework for the future. In the lead-up to the conference, expectation levels rose and fell with the economic roller coaster and the political determination of the geopolitical powers to make it a success. The EU, with its 20-20-20 policy firmly in place, had expected to play a major role but found itself oddly marginalised



by China, India, Brazil and the US, who were on a completely different course. The investments in new energies are growing in both the US and China, but the commitment to CO₂ reduction policies, as proposed by the EU, does not fit their energy and economic priorities. Although the conference did not produce very concrete results, the energy policies of major countries have changed to include sustainable energy strategies, although driven more often than not by security of supply concerns than by climate concerns. These different drivers and the difference in economic development explain to a large extent the variety in approaches. So far, these different approaches do not add up to being able to structurally change the emission trend to the desired 2 degree Celsius warming target of the G-8, a goal confirmed

at Copenhagen. Amidst severe economic adjustment problems, countries were not willing to commit to more than a political statement to continue their efforts, leaving the international playing field uncertain for some time longer.

The Agenda

All in all, the new four-year research period commenced amidst rapidly changing energy market circumstances. Political and economic relations were also affected by these new circumstances, making the overarching theme of the coming years – conflict or cooperation – more topical than originally anticipated. The original idea that scarcity and transition (or, put differently, security of supply and demand) would be leading themes in the energy relations in the coming years remains intact, but some of the driving forces have changed markedly. Particularly the amply supplied natural gas markets will lead to a re-positioning of this fuel, while many foresee a quick return of tighter oil markets. The impact of the sovereign debt of many countries as a result of the financial and economic crisis may change the policy

instruments with which they can achieve transition to a more sustainable energy mix, and in some countries that may imply some delay.

2009 Research and activities

CIEP started a new four year period in 2009 regarding its plan and estimated budget, as described in *CIEP 2009-2012 Energy: Between a Rock and a Hard Place*, and as agreed upon by the Board of Stichting Fonds Instituut Clingendael and the participating institutions. (Appendices 1 and 2).

In that four-year research plan, the traditional headings under which CIEP conducts its research were left intact. However, the research themes have become increasingly integrated, dealing with the various aspects of energy policy from different angles. Market developments, security of supply and demand issues, and developments towards a more sustainable energy mix nevertheless reflect the old division of CIEP research in three closely connected themes. These three themes help us in addressing the research questions posed in *CIEP 2009-2012 Energy: Between a Rock and a Hard Place*:

- A. Regulation of energy markets (oil, gas and electricity) in the European Union;
- B. International economic and geopolitical aspects of the oil and gas markets, mainly with respect to the security of oil and gas supply in the European Union, in the context of an increasing dependence on imported energy; and
- C. Energy and sustainable development.

Theme A – Regulation of energy markets (gas and electricity) in the EU

Gas Group

All research and activities of CIEP on gas-related matters were supported in 2009 by regular meetings of CIEP's Gas Group. This group of experts from CIEP's supporting institutions currently has some 25 regular members. The group assists in setting the CIEP agenda on gas issues, acts as a sounding board for CIEP's activities related to natural gas, contributing where possible to these activities, and facilitates the exchange of information and views between the experts involved.

During 2009 working groups from the Gas Group were active in contributing to the evaluation of the following topics, in the form of papers:

- The current status and the further development of the European gas transmission network. A paper on this subject was published in September: 'Crossing Borders in European Gas Networks: The Missing Links'.
- An update on CIEP's publication (2006) about the European market for seasonal gas storage. CIEP organised various meetings dealing with this subject. A follow-up of this paper (and an ECN paper of 2008) will be published by CIEP in 2010.

A number of presentations (by representatives of energy firms, governments, external institutions and CIEP) and expert workshops were organised. A similar set of topics was presented at the CIEP Gas Day 2009 in September:

- Gas developments and initiatives around the Caspian region (e.g. the Caspian Development Corporation);
- US gas issues in the context of climate change policy;
- Prospects of unconventional gas in the Netherlands;
- EU regulation concerning security of supply;
- The 'Dutch Gas Roundabout'; and
- CIEP LNG scenarios for the Atlantic Basin.

CIEP Fuel Mix Group

In the spring of 2009, the Fuel Mix Group was launched as a new initiative to discuss issues relating to Dutch/European energy policy, energy infrastructure, transition and the fuel mix with CIEP stakeholders. In six sessions held throughout the year starting in April, participants discussed the impact and consequences of several trends, including the increasing regionalisation and market coupling between power markets, the need for more investments in infrastructure, and a shift towards more centralised European policymaking on emissions reduction measures and renewable energy sources. The group also discussed the challenges with respect to national obligations on the share of renewables in the fuel mix, liberalised market conditions, the scope of domestic regulation in the field of environment and energy, and business models for transmission system operators.

Presentations were held by various participants, and discussions served as input for a CIEP Energy Paper on energy policy and the Northwest European market, focusing on the fuel mix and infrastructure (Dutch only; published in February 2010).

Current participants are: Delta N.V., the Ministry of Economic Affairs, the Energy Research Centre of the Netherlands (ECN), Electrabel N.V., Eneco B.V., Essent N.V., Nuon N.V., Platform of Sustainable Electricity Supply (Platform Duurzame Electriciteitsvoorziening), TenneT B.V. and VME (Nederlandse Vereniging voor Marktwerving in Energie).

A Smart EU Energy Policy

CIEP, the Loyola de Palacio Programme of the European University Institute, the Fondazione Eni Enrico Mattei (FEEM) and Wilton Park (WP) organised a four-tier project to discuss the potential for a smart EU Energy Policy. The project consisted of three workshops at which academics discussed the various interactions between the three core objectives of EU energy policy with stakeholders from governments, regulators and the industry. Following the three workshops a conference took place to evaluate the workshop reports and to formulate overall project conclusions and recommendations. The objective of the project was to come up with a set of "smart" conclusions and recommendations for the 2010 EU energy policy review.

International Gas Union (IGU)

The International Gas Union (IGU), under the 2006-2009 presidency of Argentina, prepared a Gas Market 2030 Outlook study for the WGC 2009 in Buenos Aires. Coby van der Linde participated in the studies' steering committee, in her capacity as a member of the 'wise person group'. Dick de Jong also contributed to this study in the steering committee. Both Dick de Jong and Coby van der Linde made presentations at the WGC 2009.

Relations with Russia and gas supplies from that country and the countries around the Caspian Sea, including the new pipeline routes, remained a key area for CIEP. An invitation from Gazprom to participate in an expert group discussion at Gazprom headquarters in Moscow was accepted in December.

Gas Day

In September 2009, CIEP organised its annual Gas Day. During the Gas Day 2009 a large number of stakeholders from private, public and academic circles discussed the major geopolitical, economic and policy trends that affect the future of the European gas industry. The programme covered various topics, among which the supply and demand outlook for Europe, the role of LNG in European gas supply, a reality check on the contribution of unconventional gas, and the expansion of European gas networks.

Theme B – International economic and geopolitical aspects of the oil and gas markets, *mainly with respect to the security of oil and gas supply in the European Union, in the context of an increasing dependence on imported energy*

On February 2, 2009 Mr Nobuo Tanaka, Executive Director of the International Energy Agency (IEA) visited Clingendael and discussed the short- and medium-term developments in the demand and supply of oil in the context of the current economic downturn.

Building a post-2008 energy future will have to start by looking back at what exactly happened during this turbulent year, in order to establish clear lessons for the future. To assist this process, strenuous efforts are underway to increase the transparency of energy data through organisations such as the International Energy Agency, the European Union, the International Energy Forum, OPEC and the United Nations. Individual governments and industries are trying to contribute to these efforts as well. The most notable and renowned industry publication is the publicly available BP Statistical Review of World Energy. For over 50 years this review has been the most accessible source on global energy statistics in the world. In June BP presented the review's 2009 edition at Clingendael.

In July 2009, CIEP organised the event 'Energy Security and the Role of Sub-Saharan Africa'. At this event CIEP launched its new publication 'Gambling in Sub-Saharan Africa: Energy Security through the Prism of Sino-African Relations'. Various speakers outlined their views on Africa's hydrocarbon future, Sino-African relations, and the EU and Dutch energy relations with Africa.

In September 2009, Noé van Hulst, Secretary General of the International Energy Forum (IEF), gave a CIEP Energy Lecture. Mr van Hulst focused on the role of the producer-consumer dialogue in global energy security, and in particular on the growing role of the IEF and its Secretariat. The IEF is unique in the sense that it is the only international energy organisation that is open to both producer and consumer countries and to developed as well as developing nations. After two exceptional, ad-hoc Ministerial IEF-meetings that took place in Jeddah (June 2008) and London (December 2008) to tackle the issue of extreme oil price volatility, it was concluded that there is a strong need to build on the success of the dialogue process thus far and to strengthen the IEF as the recognised channel for producer-consumer dialogue. The CIEP Energy Lecture showed where the IEF stands on the road to the IEF Ministerial in Cancun in 2010.

CIEP hosted a roundtable debate in October with Ambassador Richard L. Morningstar, the US Department of State Special Envoy for Eurasian Energy. Mrs Maria van der Hoeven, the Minister of Economic Affairs of the Netherlands, returning from her mission to Kazakhstan, participated in the discussion as well. The debate focused on new initiatives that have been launched since the appointment of Ambassador Morningstar. An effort to reset relations with Russia characterises the foreign policy of the new US Obama administration. The US will be working with Russia through a newly created Binational Commission on a range of issues including energy. The US-EU initiatives on the Eastern Partnership, Southern Corridors and the Caspian Development Cooperation were also subject of discussions among key government and corporate stakeholders that attended this meeting. The US established a US-

EU Energy Council that will help the United States and the European Union to work together to meet energy-related challenges.

Theme C – Energy and sustainable development

Together with the Atlantic Council of the US, CIEP planned a series of workshops to expand the transatlantic discussion on creating common, compatible and complementary efforts to transform the energy sectors of the US and Europe to ensure sustainable energy security. In May 2009, the first US-EU workshop of this series supported by the US Mission to the EU and by the EU Commission was organised in Brussels on a Shared Vision for Energy & Climate Change. The programme was designed to develop consensus recommendations from a cross section of industry, government and NGO participants that can lead to greater cooperation and the development of ‘common, compatible, and complementary’ efforts to address the challenges associated with achieving sustainable energy security. A written workshop report was issued at <http://www.clingendael.nl/ciep/events/20090528/>. In October 2009, a second workshop was organised on CCS in Washington, DC.

In May CIEP convened a roundtable entitled ‘From Moscow to Copenhagen: Russian Perspectives on Climate Change & Energy Governance’ with the support of the European Climate Foundation (ECF). The meeting focused on Russian policies in anticipation of the Climate Change Summit in Copenhagen and on the country’s economic dependency on fossil fuel exports. Russia played a constructive role in shaping the multilateral framework on climate change when it ratified the Kyoto Protocol in 2004. Russia's role at the Copenhagen summit was important, and its continued engagement will be important, as will that of other major stakeholders such as China, the United States, the European Union and Japan. In light of Russia’s recently adopted Climate Change strategy, the meeting addressed climate change policy in the broader context of energy sector governance. The Russian government has emphasised the need to take a responsible position and for further international cooperation. The meeting helped to clarify views and looked at opportunities to define commonalities in aims and approaches for Russian and European partners among senior experts and company representatives from Russia, the Paris International Energy Agency and leading centres on Climate Change Policy such as the Finnish Institute of International Affairs.

In October, CIEP and the Clingendael European Studies Programme (CESP), in cooperation with the Netherlands Ministries of Foreign and Economic Affairs, organised a seminar on EU renewable energy policies, which successfully facilitated a high-level debate about the transition to an economy in which renewable energy will be a crucial source in the future energy mix. In an open and fierce discussion, senior government officials from several European countries and the European Commission, together with experts from the industry and research institutes, discussed the challenge of how to realise this transition.

Projects

Clingendael Asia Studies (CAS)

China is increasingly becoming a high profile player in the global efforts to achieve a transition to a more sustainable energy system. In recent times, China has gained much praise and recognition for the fact that it has been pursuing progressive policies aimed at addressing the problems that follow from its rapidly rising energy demand. Dealing with these challenges successfully is of utmost concern to China itself, as well as to the world at large, as the developments in China's energy sector have global repercussions.

Especially in the context of the climate change treaty negotiations leading up to Copenhagen, China's proactive energy and climate policy has become part of China's efforts to assert itself as a 'responsible stakeholder' in the global political system. There is no doubt that it will remain a huge challenge to restructure China's coal-dominated and inefficient energy system. Yet rapid progress in various fields such as wind energy, solar energy and other renewables, as well as in nuclear energy, advanced coal technology and other low-carbon industries warrant a thorough appraisal of future opportunities. As the manufacturing centre of the world, the success of new energy-related technologies in China could very well have an impact around the globe.

CIEP /CAS hosted a one-day conference in November 2009 to discuss the role of China in the global efforts to achieve a transition to a more sustainable energy system. A key selection of renowned experts from academia and the industry shared insights on the various rapidly developing energy sectors in China. The opening speech was presented by H.E. Mr Zhang Jun, Ambassador of the People's Republic of China to the Netherlands. An introductory panel discussed the position of China in an international context and put Chinese energy and climate change policy in a global perspective. Three more panels addressed specific issues related to China's energy system more in-depth. Attention was given to the status and potential of renewable energy sources and energy efficiency; developments in the utilization of coal and the promotion of nuclear energy; and the future potential of technologies such as carbon capture and storage (CCS) and other technologies. Additional themes were the related government policies and their impact, and the opportunities and challenges offered in these rapidly evolving markets from a business perspective.

Scarcity and transition

CIEP participated in a multidisciplinary project group under the supervision of the Ministry of Housing, Spatial Planning and Environment (VROM) and the Ministry of Foreign Affairs to conduct a meta-survey of developing scarcities of food, water, energy, minerals and metals in the world, within the context of climate change, loss of biodiversity and changing geopolitical relations. CIEP was part of the project group that mapped out the gaps in our knowledge on these various scarcities and particularly those issues where one problem causes another in one of the other domains. At the end of the project, a series of questions for further research was developed.

Oil and Gas in the Netherlands

Two chapters on oil and gas in the Netherlands were written for a book of the Rathenau Institute on 'Future energy in the Netherlands'. The book, which will be published in 2010, concentrates on the societal influence of fossil fuels in the Netherlands and how the transition towards households being more sustainable in their energy use will take shape.

PhD activities

In addition to the regular CIEP research and activities on natural gas, CIEP currently supports two PhD gas research projects, which are supervised by Coby van der Linde. Two other professors from the University of Groningen are also involved in these PhD projects as supervisors. The two PhD candidates – Timothy Boon von Ochssée and Tom Smeenck – focus their research on the international economic and geopolitical aspects of the gas markets, with a particular emphasis on Russia. Timothy concerns himself with international cooperation between gas-exporting countries (also with a focus on Russia) and Tom explores the investment policy of the Russian gas industry along the gas value chain, i.c. the mid-stream activities. Given the fact that they use and apply in part the same theoretical framework, their research is conducted in close cooperation. They intend to defend their dissertations in the course of 2010.

World Energy Council (WEC)

CIEP traditionally hosts the Netherlands' World Energy Council (WEC NL) board meetings and one CIEP staff (Lucia van Geuns) is a member of the board. CIEP contributed to national and European preparatory discussions and analyses on the forthcoming WEC-scenarios of up to 2050.

Training programmes

In 2009, CIEP organised two training days open to the general public: 'EU Energy Policies and External Relations' (27 May) and 'The Geopolitics of Energy' (10 November).

In addition, two tailor-made training programmes were offered: a two-day conference/workshop organised for the Diplomatic Institute to the Ministry of Foreign Affairs of the Republic of Bulgaria in Sofia (2-3 November 2009), and a training on 'International Energy Politics and the Netherlands' for the Dutch Rekenkamer (12 June 2009).

CIEP staff lectured in Clingendael Institute courses, for the Energy Delta Institute, Groningen University and Delft University of Technology, and in a series of events throughout the year (see also Appendices 3 and 4).

Knowledge Centre

An important task for CIEP is to provide the general public with information on energy-related topics. This is achieved in part by CIEP's own activities and publications, but also through giving public lectures and interviews to the media. In 2009, over 180 presentations,

lectures and interviews were given by CIEP staff. Further, the CIEP website served as an important source of information about publications, activities and training programmes.

Network

CIEP is primarily a networking organisation. CIEP is a small organisation and does not intend to compete with other energy oriented knowledge centres, but rather works to complement and cooperate with many of these institutions. Positioned between the private sector and public institutions, between scientific research organisations and consultants, CIEP strives to achieve its mission and objectives via cooperation across its extensive network.

CIEP has initiated discussions between different experts in its extensive network. For example meetings between energy and environmental experts and between energy and security experts have served as sounding boards for new issues in international and national energy. The various study groups and meetings with CIEP supporting institutions also serve as networking events.

CIEP supporting institutions

In 2009, CIEP was supported by the following institutions:

- Dutch Ministry of Economic Affairs (EZ)
- Energie Beheer Nederland (EBN)
- Gasunie
- Gasterra
- ING Group
- Nederlandse Aardolie Maatschappij BV (NAM)
- N.V. NUON
- Oranje-Nassau Energie BV
- Total E&P Nederland BV
- Port of Rotterdam
- Shell Nederland BV
- Dutch Ministry of Housing, Spatial Planning and the Environment (VROM)
- Vopak Oil Logistics Europe & Middle East B.V.
- Essent
- Eneco
- BP
- Wintershall
- Dutch Ministry of Foreign Affairs (BZ)
- RWE Nederland
- Esso Nederland B.V.
- Delta
- Electrabel

These institutions are a cross-section of energy sector stakeholders in the Netherlands. The companies are major international players in their field of expertise. The public institutions understand that national energy policy is largely influenced by international developments. The institutions contribute to CIEP's knowledge base and *vice versa*, especially within the CIEP Advisory Board and the Contact Group. Furthermore, staff members from the institutions participated actively during 2009 in CIEP research and study groups, such as the Gas Study Group, the Oil Discussion Group, and the Energy Mix Discussion Group.

CIEP network

Many of our activities and studies are conducted in cooperation with partner organisations in the Netherlands and abroad. In the course of time a wide network of researchers has developed. The intensity of contact depends on the project at hand, but in general many of the contacts continue in other projects. We are also approached to participate in consortia of researchers, and, when the project fits within the CIEP research agenda for that period, we agree to participate or not. The network of energy researchers is global, and each year new partners join the network. Some relations with research and activity partners have become very close, and a variety of interactions take place every year, from keeping in touch on current issues to organising conferences and conducting joint studies.

Within the Netherlands, CIEP has working relationships with a wide variety of institutions, including, among others:

- Energy Delta Institute (EDI)
- Energy research Centre of the Netherlands (ECN)
- International Institute for Asian Studies (IIAS)
- Technical University Delft (TU Delft)
- Centrum voor Energiebesparing (CE Delft)
- Netherlands Environmental Assessment Agency (PBL)
- University of Groningen (RUG)
- Algemene Energieraad (AER)

Internationally, the CIEP network spans among others the following institutions:

- The Loyola de Palacio Programme of the European University Institute
- The Fondazione Eni Enrico Mattei (FEEM)
- Wilton Park (WP)
- European Policy Centre (EPC)
- Royal Institute for International Affairs (RIIA, Chatham House)
- Oxford Institute for Energy Studies
- Institut Français des Relations Internationales (IFRI)
- DGTREN (European Commission)
- International Energy Agency (IEA)
- International Energy Forum (IEF)
- Columbia University (New York)
- The Atlantic Council of the US
- World Energy Council (WEC)
- Moscow State Institute of International Relations (MGIMO)
- European Commission, Joint Research Centre, Institute for Energy

Internal organisation

CIEP continues to administer the allocation of staff and budgets to the different public activities, research projects and other activities in a transparent way. In this way CIEP uses time registration (BigBen software), which facilitates prioritising time and assets.

Overview

CIEP publications

The following overview highlights a selection of 2009 publications, most of which are available on the CIEP website. CIEP associated staff and associated staff also published articles in newspapers, scientific journals and other formats that are not mentioned here.

CIEP articles/papers

Breinbreker - een vooruitblik op de internationale oliemarkt in 2009. Coby van der Linde, Article in *Internationale Spectator*, January 2009.

The Climate for Steel - Actions for, and conditions to, a Copenhagen climate agreement from the perspective of the EU steel sector. Stephan Slingerland, Luc Werring, Sander de Bruyn (CE Delft), Marisa Korteland (CE Delft). February 2009.

Upping the Stakes: Some lessons for the EU from the recent Russia-Ukraine gas crisis. Coby van der Linde and Jacques de Jong. CIEP Briefing Paper. February 2009.

Fourth follow-up: Moving Beyond the Stalemate: Addressing the nuclear challenge by supranational means. Ruud Lubbers. CIEP Briefing Paper, April 2009.

Het Nederlands belang bij een Europees energie- en klimaatbeleid. Stephan Slingerland, in: *Ons belang in Europa*, A. Sabahoglu (Red.), May 2009.

The EU Emission Trading System: Too little, too late? Luc Werring. CIEP Briefing Paper, June 2009.

Een energiebeleid voor Curaçao: Beleidsvisie, doelstellingen en maatregelen. Matthijs Hisschemöller, Aad Correljé, Jacques de Jong, Ingrid Boas, Ries Bode, Coby van der Linde, Eline van der Velden. Rapport, Juni 2009.

Gambling in Sub-Saharan Africa: Energy Security through the Prism of Sino-African Relations. Bas Percival, Benjamin Valk and Lucia van Geuns. CIEP Energy Report, July 2009.

Some Policy Challenges of a Global Nuclear Renaissance. Warner ten Kate and Jacques de Jong. CIEP briefing paper, July 2009.

Kan Venezuela's oliesector Chavez'ambities nog langer dragen? Jasper Honkoop. Article in *Internationale Spectator*, July-August 2009.

Crossing Borders in European Gas Networks: The Missing Links. Aad Correljé, Dick de Jong and Jacques de Jong. CIEP Energy Paper, September 2009.

China, Copenhagen and Beyond. Bram Buijs. CIEP Energy Paper, September 2009.

Tabula Russia. Christof van Agt. CIEP Briefing Paper, October 2009.

Negotiating a Robust Climate Policy. Luc Werring. CIEP Briefing Paper, November 2009.

CO₂ als nieuwe munteenheid van schaarste en transitie. Coby van der Linde. *Internationale Spectator*, November 2009.

China als sleutel tot succes in de klimaatdiscussie. Bram Buijs. *Internationale Spectator*, November 2009.

Van Moskou naar Kopenhagen: Russische vergezichten op klimaatverandering. Christof van Agt. *Internationale Spectator*, November 2009.

CIEP columns

The 2009 columns in Energie Nederland (Energy Netherlands) are written by Coby van der Linde, Pieter Boot and Aad Correlje; bi-monthly columns by Coby van der Linde in the journal *European Energy Review* (<http://www.clingendael.nl/ciep/publications/columns/>).

CIEP activities

CIEP organised numerous activities (meetings, training programmes, conferences, etc.) during 2009. A listing is given below (see also <http://www.clingendael.nl/ciep/events/2009/>).

2 February 2009 - Clingendael Energy Lecture: "The Medium Term Oil Market Outlook" by Mr Nobuo Tanaka, Executive Director of the International Energy Agency (IEA)
<http://www.clingendael.nl/ciep/events/20090202/>

13 February 2009 – CIEP Conference: "Energy Corridors in SE-Europe"
<http://www.clingendael.nl/ciep/events/20090213/>

16 February 2009 - CIEP & CESP Roundtable: "Will Obama become the new international climate policy leader? - US and EU roles on the road to Copenhagen"
<http://www.clingendael.nl/ciep/events/20090216/>

10 March 2009 - CIEP & CSCP Conference: "Security Challenges of a Global Nuclear Renaissance" <http://www.clingendael.nl/ciep/events/20090310/>

1 April 2009 CIEP Away day



20 April 2009 – CIEP event: "The Caspian Development Corporation Concept"
<http://www.clingendael.nl/ciep/events/20090420/>

28/29 April 2009 – CIEP/US Atlantic Council event on "US-EU Workshop on a Shared Vision for Energy and Climate Change" (Brussels)

26 May 2009 – CIEP /IFRI "Turkey, Azerbaijan and the Southern Gas Corridor".
<http://www.clingendael.nl/ciep/events/20090526/>

25-26 May 2009 - CAS conference: "Is Europe ready for Asia's rise?"
<http://www.clingendael.nl/asia/events/20090525/>

29 April 2009 – CIEP Round table debate: "From Moscow to Copenhagen: Russian Perspectives on Climate Change and Energy Governance"
<http://www.clingendael.nl/ciep/events/20090529/>

29/30 June 2009 – Workshop "The Green Package approach and its consequences for the internal energy market design and the implementation of the 2nd Strategic Energy Review"
<http://www.clingendael.nl/ciep/events/20090629/>

30 June 2009 - CIEP Energy Lecture "The BP Statistical Review of World Energy 2008"
<http://www.clingendael.nl/ciep/events/20090630/>

10 July 2009 – CIEP energy meeting "Energy Security and the role of Sub-Saharan Africa"
<http://www.clingendael.nl/ciep/events/20090710/>



17 September 2009 – Gas Day <http://www.clingendael.nl/ciep/events/20090917/>



21 September 2009 – CIEP Energy Lecture "The Road to the IEF 2010" Noe van Hulst
<http://www.clingendael.nl/ciep/events/20090921/>

28/29 September 2009 – CIEP Workshop "Smart EU Policy", FEEM, Milan
<http://www.clingendael.nl/ciep/events/20090928/>

9 October 2009 - CIEP Caspian Expert Roundtable with Ambassador Richard Morningstar, US Department of State Special Envoy for Eurasia Energy
<http://www.clingendael.nl/ciep/events/20091009/>

21 October 2009 - CIEP seminar "Duurzame energie: Nederland en de Europese doelstellingen" together with the Duurzame Energie Koepel
<http://www.clingendael.nl/ciep/events/20091021/>



23 October 2009 – EU policy seminar with CESP "EU Renewable Energy Policies: A need for further action at the national or European level"
<http://www.clingendael.nl/ciep/events/20091022/>

30 October 2009 – CIEP roundtable "The Arctic and the Netherlands"
<http://www.clingendael.nl/ciep/events/20091030/>

9/10 November 2009 – CIEP/US Atlantic council event on "Transatlantic cooperation on sustainable energy security" (Washington)

18 November 2009 – CIEP/CAS day seminar "China, Copenhagen and beyond"
<http://www.clingendael.nl/ciep/events/20091118/>

3-5 December 2009 – CIEP/Wilton Park Conference: "A smart EU energy policy"

8 December 2009 – Presentation by Erwin Mulders, Ministry of Housing, Spatial Planning and the Environment on the latest developments in the Copenhagen negotiations and by Peter de Wit of Shell Nederland on the strategy of Shell in a carbon-constrained world.

Trainings

27 May 2009 - EU Energy Policies and External Relations

10 November 2009 - The Geopolitics of Energy

CIEP also offered training programmes customised to particular needs and interests:

- Two-day conference/workshop for the Diplomatic Institute to the Ministry of Foreign Affairs of the Republic of Bulgaria in Sofia (2-3 November 2009)
- One-day International Energy Politics and the Netherlands' workshop for the Dutch Rekenkamer, 12 June 2009

Meetings

- Board meeting Stichting Fonds Instituut: 22 January, 19 May, 18 November 2009
- Contact Group meetings: 24 February, 26 May, 22 September, 1 December 2009
- Advisory Board Meetings: 30 June, 8 December 2009
- Gas Group: monthly meetings
- Oil Group: quarterly meetings
- Fuel Mix Brainstorm Group: six meetings as of April 2009

Lectures, Speeches and Presentations

During 2009, CIEP staff members gave a total of 120 lectures, speeches and presentations or chaired sessions during training courses, conferences and seminars (a selection of the external lectures are listed in Appendices 3 and 4).

Media

CIEP staff members gave over 60 interviews for radio, television and newspapers during 2009.

Website

All publications and/or reports of CIEP (associated) staff can be found at <http://www.clingendael.nl/ciep/publications>. Internet is an important communication tool for CIEP. In 2009, the Clingendael site recorded more than 11 million successful hits. PDFs of CIEP publications were frequently downloaded (approx. 52,500 times). Last year, the most popular page was <http://www.clingendael.nl/ciep/publications/>.

Staff

In 2009, the CIEP staff comprised the following people:

Coby van der Linde	Director	(0.7fte)
Lucia van Geuns	Senior Researcher/Deputy	(0.8fte)
Stephan Slingerland	Senior Researcher	(0.8fte)
Christof van Agt	Senior Researcher	(0.8fte)
Warner ten Kate	Researcher	(1.0 fte) (until 01-06-2009)
Stijn van den Heuvel	Researcher	(1.0 fte) (until 01-05-2009)
Tom Smeenk	Researcher	(1.0 fte)
Bram Buijs	Researcher	(1.0 fte)
Jochem Meijknecht	Researcher	(1.0 fte) (from 01-08-2009)
Bas Percival	Researcher	(1.0 fte) (until 01-02-2009)
Tim Boon von Ochssee	Researcher	(0.2 fte) (1.0 fte from 15-09)
Wendy Auf dem Brinke	Secretary	(0.7fte)
Marco Blankestijn	Fin. Administrator	(0.2fte)

In addition to the core staff, CIEP has four fellows and three associate fellows:

Jacques de Jong	Seconded Senior Research Fellow	(0.8 fte)
Dick de Jong	Senior Research Fellow	(0.2 fte)
Luc Werring	Senior Research Fellow	(project basis)
Pieter Boot	Senior Research Fellow	(0.2 fte) (from 01-04-2009)
Aad Correlje	Associate Fellow	(0.2 fte)
Reinaldo Figueredo	Associate Fellow	(project basis)
Dirk Bendsdorp	Associate Fellow	(project basis)

During 2009, the following students were connected for at least part of the year to CIEP staff:

Jasper Honkoop	Student Intern
Irina Mironova	Student Intern
Roos Knulst	Student Intern

Other functions held by CIEP staff members:

Coby van der Linde	Part-time Professor of Geopolitics and Energy Management, University of Groningen Member of the Dutch Energy Council Member of the Supervisory Board of Wintershall Nederland B.V. (WINL) Member of the Supervisory Board of Alliander
Lucia van Geuns	Member of the board of the World Energy Council Netherlands (WEC NL) Member of the Earth and Lifesciences Council (RAL) of the Royal Netherlands Academy of Arts and Sciences (KNAW)

Board of the Foundation Stichting Fonds Instituut Clingendael in 2009

Drs. G.H.B. Verberg, President

Mw M.E.R. barones de Vos van Steenwijk-Groenenveld, lic., Vice-President

Drs. H.D.A. Haks RA, Treasurer

Mr. W.F. Dutilh, Member

Mr. W.O. Russell, Member

Ir. R. Willems, Member



CIEP staff and members of the board. CIEP Away day, April 2009



Source: *Energie Nederland*, jaargang 12, nr 15 November 2009

Appendix 1: About CIEP

Introduction

In September 2001, the Netherlands Institute for International Relations, 'Clingendael', launched the *Clingendael International Energy Programme* (CIEP). Supported by twelve institutions from the public and private sectors, CIEP participates in and seeks to make significant and substantive contributions to the public debates on national and international developments in the energy sector. After the initial period 2001-2004, CIEP continued largely on the same footing as the previous years based on the plan and estimated budget as described in the document *CIEP 2005-2008, Towards a European Forum* and agreed upon by the Board of Stichting Fonds Clingendael and seventeen participating institutions.

The main reasons for initiating CIEP were:

1. The need for a forum to discuss developments in the European energy markets, e.g. the liberalisation of the European energy market, which will impact the organisation of the market, government energy policies and strategies of companies operating in the energy sector. These changes in the internal European market take place against the backdrop of an expanding European Union, increased dependency on imported fossil fuels and efforts to address environmental concerns;
2. The concerns raised in public debates about security of supply and a growing import dependency, not only for European Union member states but also for other major consumer regions. These concerns will influence the policy options and choices of both consumers and producers. The political and economic developments in, for instance, the United States, Russia, the Middle East, the Caspian Sea region, and Asia, are therefore important in assessing the developments in the European energy situation.

Mission

Through research, the publication of studies, information releases (particularly through the media and internet) and the organisation of courses and training programmes, CIEP makes a fundamental contribution to the public debate on international politics and economic developments in the energy sector (oil, gas and electricity).

Objectives

- To serve as an independent forum for governments, non-governmental organisations, the business community, politics, the academic world, the media and other stakeholders or interested parties.
- To gather and develop information and knowledge about international political and economic developments in the energy sector on the basis of research, supported by a documentation system.
- To propagate information and knowledge about international political and economic developments in the energy sector by means of seminars, conferences, lectures, courses, publications and information releases via the media.
- To initiate discussions about current events and future developments relevant to the energy sector, energy policy, legislation and the relationship between the government and the private sector.

Research and activities

CIEP's research and activities focus on three main subject areas:

- A. Regulation of energy markets (oil, gas and electricity) in the European Union;
- B. International economic and geopolitical aspects of the oil and gas markets, mainly with respect to the security of oil and gas supply in the European Union, in the context of an increasing dependence on imported energy; and
- C. Energy and sustainable development.

The staff of the Clingendael International Energy Programme, in conjunction with the staff of the Institute at large, develops courses and training programmes on the above-mentioned themes. CIEP publications and research results are made available primarily through the CIEP website (www.clingendael.nl/ciep), which forms part of the Clingendael website.

Appendix 2 Work plan CIEP 2009-2012

ENERGY: BETWEEN A ROCK AND A HARD PLACE

THE GROWING MISMATCH BETWEEN LONG TERM ENERGY AND CLIMATE CHANGE VISIONS
AND SHORT TERM MARKET DEVELOPMENTS

Work plan CIEP 2009-2012

CIEP is predominantly a network organisation with a strong public dimension. The success and recognition of CIEP is based on the combination of certain qualities, such as its independence, the provision of timely analyses from an international economic and geopolitical perspective, a focus on pre-competitive knowledge and an integrated view on the three pillars of energy policy – the *environment*, *market regimes* and *security of energy supply*. This formula offers CIEP a unique position, not only in the Netherlands, but also internationally, especially within Europe.

Modes of operation

Forum

As an independent organisation, CIEP is able to function as a forum for the stakeholders in the energy sector. The forum function is shaped by the coordination of a variety of activities with participants and invitees from governmental agencies from different countries, the private sector, NGOs, scientists and representatives of supranational organisations, in which energy and climate change issues are discussed in an open and informal setting, typical for meetings under the Chatham House rule.

Representatives of different stakeholders groups also participate in CIEP research activities. The CIEP advisory board and contact group, with representatives from the supporting institutions, are an important part of the CIEP forum function. CIEP underpins sector-wide initiatives and facilitates meetings and conferences. The Forum function of CIEP in the Netherlands and EU is well established. Across Europe but also in Moscow and Washington, CIEP staff is involved in debates about a wide range of energy and related climate change issues.

Think-tank

As a think-tank on energy issues, CIEP operates from an international economic and geopolitical perspective. Research is characterised by an integrated approach to energy policy, a focus on pre-competitive issues and executed from the assumption that 'energy is politics'. CIEP is independent in formulating its research agenda. Results from CIEP research are intended for the public domain and published accordingly on the CIEP website. CIEP conducts research according to academic standards, but its publications are aimed at public

and policy issues. CIEP also conducts research for others, as long as the work fits within the research agenda and the results can be made public. In the capacity of a think-tank, CIEP also advises government agencies, companies and NGOs. Already well-respected in the Netherlands, CIEP is also internationally recognised as a leading knowledge organisation on a wide range of energy issues ranging from security of energy supplies, market developments and geopolitics to future fuels.

Knowledge transfer

By active transfer of knowledge, CIEP works to increase public understanding of energy and to inform the quality of public debates. In addition to research outputs, other key modes of knowledge dissemination have been through the media, short courses/modules, lectures, consultations with specific focus groups, and participation in the activities of other organisations.

With our base in the Hague, it is natural that CIEP's knowledge transfer functions will maintain a strong focus on the Netherlands, but increasingly participants from elsewhere in Europe find their way to CIEP modules and finds CIEP going to elsewhere to offer short courses and presentations. Together with EDI and other partners, CIEP will be involved in a Gas Business Master's programme.

Society

CIEP staff are involved in various councils, advisory boards and panels such as the International Gas Union's Wise Person group, the Dutch energy council, the board of WEC NL, the supervisory board of Rotterdam Clinton Climate Initiative, the editorial board European Energy Review, etc.

CIEP organisation

CIEP is a project in the Stichting Fonds Clingendael, and thus financially and organisationally separate from Institute Clingendael. Stichting Fonds has its own board and governance structure. CIEP also has an Advisory board and contact members group to ensure exchange of information with participating organisations and guard the CIEP public agenda. In content, CIEP work is related with some of the core themes of Clingendael, mostly in the geopolitical/strategic and European sphere, although Clingendael does not cover the economic approaches to these themes, which limits the overlap. In the Asia Studies programme, CIEP and Instituut Clingendael continue to cooperate in a joint project. CIEP also cooperates with other research institutions both in the Netherlands and abroad.

Research Themes and Focus in the coming period

Long term visions and short term bottlenecks

The European ambitions for a more sustainable energy system have taken shape with the Commissions proposals of 10 January 2007 (SEC) 12, 2007, and the Councils' acceptance of the main thrust of the proposals (Feb. 2007). The catchphrase '20-20-20 in 2020' (20% more energy efficiency, 20% share of sustainables in the energy mix and a 20% reduction of CO₂ emissions by 2020) reflects the Commission's ambitions to make a serious step towards a low carbon economy. These ambitions must be achieved in a European market environment, of which the contours have been further defined in the Commissions' 19 September 2007 package. At the same time, security of oil and gas supply is an important precondition for the smooth transition to a lower carbon economy. The three pillars of energy policy, price,

security and environment, must not only be integrated into one consistent policy approach but is now at the core of the proposed 'new industrial revolution'.

With the clarity on where the energy system must go in the longer term, the short and medium term problems, however, are dauntingly short of a solution. The recent publication of the IEA World Energy Outlook 2007 is more somber than it was ever before, about oil price developments, investment needs in oil and gas value chains, structure of markets, demand outpacing supply, and meeting climate targets. The emergence of new fast growing economies, such as India and China, has driven demand for fossil fuels to new heights and production has difficulty keeping up. The stresses and strains appear in all parts of the energy value chains, evidenced by both cost push and demand pull inflation. Marginal cost has increased to high levels indeed, and is expected to increase further when more marginal oils, such as from the Arctic, oil sands, oil shales, and biofuels, have to be exploited, while the pace of development of medium cost oil remains disappointing. This medium cost oil is located predominantly in OPEC countries and Russia. The income of oil producing countries is now successfully generated through the oil price rather than through selling volumes, which has increased their reluctance to invest in new production capacities. With international oil companies locked out of the medium cost oil developments by national governments, and the unlevel playing field in African developments with national companies from consumer countries such as China, only the most expensive options are left for international oil companies. Yet, these same companies are the backbone of the world oil trading system, offering their oil to the highest bidder.

At the same time, many consumers are shielded from the price developments through government subsidies, fueling demand growth in the producing countries and China. The large monetary surpluses of these countries, in oil producing countries due to the transfer of wealth as a result of higher oil prices and in China by hoarding labor productivity gains at the government/state level, imply that these countries can subsidise energy for some time to come. They command their share of resources, using both international markets and bilateral agreements to realize this. Simultaneously, oil fields are being developed with the articulated intention of generating a bilateral oil flow, rather than a flow destined for world markets, undermining the global oil trade system. The oil trade system could, if more oil is diverted away from world markets into two parallel systems, where price is no longer the only tool of distributing scarcity. Instead (geo)politics can develop into a separate tool of distribution. There is one source of new oil production that can change the current rules of the game; Iraq. Iraq has large onshore medium cost oil reserves that have not been exploited intensely. Production could increase with another 4-6 mb/d with the proper investment climate and in a situation of political stability. For the global oil market, and thus the OECD countries that are wedded to the availability of oil through the world oil trading system, it is increasingly important that this lower cost Iraqi oil becomes available in order to buy some more time to fend off the worst effects of the supply-constrained world. The political situation is however not promising. Neighbouring countries will be reluctant to share the oil income pie, particularly not when they are set on a course of further divorcing cost of production and price.

It is obvious that the transition to a less carbon intense economy is going to be far from smooth. The dilemma of course is that transiting to a different energy system can only be pursued under a certain strain of scarcity and/or geopolitical constraints, otherwise incentives to change are limited. Furthermore, solutions to one problem can easily bring forth new ones,

evidenced by the current expansion of biomass production that clashes with the stock of nature and food production.

The new but alarming tone of the IEA started with its 2005 publication, and since then the worries have increased to the point where the earlier staunch belief that markets could resolve any concerns about climate and security has been traded for a mixed approach where government intervention has gained ground. This intervention should focus on disciplining the energy system into a more efficient and low carbon direction. Yet, at the same time, the ongoing concentration of oil and gas supplies, triggers countries into favouring coal and nuclear for electricity generation for security of supply reasons. In order to meet climate policy goals, coal must be revolutionised into 'clean coal' through the rapid development of sequestration technologies, while the thin border between nuclear energy for civic and strategic use causes concerns with more countries seeking a solution for their rising electricity demand in this direction.

In the past decade, the oil and gas markets have changed from a buyers' to a sellers' market. In the past, the outlook was that eventually this process would be reversed, as happened from the mid-1980s onward and that the boom-bust cycles would continue to repeat themselves. In this thinking, the current sellers' market would in time be reversed into a buyers' market. The issue is that the price level at which the next fossil fuel buyers market might occur, is deemed to be much higher than in previous decades due to a more structural shift in costs and demand. For a complexity of reasons, geological, technical, economic and political, the consensus is now that structural supply constraints have brought the era of cheap fossil energy to an end. With traditional fossil fuel costs rising and costs of new fuels not declining fast enough (both a function of technology and the availability of the new fuels), the short and mid term outlook leaves the world with dearer energy, and no guarantee that bottlenecks in both the traditional energy markets and the new energy markets can easily be solved.

On the one hand, dearer fossil energy will reduce the cost between the 'old' and 'new' fuels and lowers the transition threshold to a low carbon economy, while on the other hand, the risks of mismatches in timing of replacing fuels and its infrastructure increase the risk of a transition crisis and the subsequent suboptimal solutions that might be pursued. The terms of availability of energy, including ownership issues, market structure, national interests, in an ever growing international market will be an important factor in shaping the future geopolitical and economic relations because energy is also power in geo-economic and geopolitical terms. Already we are witnessing more bilateral relations between producer and consumer countries in an attempt to reduce uncertainty of demand and supply. Also in the market, joint-ventures between NOC's and IOC's reflect the new organisation structure, where both national and commercial interest are newly bundled. The new structure will bring new winners and losers and is by no means a guarantee for a peaceful but competitive change to a next generation energy system. When the distribution of military power, economic power, political power and energy power is in flux, conflicts can easily derail the likelihood of an evolutionary transition.

Markets and governments

The maturity of the OECD conventional oil and gas reserves seriously undermine the options for diversification away from certain producer countries (for reasons of political and economically instability or geopolitical reasons), while climate change policies reduce the options to diversify to coal and unconventional oil, unless larger scale carbon storage can be realised soon at reasonable costs and with manageable risks.

Yet, the path to the realisation of the low carbon economy is still long and fraught with both internal and external political and economic dilemmas. Governments and companies in the OECD will struggle with:

- the short term nature of energy markets and the longer term process of balanced change (as opposed to change as a result of a crisis) in the fuel mix;
- economic efficiency in a world market where public interests such as environmental and security externalities are not or not sufficiently priced in;
- national optimisation of energy production (f.i. depletion policies, macro-economic stability, etc.) and consumption viz. international optimisation;
- variations in prioritising public interests among countries, including among the EU member states;
- fossil energy intense development viz. sustainable development;
- rent-seeking behaviour in the fossil and sustainable energy value chain by both private companies and governments;
- competition for scarce resources viz. cooperation;
- energy diplomacy and the growing importance of energy (and water) on the foreign and security agenda;
- public viz. private ownership of the energy value chain;
- bilateral or multilateral energy markets or politicised viz. economised markets;
- structural import dependence viz. structural energy income dependence;
- negotiated climate change policies or race to the top type of policies;
- etc.

These dilemmas and others will occupy policy-makers and company managers in the next years in a world where the balance of power in the world is shifting and where national and international public interests will be redefined. The outcome of this struggle between national and international energy interests is uncertain. Already, some states have decided to take firmer control over their energy industries in an attempt to merge the political and economic interests of the state in energy, while other states attempt to break up the power of companies through regulatory controls.

The combination of long term goals for structural change of the (energy) economy on the one hand, and more emphasis on short term efficiency in the market environment is both a theoretical and practical challenge. The protection of the environment and security of supply policies are public interests that, when pursued, complicate the organisation of already incomplete (international) markets for energy. Bottlenecks in capital allocation, long lead times, the long life of infrastructure and production sites, locked-in fuel choices, but also foreign policy and market organisation orientations and high barriers to entry and exit impact on the completeness of the market for energy. But energy is also about power, the political-strategic and economic position in the world system. States without access to energy cannot develop into modern economies, nor into powerful geostrategic players. The energy sector, because it is a basic input in our economy, has always been a mixed sector where economic and political interests convene. The low carbon economy is both about genuine concerns about the impact of CO₂ emissions on the world climate system and about the reduction of structural import dependency, but it is also about getting the better of rival states. Political competition is concerned with a different type of efficiency than market efficiency, and market efficiency is less concerned with long term environmental efficiency. In addition, there is also a struggle among consumer countries for scarce energy resources. Already we see

the emergence of a bilateral or national economy driven trade and investment system that could lower the liquidity of world oil markets.

As much as governments are challenged to safeguard the public goods, environment and energy security, companies will be challenged to internalise the changing political and economic context of energy and the environment, and transform these in commercially attractive company strategies and products. Much will depend on the governments' ability to define the market space and ability to create, amidst change, sufficient investor certainty to invest. The dilemma for existing companies is to respond to both the short term demands of capital markets (and activist investors) and the long term government demands of moving into a low carbon economy. OECD governments will employ a mixture of incentive based policies with increasing norms for energy and environmental efficiency. It is unclear whether these norms and incentives can and will be implemented throughout the various energy value chains. This depends on the level of consensus and cooperation (or the lack thereof) in the international political arena. At the same time, companies are bound by policies of their host governments (and their specific national interests and position in the balance of power) and international competition. It is likely that boundaries between certain sectors of the economy will fade (in agriculture for instance) and that new competitors will encroach on the vested interests of traditional energy companies. Loosening the ties between natural endowment and fuels of choice can change the distribution of rents among companies and governments. Both companies and governments are not only addicted to oil and gas but also to the economic rents that they can capture. It is yet uncertain if the new fuels will be as attractive from a rent-seeking point of view.

The changing market structure of oil and gas markets, both as a result of demand from emerging economies and new economic and energy strategies of governments, will greatly impact the organisation of the energy sector and its players. Consolidation, mergers and acquisitions, break ups of traditional companies and reorganising them in a different setting in the value chain belong to a period of structural market change. Companies will face many dilemmas of which the current dilemma of access to energy resources and markets is but one. The biggest challenge for existing companies will be to select fuels, technologies and government alliances.

Challenges to the CIEP agenda for 2009-2012

The challenge for CIEP will be to understand the underlying political and economic forces that shape the future government and company strategies. The three themes of research (European energy markets; security of supply and sustainable development) offer sufficient legroom to be the foundation for another period of research and activities under these headings. Like in the previous periods, shifts in emphasis within these three themes on a year to year basis have allowed CIEP to both develop a broad knowledge base as well as an ability to change gear within and between themes. In the coming period, we expect to be involved in fuel mix choice discussions, forcing us to include more research on coal and nuclear, but also on biomass, in addition to oil and gas. We also expect that energy trading routes will become more important and that policy orientations of major consuming and producing countries will shape both the energy debate and the environmental negotiations. The work on Europe, Russia, China, other Asian countries, the Caspian Sea region, the Middle East and increasingly the US, will be expanded to include developments in Africa and South America.

In the period 2009-2012, new international climate negotiations but also supply constraints will shape the debates and policies. The market structure will have undergone profound

changes as the rate of reserve replacement of international oil and gas companies and market access of national companies will impact the strategies. CIEP should therefore not only focus on the changing context of energy markets and government policies but also invest in understanding company strategies. The aim is thus to develop a more complete understanding of the developments in the international energy and environment sector.

Research Themes

Theme A Development of European Energy Markets

The European Union has been involved in a long process of liberalisation (and privatisation). Liberalisation was, however, not the panacea to solve all the energy policymakers problems, such as the public interests security of supply and environmental problems. The switch from a buyers to a sellers market challenged the political promise of policy makers that energy prices would decline as a result efficiency gains. Moreover, the regulatory burden and the cost of organisational change pushed these gains elsewhere in the economy, while investor uncertainty resulted in bottlenecks in the system. Also, although many risks were privatised to the level of the consumer, information and instruments to reduce these risks are wanting, creating a backlash in some countries to not 'go the whole nine yards' in liberalisation and instead promote national champions to improve the negotiation position with large third country transport and supplier companies. Despite the much heralded advantages of liberalisation, it was also clear that governments could never leave fuel choice to the market alone, nor to the Commission as evidenced by the Chairman's conclusions of March 2006, if they were serious about their environmental and other policies. The 20-20-20 policy the European Commission is advocating has a profound impact on the market space and available companies choices, while the nascent external energy policy has impacted the energy relationship with Russia and other producers.

CIEP will focus both on the development of the internal energy market, and increasingly also the markets for alternative fuels, also in the context of world markets.

B. The international economic and geopolitical aspects of energy markets, mainly with respect to the security of energy supply in the European Union, in the context of an increasing dependence on imported energy.

In the next 25 years, the import dependency of the European Union will continue to increase, while at the same time the supply of oil and gas on the international market will become more concentrated. There will be similar developments in the United States and Asia. Competition for oil and gas will intensify, with consequences for the political and economic relations with these regions. The long term goal of moving away from fossil fuels (and their import dependency), and the short term supply bottlenecks and higher prices will seriously challenge the security of supply agenda.

Security of energy supply is increasingly becoming an integral part of the foreign policy agenda, also in the EU, although development of these policies (and external energy policy) is excruciatingly slow. The member states have difficulty coping with their asymmetric exposure to security of oil and gas supply risks, and are pursuing their own national policies. The policy toolbox of the EU and the individual member states remains incomplete to deal with the new challenges, such as instability in key producing regions and competition for resources with main consumer countries. Europe's soft power is often trumped by countries such as China. Furthermore, the existence of asymmetric risks may require a much more

regionalised tailor-made response, which could run counter to the attempts of the Commission to develop common tools and one market.

In a supply-constrained world, policy competition and strategic relations can easily undermine the current international trade and investment system. Geopolitical and geo-economic competition to divide international wealth and the resources to produce this wealth pose a challenge to the organization of the international system. CIEP's research on security of energy supply can be best posed in terms of the recently published Shell scenarios: can the world opt for Blueprint or does the world of Blueprint either run through Scramble or is unattainable in the current international setting? This question also ties in the third research theme, the low carbon economy.

Theme C: Towards a Low-Carbon Economy

Alarming UNFCCC reports, Al Gore's film "An Inconvenient Truth", Hurricane Katrina: these are just a few examples of the many events that have recently drawn the world's attention to the dangers and urgency of the climate change problem. The present fossil fuel-based global energy sector, with its large CO₂ emissions, is one of the key identified causes of global warming. There is a growing international consensus, particularly among OECD countries, that a transition to a low-carbon energy sector within several decades is imperative, if only to make room for Asia's economic development. This insight is also fraught with diverging interests, because economic wealth also generates international political power, and leadership and/or persuasion power is lacking to move the world into a more sustainable direction.

CIEP is not involved with climate change science as such, but rather aims to examine the international political and economic drivers, or the lack thereof, and consequences of the envisaged global energy transition. Questions relevant to CIEP's research into energy transition are, for instance: What does a low-carbon energy transition mean for international relations with and between oil and gas producing countries? What are the links between countries' negotiating positions on climate change issues and the structures of their energy sectors and how will the development of new energy technologies in the fields of renewables and energy efficiency affect existing energy relations between countries?

There is much more to the question of energy transition than climate change alone. At present and predicted future energy demand levels, the eventual depletion of fossil fuels is certain. Nevertheless, its exact timing and international consequences are still being heavily debated. How many new reserves will be found? Will global demand for energy continue to grow? Will the depletion of fossil fuels coincide with international climate change measures or not, and how will this affect international relations, for instance with main energy producing countries or with competing consuming countries, or how will it impact the current trade and investment system? These questions, as well, are relevant to CIEP's research into a global energy transition.

Appendix 3: 2009 external lectures by CIEP Staff

Christof van Agt:

6-7 February 2009
The energy security challenge: the linkage between
Southern Caucasus and Black Sea region
EU Consent Conference, Rome

1 July 2009
The Geopolitical Challenges to European Energy
Policy ,
Presentation to the Norwegian Oil and Gas Board
OG21,
Brussels

1 October 2009
Strategy & interests of energy suppliers; is the
consensus with consumers possible?
Baltic Defense College, Tartu

23 October 2009
Cooperative Agenda for Energy Security
Europe European Studies Institute
MGIMO-University, Moscow

26-27 November 2009
Energy a key resource for Europe,
Real Instituto Elcano, Madrid

30 November - 2 December 2009
Linking the Neighbourhood: the energy stake
European Institute for Public Administration
,Maastricht

2 December 2009
'N Goede buur' Energizing Turkish foreign policy
De Balie in cooperation with the Turkije Instituut ,
Amsterdam

Bram Buijs:

15 Juli 2009
China and Copenhagen
Bram Buijs, The European International Model
United Nations (TEIMUN), Den Haag

21 Augustus 2009
Climate change, China and Copenhagen
Bram Buijs, Asia Europe Foundation (ASEFUAN)
Meeting, Helsinki

27 November 2009
China, Copenhagen and Beyond
Bram Buijs, Climate Change and Renewable
Energy in Asia, Madrid

Lucia van Geuns:

13 January 2009
GCSP: training course Security and Energy
Geneve

23 January 2009
Panel discussie Olie en het Midden Oosten
Den Bosch

27 January 2009
Presentation Oil markets
Sussex Energy Group Seminar
London

4 February 2009
Presentation and paneldiscussie
TopTech Delft, Den Haag

12 February 2009
Two interactieve sessies: Shell learning event
Amsterdam

5 March 2009
College TU Eindhoven: Energie en veiligheid
Eindhoven

10 March 2009
Lunchlezing Fugro: Oliemarkten
Leidschendam

11 March 2009
Eneco Environmental Diner lezing: Energie en
duurzaam
Rotterdam

17 March 2009
GCSP: training course Security and Energy
Geneve

18 March 2009
Alex lezing: oliemarkten
Amsterdam

31 March 2009
Global virtual meeting Shell Den Haag, theme
'unconventional times'
Den Haag

3 April 2009
Lezing biobrandstoffen
workshop Lorentz Center, Leiden

12 May 2009
Lezing energiemarkten
symposium studievereniging VUGS, Utrecht

14 May 2009
Masterclass Geopolitiek Congres 'Vaart in Verduurzaming'
Utrecht

26 May 2009
Forum in seminar 'Africa day'
Den Haag

8 June 2009
Opponent: BZ lunch Africa energy (Ghana)
Den Haag

12 June 2009
Lezing voor KIVI Neria Offshore symposium
Schiedam

15 June 2009
SPE continuing education event "geopolitics and transition"
Scheveningen

15 June 2009
SPE/PGK presentation: 'financial crisis and the energy markets'
Scheveningen

7 July 2009
Irak/Koerdistan bijeenkomst; lezing 'Olie in Irak'
KvK Den Haag

8 July 2009
lezing YP Fugro: ontwikkelingen op de Oliemarkten
Leidschendam

22 September 2009
MEEL cursus KU Leuven,
Leuven

25 September 2009
Introduction Global Leadership Seminar 'Gulf Region & Saudi Arabia'
Talloires (Fr)

5 October 2009
College voor HOVO Brabant: de mondiale vraagstukken energie en klimaat ,
Tilburg

15 October 2009
College voor Offshore Engineering TUDelft
Delft

2-3 November 2009
Energy conference plus discussion Diplomatic Institute
Sofia, Bulgaria

9 November 2009
GCSP: training course Security and Energy
Geneve

17 November 2009
diner/presentatie Biobrandstoffen/Palmolie (Malaysia)
Den Haag (Hotel Des Indes)

23 November 2009
Lezing oliemarkten Heineken Pensioen bestuur
Zoeterwoude

10 December 2009
Lezing olieprijs, Airneth Seminar
Scheveningen

Dick de Jong

5 February 2009
The International Gas Market : Security of Supply for Europe
KIVI, Den Haag

25 February 2009
Strategische ontwikkelingen in de Gas markt
National Gas Platform 2009
Rotterdam

2 June 2009
LNG North Sea 2009
Rotterdam

Jacques de Jong:

30 January 2009
Energiezekerheid: de markt of de overheid
PvdA-fractie, Den Haag,

13 March 2009
Russia & the EU: The Energy Story
Scientific Institute Liberal party
Moscow

19 March 2009
EU energiebeleid
EZ-medewerkers, Den Haag

23 March 2009
EU Third Package & the Regulatory framework
FSR Training Gas Markets
Florence

26 March 2009
NL-Turkey energy cooperation, The gas seminar
Workshop Dutch government, Ankara

30 March 2009
Regulating EU Gas Markets
Natural Gas Strategy Course.

Groningen

8/9 april 2009
Markets, liberalisation, regulation
Dutch-Ukrainian cooperation in energy
Kiev

12 May 2009
The EU Regulatory framework: The third package
& beyond ?
EDI-GMRC, Groningen

26 mei 2009
EU Energiebeleid
IPP (EP verkiezingen) , Den Haag

28 May 2009
Setting the scene
Pieter Boot/Jacques de Jong,
Workshop EU-US Energy Dialogue, Brussels

19 June 2009
Energy & sustainability: the new world?
FSR workshop Energy & Sustainability, Florence

22 June 2009
Restructuring EU Energy Industry
FSR Summer School, Florence

15-17 July 2009
Various lectures on EU energy policy & regulation
ERRA Summer School, Budapest

29 September 2009
Nuclear Renaissance in the EU ?
FEEM , Milan

9 October 2009
Regulating EU gas Markets
EDI-MPBE, Groningen

13/14 October 2009
NL-Turkey energy cooperation, The electricity
seminar
workshop Dutch government , Ankara

20 October 2009
Regulating EU Gas Supply Security in a Global
Gas Market
World Forum Energy regulation IV, Athens

26 October 2009
Restructuring EU Energy Industry; Basic policies
and relevant features
FSR Course Regulation Energy Utilities, Florence

29 October 2009
Energy Supply & Security in the CS-EU region
REKK Workshop , Budapest

30 October 2009
The State of the Internal Market for Energy
St. Gallen International Energy Forum, St. Gallen
(CH)

11 November 2009
EU Energy Policy for Copenhagen ?
URIOS Symposium, Utrecht

26 November 2009
EU Electricity Market; renewables and relevant
features
Wadden Sea Forum, Bremerhaven

15 November 2009
Towards a common EU Energy Policy:
How to achieve Sustainable Energy Security for the
EU
Atlanta Project on EU Energy Policy, Atlanta

27 November 2009
Nuclear Renaissance ?
NRG Symposium, Petten

10 December 2009
NL-Rumanian energy cooperation
The ANRE workshops, Bucharest

Coby van der Linde:

3 February 2009
Kennisnetwerk energie defensie,
The Hague

4 February 2009
EDI 'Petroleum Master'
Delft

10 February 2009
Expertmeeting van de Raadscommissie Gemeente
Amsterdam
Amsterdam

26 February 2009
Presentation Duurzaamheidsnota, DRMV (Directie
Ruimte Milieu en Vastgoedbeleid van Ministerie
van Defensie), The Hague

20 March 2009
Kenniskamer, Ministry of Foreign Affairs,
The Hague

31 March 2009
Expertmeeting Ministry of VROM
The Hague

6 April 2009
DG ECFIN, Conference 'Towards a European
External Economic Policy'
Brussels

9 April 2009
World Energy Outlook, IEA Workshop 'Prospect
for Global Gas'
Amsterdam

4 & 5 June 2009
IGU- 2030 – 3rd Steering Committee Meeting
London

26 June 2009
European Business Studies, Top Management
Briefing
Amsterdam

15 September 2009
Senter Novem MaSter Class
Utrecht

24 September 2009
Presentation Nogepe 35 years
The Hague

19 October 2009
'Oil & Money 2009' Conference
London

26 November 2009
JRC, European Commission Institute for Energy
Workshop on 'Geopolitics and European Energy
Security'
Bergen

2 December 2009,
Global Public Policy Institute 'Strengthening
Europe's Role in Global Energy Governance'
Hamburg

15 December 2009
Gazprom, High Level Energy Expert Forum
Moscow

Appendix 4: Energy lectures by CIEP staff for Clingendael courses

24 November 2009

Cursus Internationale Politiek
Lucia van Geuns, Christof van Agt

9 November 2009

Mid career diplomaten Indonesië
Christof van Agt

19 October 2009

Leergang Buitenlandse Betrekkingen
Lucia van Geuns

9 September 2009

Jnr diplomaten East Europe
Lucia van Geuns, Christof van Agt

29 September 2009

Hogere Defensie Vorming
Lucia van Geuns

26 June 2009

Leergang diplomaten C. Asia (LCA)
Lucia van Geuns, Christof van Agt

3 June 2009

Leergang Sudan SPLM and government
Lucia van Geuns, Christof van Agt

14 May 2009

Cursus diplomaten Pakistan, Bangladesh
Lucia van Geuns, Christof van Agt

21 April 2009

Leergang ZO Europa LZOD
Jacques de Jong, Christof van Agt

24 March 2009

Leergang Diplomaten Indonesië
Lucia van Geuns, Stephan Slingerland

4/3, 8/4, 4/6, 13/10/2009

Cursus Internationale Veiligheid (CIV/IVS/IDL)
Lucia van Geuns, Warner ten Kate, Christof van Agt

12/2, 23/2, 16/9, 22/9/2009

Leergang Topmanagement Defensie
Coby van der Linde, Lucia van Geuns

29 January 2009

Leergang diplomaten Iraq
Lucia van Geuns

8 January 2009

NOS leergang
Coby van der Linde

