

International Energy Agency

2014 Annual Report

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International
Energy Agency

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The European Commission
also participates in
the work of the IEA.

About this review

The IEA Executive Director's 2014 Annual Report continues our annual practice of reporting on our operational and organisational achievements and goals.

Introduction

As 2014 comes to a close, and headlines continue to be dominated by the volatility of oil markets and concerns over the future of international climate negotiations, we are reminded once again of the vital importance of the International Energy Agency (IEA).

For this is the one organisation that provides the necessary breadth and depth of global analysis, dialogue, recommendations and data on the entire energy mix. Yet even the most rigorous, relevant and timely analysis and research is only as useful as far as it is communicated to decision makers. This is why over the past year, the IEA has continued to put significant effort into increasingly raising its profile, with the Executive Director traveling to more than thirty countries around the globe, sharing and promoting the IEA core messages of energy security, economic development, environmental protection and global engagement.

This effort has paid off. From being represented at conferences and summits worldwide, to being quoted in news media, the Agency is both more visible and relevant than ever before. This comes at a time when the centre of gravity of the global energy system is shifting to emerging economies, underscoring the need for the IEA to continue to foster stronger co-operation with non-member countries. Under the leadership of the Executive Director, work in 2014 continued on that front, with increasing political and expert engagement not only with key non-member countries such as the People's Republic of China and India, but also important international initiatives such as Sustainable Development For All (SE4ALL) and the Global Commission on the Economy and Climate.

This is a drastic change from 40 years ago, when the IEA was a relatively small group of importing countries focused on oil and supply security. That world of 1974 is far from that of today, especially in the energy sector. Energy security is no longer only about oil, but must include coal, natural gas, nuclear energy and renewables – indeed, security concerns bridge across the entire energy mix.

Of course, oil remains critically important. Though some IEA member countries have seen significant increases in domestic production and others have reduced demand through improved efficiency, oil is still central to our economies. In the central scenario of the 2014 *World Energy Outlook (WEO)*, oil still accounts for one quarter of the global energy mix in 2040, with growth in supply after 2030 predominantly coming from the Organization of the Petroleum Exporting Countries (OPEC). Concerns about security of supplies will not disappear any time soon.

Looking around the world today, particularly at oil- and gas-producing areas afflicted by civil unrest, it is clear that energy security remains a serious concern. The conflict in Ukraine this past year significantly impacted the work of the Agency, and the IEA firmly established itself as a leading voice on the issue of gas supply. The Agency's work on gas now spans the globe as the gas market becomes increasingly globalised with the continued rise of liquefied natural gas (LNG). In 2014 the IEA concluded an analysis of the potential transformation of LNG markets in Asia, with the resulting publication being regarded as the core handbook on Asian LNG. As climate change concerns focus attention on low-carbon energy options, the 2014 edition of the *WEO* included a special focus on nuclear energy – a complex and sensitive topic of great importance, especially in those jurisdictions where large-scale retirements of ageing plants are expected. On renewable energy, the IEA launched two Technology Roadmaps on solar energy – photovoltaics and solar thermal – a pair of documents that generated significant attention from media, experts and policymakers alike.

These projects and publications, just a few examples of the Agency's accomplishments in 2014 that are shared in this report, point to the strength of the IEA in addressing the entire energy mix.

Indeed, the IEA is the only intergovernmental organisation that draws on co-operation with more than 130 countries, across the entire energy mix. This adaptability and breadth of expertise has

enabled the Agency to remain at the heart of the dialogue on energy, providing authoritative statistics, analysis and recommendations. The Agency's challenge will be to maintain its position as a global energy authority, which means being flexible and open to change and even wider engagement, all within the limits of its resources and budget. In this regard, thanks in part to numerous voluntary contributions, 2014 showed the efficiency and resilience of the Agency as it fulfilled its planned Programme of Work while continuing to expand its reach, including through the addition of Estonia as the 29th IEA member country, despite the challenges of a zero nominal growth (ZNG) budget and the unfilled post of Deputy Executive Director. Once again, this has been a year that the Agency can be proud of.

Marking the 40th anniversary of the IEA was an opportunity to look back and reflect on past accomplishments and on all that has changed over the decades. Yet as 2015 begins, the Agency is looking firmly forward. Uncertainty in oil prices, complex and challenging climate negotiations, a shift in the global energy landscape with the growth of emerging economies and exciting advancements in sustainable technology: these are just some of the issues that the future holds for the Agency. Once again, the only constant will be change.

This report will be divided by IEA office, starting with the three functional Directorates:

- **Energy Markets and Security (EMS)**
- **Sustainable Energy Policy and Technology (SPT)**
- **Global Energy Economics (GEE).**

It will then examine the major supporting Offices and Divisions:

- **Office of Global Energy Policy (GEP)**
- **Energy Data Centre (EDC)**
- **Communication and Information Office (CIO)**
- **Office of the Legal Counsel (OLC)**
- **Office of Management and Administration (OMA).**

Each will discuss major accomplishments in 2014, external contacts and co-operation, and challenges ahead for 2015.

Additional annexes will list 2014 publications and include a budget and finance report from the **Finance Unit (FIN)**.

Energy Markets and Security

The IEA was founded in 1974 with a principal mission to improve the oil security of its member countries. Since then our mission has widened, as has the definition of energy security to other fuels and concepts. But energy security still remains a main focus of the Agency, including market analysis of various fuels and management of emergency policy (including the co-ordination of responses to supply disruptions) and continuous monitoring of events affecting oil and gas security of supply, but also adapting to the changing nature of energy security. The bulk of this work takes place in the Directorate of Energy Markets and Security (EMS). Market-analysis and forecasting products include the monthly *Oil Market Report (OMR)*, annual medium-term reports on oil, gas, coal and renewables, plus specific products covering renewable energy, such as Technology roadmaps and databases.

Energy security

Energy security was recognised as the “foundation of the IEA’s mandate” in the Chair’s Summary of the 2013 IEA Ministerial, as was the Agency’s “key role in energy security through its emergency preparedness and response mechanisms and its legal instruments”. The “role that energy efficiency and energy diversification can play in enhancing this security” was also recognised. In this regard, EMS continued to work on the implementation of the Electricity Security Action Plan (ESAP), which included the ongoing implementation of electricity security considerations into the Emergency Response Review (ERR) programme.

In parallel to the new priorities above, the Agency’s core remit of ensuring preparedness to confront oil and gas supply crises remains a high priority. The IEA continuously monitored events affecting oil and gas markets, keeping its member countries informed and alerted to potential disruption implications. During 2014, the Agency successfully conducted ERRs of six member countries. This cycle extended its scope beyond oil and natural gas by analysing IEA member countries’ preparedness for electricity emergencies.

Energy Supply Security: The emergency response of IEA countries (2014) is a publication that provides an overview of the most recent oil and natural gas emergency policy reviews of the 29 IEA member countries, as well as those of key partners such as Chile, the People’s Republic of China, India and Association of Southeast Asian Nations (ASEAN) countries. The publication assesses each country’s emergency arrangements for security of supply of oil and gas, their stockholding structure, demand restraint measures and fuel switching capacity; it also provides a summary of energy security best practice amongst the IEA membership and beyond.

The ESAP (Electricity Security Advisory Panel) continued and gained momentum. The ESAP was established to gather key policymakers, regulators and industry participants. The ESAP further reinforced the position of the IEA as a leading platform to share knowledge and best practices about electricity market design and the electricity security challenges of a decarbonising power system. Strong co-operation was built up by key regulatory institutions such as the Federal Energy Regulatory Commission from the United States and Agency for the Cooperation of Energy Regulators from the European Union.

The launch of *The Power of Transformation – Wind, Sun and the Economics of Flexible Power Systems* marked the completion of the 3rd phase of the IEA Grid Integration of Variable Renewables (GIVAR) programme undertaken by the IEA over the past two years. The publication was presented in over 14 countries, including in four events hosted by the Executive Director. The report is rooted in a set of seven case studies, comprising 15 countries on four continents. It deepens the technical analysis of previous IEA work and lays out an analytical framework for understanding the economics of variable renewable energy integration impacts. During the second half of 2014, a more narrowly scoped

follow-up study investigated the role that advanced wind turbine technology has in increasing the value of wind power from a system perspective.

Market analysis and reports

The monthly **OMR** grew in influence and visibility in 2014 and has played a major role in shaping expectations and public understanding regarding the dramatic oil price drop that began in June 2014. The *OMR* and its accompanying databases, the Monthly Oil Data Service (MODS), remain by far the largest contributors to IEA publication revenues. *OMR* public access was overhauled in 2014, with the introduction of interactive graphs, a larger memory bank and more attractive and user-friendly graphics. Since its launch in November, the webpage has become one of the top destinations for IEA internet traffic.

The longer-term **Medium-Term Oil Market Report (MTOMR)** has seen increasing market attention and media coverage. The *MTOMR 2014*, launched on 17 June 2014, included detailed assessments of the Islamic State in Iraq and Levant's (ISIL's) invasion of northwest Iraq, which occurred just a week prior to the report's release. It also expanded the analysis of the North American supply revolution with a special focus on the impact of unconventional supply on the global upstream sector, global refining, transportation, storage and demand.

The Oil Industry and Markets Division (OIM) continues its work on price formation and the inter-linkages between physical and financial markets for energy. The IEA co-organised with OPEC and the International Energy Forum (IEF) a fourth workshop on the subject in Vienna in March 2014. In January 2014, the IEA co-organised a joint annual workshop with OPEC and the IEF in Riyadh, looking at the divergences in definitions and outlooks between the different organisations and other market observers.

Other joint work in 2014 between the IEA, OPEC, the IEF and the International Organisation of Securities Commissions (IOSCO) concerned price reporting agencies (PRAs). There is a shared interest amongst producers and consumers in transparent and efficient pricing and markets. IOSCO presented a final report in 2014 on the implementation of its principles on PRAs. IOSCO had sent an interim report to finance ministers and central bank governors in September 2013, followed by a report to the Group of Twenty major economies (G20) finance ministers and central bank governors in the second half of 2014. OIM provided significant input into both these reports.

The IEA has continued its contribution to enhancing transparency and energy security in gas and coal markets by its unbiased analysis of market and investment developments. The **Medium-Term Gas Market Report** was launched in Montreal and has been widely cited by policymakers and market participants. For the first time ever, the **Medium-Term Coal Market Report** had a second launch event dedicated to China in Beijing. The report has been broadly accepted as a benchmark especially for its analysis on the prospects of peak coal in China.

The conflict in Ukraine was a major unexpected event that impacted the work of EMS. The IEA is firmly established as the leading professional body in assessing gas supply security and infrastructure vulnerabilities and has served as a platform to formulate policies. Following the mandate of the Rome summit of the Group of Seven major economies (G7), the IEA conducted a comprehensive analysis of gas supply security challenges and formulated key recommendations that policymakers could consider to enhance flexibility and resilience in the European gas system. The workflow was facilitated by two high-level workshops with the G7 countries. The IEA also participated in the European Union (EU) stress tests, especially with the analysis of the potential contribution of global LNG markets to a possible crisis management. EMS co-operated with the Office of Global Energy Policy (GEP) on a comprehensive analysis of the vulnerabilities and structural reform priorities of the Ukrainian domestic energy system to support the EU initiative to facilitate the stabilisation of Ukraine. Several IEA committees discussed developments in Russia and Ukraine, and on the request

of several EU member states the IEA provided input to their national policy discussions as well. Given that the conflict is still unresolved, these workflows are expected to continue into 2015.

EMS participated in the LNG market study group that was created by the Tokyo LNG Producer-Consumer Dialogue summit. It then concluded its analysis with the publication of *The Asian Quest for LNG in a Globalising Market*, delivered as a key contribution to the 2014 Tokyo Summit. This report is now regarded as a core handbook on Asian LNG and succeeded in framing the debate around market reforms and efficiency.

EMS worked in close co-operation with the Organisation for Economic Development and Co-operation (OECD) on formulating policy recommendations for financing coal-fired power plants. EMS contributed with its analysis on the role of coal plants in electricity security in key non-member economies, investment outlooks for coal and low-carbon power as well as the impact and potential of regulatory policies to direct investment to low-carbon projects. Throughout the year EMS maintained close co-operation with GEP and undertook several projects on electricity policy and electrification in key partner countries. Electricity is now regarded as a fruitful area of potential co-operation by these countries.

The third *Medium-Term Renewable Energy Market Report 2014 (MTRMR 2014)* was launched in August 2014 and received widespread and global press coverage. The report assessed market trends for renewables in the electricity, transport and heat sectors; identified drivers and challenges to deployment; and made projections through 2020. The *MTRMR 2014* presented, for the first time, an investment outlook for renewable power capacity, in addition to more detailed analysis and forecasts for renewable electricity costs, and a special focus on the emergence of “socket parity”.

An important strand of the work on renewables involves monitoring and regularly updating the status and progress of technologies, and tracking how costs of various technologies are evolving. This work is undertaken in close collaboration with the IEA Energy Technology Initiatives (formally organised as Implementing Agreements [IAs]), the Renewable Energy Working Party and the Renewable Industry Advisory Board. The technology assessment also provides a basis for analysis with the *MTRMR*, the *WEO* and the renewables publications in the Technology Roadmap series. In 2014, it underpinned a chapter on solar power in the *Energy Technology Perspectives 2014 (ETP 2014)* publication, as well as updated versions of the roadmaps for solar power, which were received in professional conferences and attracted significant press coverage.

Global outreach

With non-OECD oil demand overtaking OECD demand, reaching out to OECD non-member economies is one of the highest priorities in the area of energy security, and there were impressive developments on this front in 2014.

The Agency completed its latest biennial Emergency Response Exercise (ERE) in November 2014 in Paris, as delegates from member and ten non-member countries practiced and improved skills for responding to energy supply disruptions. This seventh ERE focused on how member and non-member countries can co-operate during significant disruptions to oil supplies, building on lessons learned from previous EREs.

Sustainable Energy Policy and Technology

The IEA believes that the world needs a radical change in the way we produce, transport and consume energy resources to enhance our global energy security, promote enduring economic growth and tackle environmental challenges such as climate change.

The Energy Efficiency and Environment Division (EED) continued its work on energy and climate technology and policy issues, publishing key documents and contributing to international, regional and national processes.

The Energy Efficiency Unit (EEU) continued its work to deepen analysis on various aspects of energy efficiency. A key objective was to position energy efficiency as an important alternative or “first fuel”. The second annual **Energy Efficiency Market Report** provided a detailed examination of energy efficiency finance mechanisms and efficiency markets, along with an improved methodology to estimate the impact of energy efficiency investment.

Significant efforts were also directed to analysing the various benefits that energy efficiency can bring to the economy, public finances, health and industrial productivity, culminating in the launch of **Capturing the Multiple Benefits of Energy Efficiency**.

Analysis on the energy efficiency aspects

of network-connected devices attracted significant attention, with the resulting publication **More Data, Less Energy: Making Network Standby More Efficient in Billions of Connected Devices** being downloaded 32 000 times and making its way to the G20 Energy Efficiency Action Plan. Major improvements to the Policies and Measures Database also ensured easier access to energy efficiency, renewable energy and climate change policy data on the IEA website.

Expanding energy efficiency work with emerging economies was also high on the agenda in 2014, with the launch of the Energy Efficiency in Emerging Economies (E4) Programme. This programme will enable the IEA to develop strategic work in emerging economies, focusing initially on Mexico, South Africa, India and China, as well as undertaking some regional activities in Latin America and Southeast Asia.

Activities in the area of energy and climate change policy remain a priority for the IEA, led by the Environment and Climate Change Unit (ECC). The Unit continued analysis of technical and policy issues at the climate-energy-environment interface and launched a new publication series, **Energy, Climate Change and Environment: 2014 Insights**.

The IEA deepened its engagement in the global United Nations Framework Convention on Climate Change (UNFCCC) process, as work towards a 2015 climate agreement in Paris accelerates. The IEA released a short publication, **The Way Forward: Five Key Actions to Achieve a Low-Carbon Energy Sector**, collecting agency-wide key messages on climate change into one document. The IEA made a strong contribution to the 20th UNFCCC Conference of the Parties (COP 20) in Lima, hosting numerous events, including an inaugural “Energy Day” and the IEA official side event with the World Energy Council. The IEA Executive Director attended several side meetings and also met with various

As part of its *ETP* series publication, the IEA published **More Data, Less Energy: Making Network Standby More Efficient in Billions of Connected Devices**. This report probed the hidden energy costs of billions of networked devices, such as smart phones, tablets and set-top boxes. Being connected 24/7 means these devices draw energy all the time even when in standby mode. Exploring policy and technology solutions, the book charted a path forward and identified which stakeholders are well-placed to take the lead in particular areas, with an underlying emphasis on the need for co-operation across all parts of the information and communication technology value chain.

national delegations, including the Chinese negotiating team, to discuss the current situation and IEA recommendations. The Agency became a leading organisation in the UNFCCC's Technical Expert Meetings (TEM) process in energy efficiency and carbon capture and storage (CCS).

In 2014, ECC also continued to bring together international experts for topical high-level events. The 4th and 5th Nexus Forums on Climate and Energy Security discussed water-climate-energy and resilience. The Unit also prepared specifically tailored messaging for youth on climate change, delivered by the Executive Director at international high schools in the Netherlands and Peru.

2014 was also an active year for carbon capture and storage (CCS), with important project advancements globally. In October, Boundary Dam Unit 3 became the world's first industrial-scale power unit to capture over 90% of its emissions. The IEA Sustainable Energy Policy and Technology (SPT) Director made a keynote speech at the launch event, hailing this significant milestone.

The CCS Unit continued its work to position CCS as a key element in our future low-carbon energy portfolio. Further analysis on challenges for CCS was undertaken, with special emphasis on storage of carbon dioxide (CO₂), as well as CO₂ utilisation, culminating in the **CCS 2014** publication. The role of innovation in improving CCS technology was another key focus area, leading to the drafting of an in-depth chapter on the topic for **Energy Technology Perspectives 2015**. The Unit also continued to analyse the win-win opportunity provided by CO₂-enhanced oil recovery as a storage option and various aspects of retrofitting CCS on coal-fired power in China.

IEA Energy RDD&D Vision: By the year 2050, energy technologies will have been key enablers to achieve a secure, affordable, sustainable and substantially decarbonised energy system. The IEA will play a key role in the process by promoting best-practice policies and technologies as well as enhancing international co-operation.

The IEA demonstrated through its actions its ongoing commitment to the recommendations by the Ad Hoc Group on International Co-operation on Energy Research and Development for the preparation of the International Energy Program (IEP) Agreement that "energy policies should be based on an understanding of the true potential of energy resources and technologies". The Governing Board approved

the **IEA Medium-Term Strategy for Energy Research and Technology 2013-2017** to present a clear vision and mission statement for the technology-related activities of the IEA Secretariat, the Committee on Energy Research and Technology and the Energy Technology Network, to address the energy technology challenges apparent on the road to attaining the world's 2050 energy and climate change goals.

The Energy Technology Policy Division has completed a series of actions to fulfil this strategy. Notably, the 2014 edition of **Energy Technology Perspectives 2014** was launched in Seoul in May 2014, with a strong focus on actions needed to support deployment of sustainable options in electricity generation, distribution and consumption, starting from the premise that electricity will be an increasingly important vector in energy systems of the future. The new format for the *ETP* publication, consisting of a more streamlined publication focusing on a topical energy issue each year, was very well received and the dissemination programme was extremely successful, with presentations in 23 countries by the Executive Director, the SPT Director and ETP Division Head and staff. The online component, where the bulk of the global analytical information is made available, received more than 185 000 hits on the various *ETP* webpages. The Secretariat handled a significant number of requests for more detailed information and provided *ETP* data and analytical findings as input to a multitude of other projects from the UNFCCC Technical Executive Committee (TEC), The World Trade Organization (WTO), the United Nations Sustainable Development Solutions Network (UNSDSN), the United Nations Environment Programme (UNEP), the World Resource Institute and many others.

As a companion to the main *ETP 2014* book, **Linking Heat and Electricity Systems – Co-generation and District Heating and Cooling Solutions** examined the significant environmental and energy

security benefits of these technologies, and their potential to serve as flexible tools to bridge electrical and thermal energy systems.

The publication of *ETP 2014* marked the first implementation of the new strategic vision for the ETP project, and work began on the establishment of a recurring annual process, with the initiation of the work programme for the 2015 edition on the role of technology and innovation to increase climate change mitigation ambitions in preparation for the COP 21 negotiations in Paris. To ensure the timely uptake of *ETP 2015* findings by negotiating parties, the IEA participated in many technology-related events under the UNFCCC such as Ad-Hoc Durban Platform events, TEC workshops and official and unofficial side-events at COP 20 in Lima.

The **Low-Carbon Energy Technology Roadmaps** programme continued on its success with the publication of the ***Energy Storage Technology Roadmap*** and the update of two **Technology Roadmaps on solar energy** (concentrated solar power, solar photovoltaics), as well as the first of the **How2Guide series (*Wind Energy Roadmap: Development and Implementation*)** and an update of the ***Energy Technology Roadmaps Guide to development and implementation*** published in 2014. The IEA also led work leading to an update of the ***Nuclear Energy Technology Roadmap*** and to the development of a ***Hydrogen Technology Roadmap***, both to be published in early 2015. Finally, a new national roadmap project was initiated in 2014 on ***Low-Carbon Technology for the Brazilian Cement Industry***.

In 2014, the IEA furthered its support of other multilateral initiatives such as the Electric Vehicle Initiative (EVI) of the Clean Energy Ministerial or the Global Fuel Economy Initiative (GFEI). Through the EVI, the IEA published a new edition of the ***EV City Casebook***, which highlights world-changing ideas that will shape the future of electric vehicles and profiles 50 big ideas with the potential to dramatically increase electric vehicle adoption around the world.

Global Energy Economics

Despite inevitable uncertainties, some key features of the evolution of global energy markets over the coming decades are already evident. These include the continuing persistent rise in demand for energy services that results from a growing world population and economy, and a continued shift in the centre of energy use to developing Asia and other emerging economies. But although some major contours are clear and the global energy system does not change direction easily, this does not mean that its future direction is set in stone. Choices made by individual countries, responding to their unique local circumstances, can have far-reaching consequences for the global system, as with the rapid rise in unconventional oil and gas production in North America or the growing deployment of renewable technologies in many parts of the world. Choices can also be motivated by challenges that are shared globally, as in the case of climate change, or by reactions to other signs of stress in the system: for example, concerns over the security of gas supply to Europe or questions – prompted by the current turmoil in parts of the Middle East – over the outlook for oil supply.

Market developments and individual and collective policy choices interact in complex ways, highlighting the importance of robust analysis of the medium to longer-term outlook for energy demand and supply. A major pillar of the IEA response to this need is the work undertaken by the Directorate of Global Energy Economics (GEE), which includes the *WEO* series of reports, the IEA Energy Business Council (EBC) and the IEA Unconventional Gas Forum. The ***World Energy Outlook 2014 (WEO 2014)*** was published in November 2014, bringing together the latest data and policy developments to present up-to-date projections of energy trends for the first time through to 2040. One of its central messages was the importance of ensuring that current events do not distract decision makers from recognising and tackling the longer-term signs of stress that are emerging in the energy system. The report also showcased the latest results of the ongoing IEA programmes of work aimed at helping to overcome some of the major challenges facing the energy sector, including phasing out fossil fuel subsidies and achieving universal access to modern energy services.

Since its release, the *WEO 2014* has been presented by senior IEA officials in over 30 countries, with the participation of prime ministers, ministers, members of parliament and industry leaders in dedicated launch events. This has resulted in a high degree of public attention, which has had the effect of significantly increasing the exposure, visibility and prestige of the IEA and its mission. The key findings of the *WEO 2014* have been widely cited by ministers and opinion leaders from industry and non-governmental organisations, indicating that the book is being actively utilised as an input to the process of developing government policies and business strategies. In terms of media coverage, it has been the focus of front-page stories in many of the world's leading newspapers and featured extensively on television, internet and radio. It also received extensive coverage in partner countries, where it is serving as a "concrete" vehicle for enhancing IEA engagement. Articles on key findings of the report have been published in more than 80 countries across all continents. As of mid-January 2015, sales of the *WEO 2014* exceeded 8 500 copies.

Each year, the *WEO* selects a particular country or region for in-depth analysis. This practice has been a key contributor to the IEA building and strengthening links with non-member countries that are important from an energy perspective. The 2014 edition focused on **sub-Saharan Africa**, following on from the work done on Southeast Asia, Brazil, Iraq and Russia in previous years. The analysis of sub-Saharan Africa benefitted from a range of contacts and discussions with policymakers and other stakeholders from across the continent, and was also accompanied by a particular effort to secure and improve the baseline energy data for the region. Workshops were held in Paris and in Abuja, Nigeria. The analysis covered all areas of the sub-Saharan energy system, with a particular accent on efforts to improve access to electricity, to move away from the traditional use of biomass and to secure much-needed investment in the region's energy infrastructure. The study underlined that

energy is a central component of regional strategies for economic development and poverty reduction, with increased power sector investment, regional co-operation and improvements to governance critical to a positive outlook for the region. Renewable sources of energy, notably hydropower and solar, can play a prominent role in Africa's energy future. Since its launch in October 2014, the ***Africa Energy Outlook*** has been widely presented and welcomed as a reference point for the African energy debate.

As has become practice, the 2014 edition of the *WEO* included a special focus on one energy source – this time nuclear power. Several uncertainties cloud the future for nuclear power, including the nature of government policy, public confidence issues, the availability of financing in liberalised markets, the competitiveness of nuclear power versus alternatives, and the implications of the looming large-scale retirement of ageing plants. The report assessed the outlook for nuclear power and its implications for global energy markets, energy security and climate change. While it found global nuclear capacity rising by 60% to 2040, it did not foresee a nuclear renaissance; its share of power generation – which peaked almost two decades ago – barely changes over the period and the growth in capacity is concentrated in just a few markets. Given the sensitivities associated with nuclear power and the significant uncertainty regarding future prospects for the technology, this was a challenging project but was positively received by a broad spectrum of stakeholders.

Throughout 2014, GEE continued serving as the Secretariat of the Agency's EBC, which since its establishment in 2009 has become the main body through which the IEA interacts with industry. Key EBC activities during the year included a meeting in March with the participation of 50 senior executives from IEA and partner countries and a meeting in December, which included a joint session with the IEA Governing Board. The 2014 meeting of the IEA Unconventional Gas Forum (UGF) took place in Calgary in March, focusing on best practices for minimising water use and for protecting water resources from the risk of contamination during unconventional gas production. The next meeting, which is being sponsored by China's National Energy Administration and the China National Petroleum Corporation, will be held in Chengdu, China in April 2015. Both the EBC and the UGF are fostering genuine two-way collaboration between the IEA and partner countries/industry. GEE also continued to co-ordinate the Agency's involvement in the United Nations (UN) SE4ALL initiative, including the Executive Director's membership on the UN Secretary General's Advisory Board.

WEO Special Report: World Energy Investment Outlook

In addition to the annual *WEO* and the *Africa Energy Outlook*, GEE published another special report in June 2014. The *World Energy Investment Outlook* provided an in-depth analysis of the prospects for timely and adequate capital spending in the energy sector, looking at the investment requirements by sector and region for the coming decades, outlining the various ownership and financing models, and highlighting potential areas of stress. The report included a particular focus on upstream investment in the Middle East, the dynamics and costs of LNG investment and regulatory challenges for power sector investors in Europe and in India. The report also examined how the investment challenge changes – in favour of low-carbon investments – if governments take stronger action to address climate change. The report benefitted from a workshop held in Paris that gathered experts from industry, international organisations, energy companies and the finance community. The report was launched in London, receiving widespread press coverage.

Engagement globally

Today no individual country or international organisation, including the IEA, can fully respond on its own to the challenges posed by the rapidly changing global energy landscape. To help achieve the IEA core objectives, the so-called “3Es” (energy security, economic development and environmental awareness), the IEA actively engages with partner countries and other international organisations and for a: a fourth “E”. This work is co-ordinated by the Office of Global Energy Policy (GEP).

A principal responsibility of the IEA, as required by its founding treaty, is to conduct regular **in-depth reviews (IDRs)** of the energy policy of its member countries. This work is undertaken by the Country Studies Division (CSD). Five reviews were successfully launched in 2014: Austria, the European Union, Luxembourg, the Netherlands and the United States. The launch of the European Union IDR attracted substantial attention as the report was published in the midst of the appointment of a new Commission and the announcement of new ambitious climate and energy targets for 2030.

After the endorsement of the **Joint Declaration on association** at the IEA ministerial meeting in November 2013, the Secretariat visited all seven key partner countries (Brazil, China, India, Indonesia, Mexico, Russia and South Africa) to discuss association bilaterally. Discussions focused on the core elements of association such as energy security, energy data and statistics, IDRs and institutional arrangements, and the IEA asked for inputs from these key partner countries at the table on "benefits and responsibilities" with which the Secretariat aims to reach a balanced arrangement on association. Bilateral consultations yielded a positive outcome and key partner countries' inputs to the Secretariat provided a solid basis for engaged discussion.

A series of bilateral consultations has provided a degree of clarity with regard to where each key partner country stands on core elements of association. Given the huge diversities and differences between key partner countries on their preparedness, a flexible approach was adopted in order to enable the association consultation process to move forward without waiting for all key partner countries to proceed in tandem. This consultation process currently offers a wide degree of flexibility in discussing an extensive range of issues related to association.

In order to prepare for upcoming IDRs, CSD also conducted seven IDR team visits in 2014: Canada, European Union (launched 2014), Italy, Japan, Portugal, Spain and Turkey. These visits will form the basis for books to be published in 2015 and 2016.

Europe, Middle East and Africa

In 2014, the Secretariat focused on maintaining technical ties and co-operation with Russia, given its importance in the global energy equation and for IEA members. Notably, the IEA successfully prepared and launched the IDR ***Energy Policies Beyond IEA Countries: Russia*** in June 2014. This review provided a comprehensive and timely analysis on Russia's domestic energy sector and its vital role as a major energy exporter.

Regarding the **Caspian and Black Sea region**, the energy policy reviews of the 11 countries in the region were a highlight in 2014. The review teams visited Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan and Ukraine on week-long review missions and prepared a compendium publication based on government-furnished data and the outcomes of meetings with key public and private stakeholders in each country. The publication,

due to be released in 2015, is the Agency's first attempt to present this type of regional in-depth energy policy review.

The Agency continued its work with the government of **Kazakhstan**. The Executive Director visited Astana in early 2014, meeting with the Prime Minister, other high-level officials and industry representatives. The Agency took part in all key national and international energy forums in Kazakhstan and continued its work on streamlining statistics and data.

The Agency's work on **Ukraine** was augmented in response to the recent developments in the country, which required regular updates to member countries as well as continuous work with the government of Ukraine. The Agency conducted an energy policy review, and recommendations were widely discussed with government authorities and shared with the IEA member countries. The Agency continued its work on statistics data enhancement, participated in numerous discussions on matters related to the country's current energy crisis and – under the IEA Technology Platform – conducted a special session on "saving electricity in a hurry" in Kiev at the renewables and energy efficiency annual fair in November 2014. The ongoing work is in line with the IEA Biennial Joint Action Plan with the Ministry of Energy and Coal Industry of Ukraine.

The IDR of **Morocco** was completed in 2014 and published in Rabat in the presence of the Prime Minister and the Minister of Energy. It was the first IDR of a Middle East and North Africa (MENA) country and the first published in both English and French. In addition it provided a good example of the way in which an IDR quickly becomes a policy dialogue – in this case focusing on renewables strategy and fuel subsidy policy, leading to frequent return visits and re-drafts of the book as policy evolved.

A detailed study of the power sector in **Saudi Arabia**, focusing on ways to restrain domestic consumption of oil and gas, was funded by the Korean Energy Economics Institute and will be published in 2015. The Agency has also maintained co-operation with the King Abdullah Petroleum Studies and Research Centre under their new President, Dr Samer al-Asghar, mainly through participation in expert workshops in areas such as energy transition and energy efficiency.

Relations with **OPEC** and with the **IEF** remained fruitful. The Head of the Energy Data Centre (EDC) represented the IEA at the May launch of JODI Gas in Moscow. JODI Gas data are steadily improving, reflecting in part the increasing and more proactive role of the Gas Exporting Countries Forum (GECF).

Active co-operation with **South Africa** included regular exchanges on statistics in a continuing effort to improve South Africa's energy balance reporting through in-country and Paris-based training workshops, as well as video link tutorials. South Africa expressed positive interest in conducting an IDR, which is envisioned to take place within the next biennium.

For the broader region, the efforts to work with **sub-Saharan countries** to produce the **WEO Africa Energy Outlook** boosted relations on both a high-level and working-level basis with a number of countries including Nigeria, Mozambique, Ghana and Ethiopia. Ethiopia followed up on its commitment by sending a fifteen-person strong delegation to the IEA, including the Minister of Energy, to exchange views on statistics and energy policy in general. The IEA also organised a road-mapping workshop under the *How2Guide for Bioenergy* project with the participation of policy makers from six countries in the Southern Africa region.

Asia Pacific and Latin America

With frequent high-level visits between the IEA and the Chinese government, significant progress has been made in enhancing engagement with **China**. China is engaged in increasingly high-profile bilateral activities planned with the IEA (including ERE Ningbo in January 2015 and the 3rd IEA Unconventional Gas Forum in Chengdu in April 2015), and in September 2014 the National Bureau of Statistics began to submit data directly to the IEA EDC. China also made its first announcement on

strategic oil reserves in 2014. Furthermore, several experts from China contributed to strengthening relations by taking part in IEA events in various fields, such as energy efficiency, nuclear energy, or the climate-energy nexus. Lastly, China accepted the invitation to participate in meetings of the Fusion Power Co-ordinating Committee as a Regular Observer.

Capacity building in the area of energy data and statistics was a key activity with **India** during 2014. India sent its first secondees to the IEA, working mainly for EDC. Energy efficiency co-operation accelerated and a roundtable to identify priorities resulted in a two-day workshop covering four sectors of key importance to India. The outcome was an agreement to organise sector-specific workshops during 2015, the first on transport fuel efficiency. Another highlight of bilateral co-operation was the exchange on modelling and methodology for the IEA publication *ETP 2014* and India's Energy Security Scenarios.

An Emergency Response Assessment (ERA) with **Indonesia** was conducted in April 2014 and the outcome was reported in June. The IEA started work on a review of Indonesia's policies on fossil fuel subsidies in co-operation with the National Energy Council of Indonesia, the Directorate General for Oil and Gas and the Institute for Technology Bandung. A second IDR of Indonesia's Energy Policies was carried out in March 2014, to be published in early 2015.

In September, **Thailand** and the IEA signed their first Memorandum of Understanding (MoU), outlining possible topics for future co-operation. This includes the possibility of an IDR in 2016. Thailand joined the IEA Energy Technology Initiative (ETI) focusing on photovoltaics. Thailand also undertook a mid-term ERA. The Energy Market Authority of **Singapore** provided a voluntary contribution (VC) to the IEA for work on the ASEAN Gas Market Dialogue as well as a secondee to the *WEO* team. Singapore also joined the ETI focusing on ocean energies.

In September 2014, the Fourth Dialogue between the **ASEAN** Ministers on Energy Meeting (AMEM) and the IEA Executive Director took place in Lao PDR. They confirmed funding from ASEAN for the IEA study on the development prospects of the ASEAN power sector and electricity market integration, and discussed the prospects for the development of more transparent natural gas markets. ASEAN and the IEA issued their first official Joint Declaration outlining strategic co-operation priorities in the power and gas sectors, and agreed to convene in 2015 for the Fifth AMEM-IEA Dialogue in Malaysia.

2014 also saw the IEA organise in Thailand an ASEAN expert meeting on bioenergy, attended by more than 60 participants, as well as a series of four discussion forums on the establishment of more transparent gas markets and the development of gas trading hubs in ASEAN. Finally, Petronas provided a fully-funded secondee to the Gas, Coal and Power Markets Division (GCP) who worked on the *Medium-Term Gas Market Report, The Asian Quest for LNG in a Globalising Market* and the ASEAN-IEA Dialogue.

The Executive Director presented *ETP* and met with the **Mexico** Secretary of Energy at the Mexican International Renewable Energy Forum in May. Results of continued co-operation with the Mexican Energy Ministry include a series of webinars on the IEA 25 Energy Efficiency Policy Recommendations for Mexican policy makers across government departments. Two fact-finding missions to Mexico were also held in the framework of the Fossil Fuel Subsidies reform project. In **Brazil**, a regional *How2Guide* drafting workshop on road-mapping for bioenergy was hosted in co-operation with the Food and Agriculture Organization (FAO). **Chile's** Energy Ministry co-hosted a regional energy training seminar for South America and Mexico in November, with 50 participants from government, regulators and the private sector.

International partnerships and initiatives

Throughout 2014, the IEA actively engaged in the **G20** process under the Australian Presidency, participating in all three meetings of the Energy Sustainability Working Group, presenting on a range of topics including gas markets and security, energy efficiency, access to energy and global energy investment. In agreeing to a Voluntary Action Plan on Energy Efficiency, G20 leaders noted the role of the IEA, alongside the International Partnership for Energy Efficiency Cooperation and other organisations, in supporting the implementation of the activities envisaged under the plan. The IEA also continued to build upon successful co-operation with the IEF and OPEC.

In 2014, the **International Low-Carbon Energy Technology Platform** consolidated its role as a vehicle for IEA multilateral engagement with partner countries and international organisations, as well as a means for disseminating IEA analysis and recommendations aimed at fostering the deployment of low-carbon energy technologies. Under the *How2Guide* series of manuals for crafting energy technology roadmaps tailored to national or regional contexts, the first title on wind energy was published in March 2014 and activities advanced toward completion of two additional publications on bioenergy and smart grids.

Through the Technology Platform, the IEA significantly strengthened its co-operation with other international organisations, such as the **Food and Agriculture Organization (FAO)**, the **International Renewable Energy Agency (IRENA)** and the **European Bank for Reconstruction and Development (EBRD)**. Finally, in the framework of engagement efforts with Ukraine, the IEA commenced a new set of cross-agency activities co-ordinated by the Technology Platform in support of energy efficiency policy and technology. These activities will be continued throughout 2015. The Technology Platform is proving to be a valuable means of reaching a range of non-member stakeholders, often in a multilateral or multiparty setting, to disseminate and test IEA analyses in a highly cost-effective fashion.

Since late 2012, co-ordination of the Agency's programme of nearly 40 **Energy Technology Initiatives (ETIs)** has been housed in GEP, reflecting the increasing importance of this network of 6 000 technical experts to the engagement efforts of the IEA. Singapore, Thailand, the (Arab) Regional Centre for Renewable Energy and Energy Efficiency, located in Egypt, and the Gulf Organisation for Research and Development, based in Qatar, joined an ETI during 2014. As of the end of 2014, public- and private-sector organisations from 24 partner countries were participating in at least one ETI, representing 15.5% of the IEA energy technology network.

Supporting the “4E” missions

Energy Data Centre

The mission of the IEA Energy Data Centre (EDC) is to provide IEA analysts, member countries and the broader energy community with the most comprehensive source of high-quality data to assess the energy situation in both OECD member countries and non-member economies. Over the years, the IEA has established itself as the most authoritative reference in terms of OECD and global energy statistics, and the objective of the EDC is to further strengthen this position and the role of the IEA in increasing data quality and transparency globally. Every year, the EDC publishes a series of ten annual publications, two quarterly publications and numerous electronic data services, including the Monthly Oil Data Service (MODS). The IEA also plays a key role in the development of JODI, InterEnerStat and other international initiatives to raise the profile and the quality of statistics worldwide.

Once again, **JODI** has been high on the agenda in 2014, especially with the Gas Exporting Countries Forum (GECF) joining the Asia-Pacific Economic Cooperation (APEC), Eurostat, the IEA, the IEF, the Latin American Energy Organization (OLADE), OPEC and the United Nations Statistics Division (UNSD) to become the 8th JODI partner organisation. Another highlight was the launch of the JODI Gas database in May at the IEF ministerial meeting in Russia.

Due to the growing share of OECD non-members in both energy production and energy demand, a special effort was placed on improving the data quality of several large OECD non-member economies and regions.

The **training programme** on energy statistics broke records in 2014 with around 200 applications for each session (March and October) for the 30 seats available. Applications came from all around the globe, producer countries and consumer countries alike. This high level of demand clearly demonstrates the need for such programmes and attests to the Agency’s leading role in energy statistics and methodologies.

The recognition of this role can be seen in terms of the number of hits to the statistics page on the IEA website, now by far its most visited page. Direct sales of electronic data services reached a new high of EUR 2.2 million (up from EUR 2 million), further underscoring the recognition of the high quality of IEA statistics.

After the successful launch, on the IEA website, of the visualisation of energy balances through dynamic Sankey flow graphs, the IEA strengthened the dissemination of its data programme through applications of its *Key World Energy Statistics (KWES)* booklet on Android and Windows phones to complement the one already available on iPhone. Moreover, EDC finalised its new IEA Energy Atlas, a new online data visualisation tool was launched in early 2015. The Atlas offers over 40 maps to visualise various key indicators on the energy situation of over 130 countries.

Energy efficiency is an energy policy priority in many countries; however, due to a lack of proper data, countries are not able to build the indicators necessary to assess the energy situation or to identify priority sectors for launching coherent and ambitious energy efficiency actions and programmes. To enable countries to build the needed indicators, the IEA Energy Data Centre, in coordination with SPT, launched a new manual on **Energy Efficiency Indicators: Fundamentals on Statistics**. The manual lists the most common indicators, the data needed to build these indicators as well as methodologies to collect these data. The manual contains a comprehensive annex which details 160 “good” and “best” country practices for collecting the data either through surveys, modelling or metering.

Besides the successful 2014 monthly, quarterly and annual statistics cycles, EDC also actively prepared three key meetings which will take place in early 2015. The first two will take place at the IEA in Paris: the Energy Statistics Working Group meeting will gather Heads of energy statistics in all OECD countries to discuss possible changes to the annual questionnaires; the InterEnerStat meeting will be attended by around 20 international organisations, who will explore ways to further strengthen co-operation on energy statistics worldwide. The third meeting, a World JODI Conference, will take place in Delhi and will gather countries, organisations and industry to assess the situation on both JODI Oil and JODI Gas and look at possibilities to make the initiative more useful to analysts and policy makers.

Communication and Information Office

Effective communication of IEA analysis, trends and recommendations is essential for supporting governments of member countries and other stakeholders in achieving a sustainable energy future. The Communication and Information Office (CIO) advises the Executive Director on communication strategy and priorities, co-ordinating across the Agency to raise the profile of the IEA and its work with policy makers and other key target audiences, and to ensure that consistent messages are conveyed with maximum impact. Its aim is to promote the broadest dissemination of IEA work, while finding ways to cut costs and increase efficiency.

As 2014 marked the 40th anniversary of the founding of the IEA, the Agency commemorated this milestone in a number of ways. In December 2014, a special Governing Board (GB) dinner was organised to discuss the Agency's first four decades and then to look to future aims and challenges. An exhibit of historical photos – showing key events and individuals over the previous four decades – was shown in Q4 at the IEA and the OECD and made available via the IEA website. The Q4, 2014 issue of the *IEA Energy* journal focused on the Agency's first 40 years, including contributions from founders such as Henry Kissinger and Etienne Davignon. IEA staff celebrated that anniversary at the annual Excellence Awards ceremony in December.

In 2014, CIO continued implementation of the IEA communications strategy, seeking to sharpen the Agency's profile, highlight key messages from IEA work and identify opportunities to maximise the impact of those messages. To emphasise the Agency's role, the phrase "Secure, Sustainable, Together" was added to the logo. To maximise impact in the most cost-effective way, CIO arranged for most main IEA publications to be launched by webinar – thereby reaching journalists in multiple cities/countries simultaneously. At the same time, the publications programme was further streamlined, to avoid duplication and highlight key messages with more impetus, and the IEA social media presence continued to increase. A decision was made to phase out the *IEA Energy* journal in order to focus more resources on digital media; the final issue appeared in October.

Revenue from sales of IEA publications are anticipated to total approximately EUR 5.4 million, based on figures available 31 November 2014. This outcome reflects the efforts of colleagues across the IEA and is especially impressive after a number of years of reduced resources and increased efficiency. CIO co-ordinated an inter-Agency working group to implement the e-commerce project approved by the GB. Several aspects of the proposal are well under way and near completion. The improvements to the IEA Energy Data Management Centre and Data Visualisation were nearly complete by the end of 2014. The upgrade and overhaul of the *OMR* subscription site was finished and launched in November. The core of the proposal to build a new e-commerce platform is under way; the working group prepared a Request for Proposals, interviewed six prospective companies and by the end of the year had narrowed the number to four with the intention of selecting a vendor for the initial stage early in 2015. The working group hopes to have the platform in place by the end of the year.

In 2014, the News and Public Affairs Unit (NPA) supported the Executive Director by preparing more than 100 presentations and speeches. NPA also drafted and placed opinion pieces by the Executive Director in key global publications, including the *Huffington Post*, *The Straits Times* (Singapore) and

CNN.com. Members of NPA scheduled more than 250 press interviews for IEA staff, of which nearly 90 were for the Executive Director. Finally, NPA worked with statisticians in EDC to launch a weekly snapshot of must-see IEA data on the website.

The Publications and Printing Unit (PPU) produced 60 publications – including two issues of the *IEA Energy* journal – and supported the publication of nine Insights papers, workshop reports and 37 translations. PPU also put in place, together with the Office of the Legal Counsel (OLC), a new Framework Agreement with translators and is closely working with the OECD on the new Framework Agreement with editors to draw on as the basis for the forthcoming joint editing call for tender. PPU is now dealing with the stock of free books of the whole Agency in order to better analyse needs and – as a consequence – the print-runs. The new joint pre-press and printing call for tender with the OECD enabled CIO/PPU to negotiate better prices. All of these efforts helped to keep costs down.

The Online and Multimedia Unit (OMM) worked with OIM to launch a new *OMR* site in October that includes interactive and downloadable charts, full-text HTML reports and archives, and a completely revamped design. The upgraded site is now one of the most popular areas of the IEA domain, along with the redesigned Statistics site that came out in 2013. All Topics pages have been redesigned to synthesise and make more visible all content on the site relative to each topic, and a new multimedia page was created. These new pages and sites, which required cleaning up of the underlying code, allow CIO to better track web analytics. Added to this, a technical project was completed to ensure CIO has comprehensive data on the number of times PDF documents stored on the IEA site are downloaded, no matter the method by which a user accesses the file (direct links or via the publication webpage). The monthly impact report continued in 2014, using these improved analytics, and remains a useful tool to measure and compare communications efforts (see box). The Agency’s social media profile continued to grow, especially on Twitter and LinkedIn, and even the Executive Director added her presence on Twitter with her own account in January 2014.

The Research and Reference Centre worked in tandem with the OECD Library and Archives to prepare the 40th anniversary exhibit. The presentation digitised important historic photos and

Assessing Impact

For the third year, CIO measured and tracked on-line communication efforts through a **monthly impact report** circulated across the Agency and summarised in the newsletter for key external stakeholders. The 2014 results showed continued strong progress.

IEA website:

- 10 427 160 page views: 22% increase on 2013
- 2 870 508 visits: 6% increase on 2013. 1 703 470 visits were unique, or first time in the month.

IEA in the news:

- 24 898 mentions of “International Energy Agency” in 2014 in Factiva press database, up more than 25% from 2013.

Social media:

- Twitter followers grew rapidly: 66% increase (53 700 followers end December 2014 compared with 32 257 in December 2013).
- The Executive Director launched her own Twitter account in January and had 2 600 followers by year-end.
- IEA Facebook page “likes” doubled: up 115% on 2013 (31 644 end-December compared with 14 689 in December 2013).
- LinkedIn followers of the IEA: 85% increase (12 739 followers end-December 2014 compared with 6 871 in December 2013).

documents and was a popular display in the hallways of the IEA and the OECD, as well as online where it has had nearly 5 000 views.

With OMA, CIO organised the third annual IEA Excellence Awards, which culminated with a ceremony in December where the Executive Director honoured colleagues – based on nominations by their peers – for their co-operative work with counterparts across the Agency.

Office of the Legal Counsel

The Office of the Legal Counsel (OLC) has a dual role and functions both as Secretariat to the Governing Board (GB) and Legal Office.

In its first role, OLC co-ordinated and reviewed documentation for four GB meetings in 2014; it continually sought to streamline the preparation and operation of such meetings.

In its second role, OLC supported a number of different stakeholders. For the Executive Director and Secretariat, OLC drafted a full update of the 1997 Security Regulations; advised on lease-related issues and provided strong support to OMA in the project relating to the Agency's accommodation post Q1 2017; advised on and negotiated 325 procurement, intellectual property, VC and collaboration contracts and matters; prepared guidance regarding OECD Internal Control Framework procedures; supported outreach by advising on the association initiative, MoUs and updated work programs with partner countries; and in the second half of 2014, conducted five tailored "Legal Q&A" training sessions for different IEA Divisions, aimed at enabling staff to better manage legal issues and risks relating to their IEA work.

For IEA member countries, OLC advised on IEP-related matters, including, in particular, non-compliance with stockholding obligations and accession, *bons offices* and mediation, and GB procedures.

With regard to the IEA Technology Network, OLC's team member dedicated to the Implementing Agreements (IAs) left in June 2014. OLC continued to deliver on IA requests from IA members, Working Parties and Secretariat to the best of its ability.

For the public, OLC, in consultation with the IEA's authoring divisions and the EDC, responded to a multitude of public requests to use IEA content and, where necessary, negotiated licence agreements in such respects. In an effort to streamline and reduce this workload, OLC successfully completed the update and consolidation of the IEA online terms and conditions and improved the rights-requests handling procedure. It also championed the IEA update of Creative Commons licences for free-of-charge publications, which should reduce rights requests for this portion of our publication range.

The Chief Legal Counsel also continued to advise and assist the GB Chair throughout 2014.

Office of Management and Administration

The Office of Management and Administration's (OMA's) activity in 2014 focused on the IEA office accommodation project, preparation of the 2015-16 PWB, the Long-term Financial Health of the IEA, document and data management together with IT (information technology) infrastructure upgrades, and the roll-out of the collaborative system SharePoint.

Accommodation

Following an analysis carried out by BNP Paribas, two principal options for the future of the IEA offices were defined, providing a financial overview together with advantages and disadvantages of staying and renovating the current office site or finding an alternative office site to the IEA specifications.

Seven options were consequently developed, including the potential renovation of the current office site. The options put forward highlight the different key criteria and the potential offers for each,

namely: geographical location relating to access to stakeholders; IEA image and convening power; the quality and standard of the office building and the Agency's ability to "practise what it preaches"; the impact on staff's personal situation, including a safe, functional office environment, the cost of living, spouse employment opportunities and schooling; and overall cost to the Agency and its member countries.

The GB, on the basis of the information provided by the Secretariat, retained five options for further investigation and lease negotiations. The GB will continue its decisional process, with the support of the Secretariat, to take a decision in 2015.

Programme of Work and Budget

The Committee of Budget and Expenditure and the Secretariat addressed two important items, amongst others, in 2014: the 2015-16 PWB and Long-term Financial Health.

Following the application of a new process in 2014 (the Strategic Approach to the PWB), the Committee of Budget and Expenditure, working with the Secretariat, successfully took forward a new approach to financing the budget. The proposed strategy defined two new outputs that the GB, with the aid of the Secretariat, provided for the PWB process: a Strategic Orientation paper and a PWB Guidance paper. This new process, used to develop the 2015-16 PWB, includes a simplified prioritisation exercise.

The 2015-16 PWB was drawn up on the basis of a "costs covered" approach. This new approach to Agency budgeting took into consideration the existing publications target methodology put in place by members. Rising publication revenues have placed the Agency in a stronger position for financing the budget, while members' contributions remain flat. In recognition of the continuing difficult budget situation in almost all member countries, this "costs covered" approach allowed the Agency to continue to deliver its Programme of Work while using existing methodologies to cover all costs of the Agency and while also preserving the flat level of assessed contributions for member countries.

Staff costs make up approximately 70% of the Agency's annual regular budget expenditure. Adjustments to staff costs or salaries are managed by the OECD in conjunction with salary recommendations from the Co-ordinating Committee on Remuneration (CCR). The final CCR recommendation in December 2014 was to increase salaries by 2.1% in 2015. The "costs covered" approach approved by the GB for 2015 allows the salary increases to be covered.

Members agree that Long-term Financial Health is essential for the future of the IEA. The need to ensure consensus on the most appropriate approach to apply to this area of study led to a new process, approved by the GB, for the evaluation of options for Long-term Financial Health. The Budget Committee, supported by the Secretariat, will take forward this process in 2015.

Information Systems

From an Information Systems Unit (ISU) perspective, 2014 saw a continuation of work in the area of information security across the various entities within OECD, within the context of the Information Security Governance Group (ISGG).

Work has also been carried out to focus on IEA-specific risk areas with the aim of implementing standard best practices in the area of information security. This has resulted in the updating of the IEA security guidelines, which now include an IT charter and roadmap for continued development of IT and information security to be implemented as and when resources are available in 2015.

As in previous years, ISU staff consolidated and enhanced IT infrastructure. Work completed includes the reinforcement of the secondary server room with a focus on business continuity and disaster recovery.

One main project has been enhancing collaborative work within the Agency with the ongoing deployment of the SharePoint platform. Other key projects in 2014 included the enhancement of data sales and e-commerce operation, as well as enhancements to the energy data management systems.

The IEA had 240 staff on 31 December 2014, including 209 officials, 8 temporary, 19 staff on loan and 4 trainees. In terms of personnel, 2014 saw the arrival of 47 new staff members across the IEA, 17 of whom were A grades. The total staff number remained within the staff cap of $230 \pm 10\%$.

In 2014 the staff positions were composed of 120 A grades, 86 B grades and 2 C grades.

Work continues in 2015 on priority areas such as the future IEA office accommodation, the Long-term Financial Health of the Agency, a review of crisis management and business continuity requirements and the continuous improvement of information systems.

Annex I: 2014 publications

Title	Launch
The Power of Transformation: Wind, Sun and the Economics of Flexible Power Systems	February-14
Featured Insight - (Renewable Heat) – Heating without Global Warming	March-14
The Impact of Global Coal Supply on Worldwide Electricity Prices (with CIAB)	March-14
Technology Roadmap : How to Guide for Wind	March-14
Technology Roadmap – Energy Storage	March-14
Oil, Gas, Coal and Electricity 4Q13	April-14
Energy Prices & Taxes 1Q14	April-14
CCS Annual 2014	April-14
Insight – Energy Country Specific Reports “Country Scorecards”: India	April-14
Technology Roadmap : a guide to development and implementation	April-14
Energy Policy Review – Austria	April-14
Energy Policy Review – Netherlands	April-14
Featured Insight – Heating Without Global Warming	April-14
ETP 2014	May-14
ETP series – Tracking Clean Energy	May-14
Partner Country Series – Emissions Reduction through Upgrade of Coal-Fired Power Plants: Learning from Chinese Experience.	May-14
ETP series – Linking Heat and Electricity Systems	May-14
Manual on Energy Efficiency Indicators Development	June-14
Manual on Statistics for Energy Efficiency Indicators	June-14
WEO excerpt – Global Energy Investment Infrastructure Outlook	June-14
Medium-Term Gas Market Report	June-14
Energy Policies Beyond IEA countries series : Russia – UK version	June-14
Energy Policies Beyond IEA countries series : Russia – Brochure : Reproduce key introductory parts of the Russia In-Depth Review report in English and Russian: the Executive Summary and the key recommendations	June-14
Energy Policies Beyond IEA countries series – Russia: Russian translation	June-14
Medium-Term Oil Market Report 2014	June-14
Partner country series – Overseas Investments by Chinese National Oil Companies: Maturing Approaches	June-14
Energy Supply Security 2014 (Electronic only)	June-14
Oil, Gas, Coal and Electricity 1Q14	July-14
Energy Statistics of OECD Countries	July-14
Energy Balances of OECD Countries	July-14
Energy Prices & Taxes 2Q14	July-14
Oil Information	July-14
More Data, Less Energy	July-14
Energy Policy Review – Luxembourg	July-14
Renewables Information	August-14
Electricity Information	August-14

Coal Information	August-14
Natural Gas Information	August-14
Energy Balances of Non-OECD Countries	August-14
Energy Statistics of Non-OECD Countries	August-14
China Emissions Trading: A Simulation for the Power Sector	August-14
Medium-Term Renewable Energy Market Report 2014	August-14
Key World Energy Stats	September-14
Featured Insight – Seamless Power Markets – Regional Integration of Electricity Markets in IEA member countries	September-14
Multiple Benefits of Energy Efficiency	September-14
Technology Roadmap : Update CSP – (original in 2010)	September-14
Technology Roadmap : Update for solar photovoltaics: PV (original in 2010)	September-14
Short Summary (Highlights) of Energy Policies Beyond IEA Countries series – Caspian and Black Sea regions - INOGATE	September-14
Oil, Gas, Coal and Electricity 2Q14	October-14
Energy Prices & Taxes 3Q14	October-14
Market Report Series – Energy Efficiency Market Report	October-14
WEO excerpt – Africa	October-14
Energy Policies Beyond IEA countries series : Morocco (English/French)	October-14
CO ₂ Emissions from Fuel Combustion Highlights	November-14
CO ₂ Emissions from Fuel Combustion	November-14
Insight – Energy Country Specific Reports “Country Scorecards”: United States	November-14
Insight – Mapping Multilateral Collaboration on Low-Carbon Energy Technologies	November-14
Partner country series – The Asian Quest for LNG in a Globalising Market	November-14
WEO 2014	November-14
Energy, Environment and Climate Change (Climate series)	November-14
Energy Policy Review – European Union	December-14
Insight – Thermal Power Plant Economics and Variable Renewable Energies	December-14
Medium-Term Coal Market Report 2014	December-14
Energy Policy Review – United States of America	December-14

Annex II: Acronyms

AMEM	ASEAN Ministers on Energy Meeting
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CBE	Committee on Budget and Expenditure
CCR	Co-ordinating Committee on Remuneration
CCS	carbon capture and storage
CIO	Communication and Information Office
CO ₂	carbon dioxide
COP	Conference of the Parties
CSD	Country Studies Division
E4	Energy Efficiency in Emerging Economies
EBC	Energy Business Council
EBRD	European Bank for Reconstruction and Development
ECC	Environment and Climate Change Unit
EDC	Energy Data Centre
EED	Energy Efficiency and Environment Division
EEU	Energy Efficiency Unit
EMS	Directorate of Energy Markets and Security
ERA	Emergency Response Assessment
ERE	Emergency Response Exercise
ERR	Emergency Response Review
ESAP	Electricity Security Action Plan
ETI	Energy Technology Initiative
<i>ETP</i>	<i>Energy Technology Perspectives</i>
EU	European Union
EVI	Electric Vehicle Initiative
FAO	Food and Agriculture Organization
G7	Group of Seven major economies
G20	Group of Twenty major economies
GB	Governing Board
GCP	Gas, Coal and Power Markets Division
GEE	Directorate of Global Energy Economics
GECF	Gas Exporting Countries Forum
GEP	Office of Global Energy Policy
GFEI	Global Fuel Economy Initiative
GIVAR	Grid Integration and Variable Renewables
IA	Implementing Agreement
IDR	in-depth review
IEA	International Energy Agency
IEF	International Energy Forum
IEP	International Energy Program
IOSCO	International Organisation of Securities Commissions
IRENA	International Renewable Energy Agency
ISGG	Information Security Governance Group
ISIL	Islamic State in Iraq and Levant
ISU	Information Systems Unit
IT	information technology
JODI	Joint Organisations Data Initiative

KWES	<i>Key World Energy Statistics</i>
LNG	liquefied natural gas
MENA	Middle East and North Africa
MODS	Monthly Oil Data Service
MoU	Memorandum of Understanding
MTOMR	<i>Medium-Term Oil Market Report</i>
MTRMR	<i>Medium-Term Renewable Energy Market Report</i>
NPA	News and Public Affairs Unit
OECD	Organisation for Economic Co-operation and Development
OIM	Oil Industry and Markets Division
OLADE	Latin American Energy Organization
OLC	Office of the Legal Counsel
OMA	Office of Management and Administration
OMM	Online and Multimedia Unit
OMR	<i>Oil Market Report</i>
OPEC	Organization of the Petroleum Exporting Countries
PPU	Publications and Printing Unit
PRA	price reporting agency
PWB	Programme of Work and Budget
RDD&D	Research, Development, Demonstration and Deployment
SE4ALL	Sustainable Energy for All
SEQ	Standing Group on Emergency Questions
SPT	Directorate of Sustainable Energy Policy and Technology
TEC	Technical Executive Committee (of the UNFCCC)
TEM	Technical Expert Meetings (of the UNFCCC)
UGF	Unconventional Gas Forum
UN	United Nations
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNSD	United Nations Statistics Division
UNSDSN	United Nations Sustainable Development Solutions Network
VC	voluntary contribution
WEO	<i>World Energy Outlook</i>
WTO	World Trade Organization
ZNG	zero nominal growth

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