

# **IEAC**

International Energy Advisory Council

## **ENERGY CORPORATIONS WORKSHOP PROSPECTUS**

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### **Introduction**

In its first set of recommendations of November 2013, the Seoul International Energy Advisory Council (SIEAC) recommended that the Seoul Metropolitan Government (SMG) "assess the establishment of an institution that will have the responsibility of delivering efficient and effective energy services to citizens and businesses. Since then, SIEAC has repeatedly recommended that SMG establish a Seoul Energy Corporation to deliver its Sustainable Energy Action Plan, the One Less Nuclear Power Plant – Phase 2. In 2015, the SMG included the establishment of a Seoul Energy Corporation in its Sustainable Energy Action Plan and the SIEAC provided a presentation to the Seoul Housing Corporation on how such corporations were established in other world cities.

Energy corporations owned by city, state or national government is not new but there is a big difference between municipal owned energy corporations designed to generate profits to be spent elsewhere on the municipality's services and municipal owned energy corporations designed to implement the municipality's energy and climate change programs and to reinvest any profits generated into the municipality's energy and climate change programs. Whilst the former is based on well-established commercial governance the latter is a very different proposition and governance is key to ensure that the energy corporation gains and retains the support of the city's citizens and businesses to deliver the city's energy and climate change goals.

This workshop covers six case studies from around the developed world and provides examples of how energy corporation governance fits in with the city's energy and climate change policies and strategies. The workshop will further focus not only on the municipal corporate strategies but also on the decision-making process that led to their foundation in the first place.

### **Woking, United Kingdom**

In 1990, Woking Borough Council adopted an Energy Efficiency Policy, which was the catalyst for all that Woking has since achieved. Following the adoption of the Policy, the Council implemented a series of sustainable energy projects from 1990 to today, including the UK's first trigeneration project, first local authority, private wire residential decentralized energy systems, largest domestic solar PV/cogeneration installations and first stationary fuel cell system. A key feature of the Council's more than 80 private wire decentralized energy networks is to supply lower cost energy than can be purchased from the grid as well as reducing emissions.

In 1999, the Council established a wholly owned energy and environmental services company called Thameswey Ltd, which in turn established a public/private joint venture energy services company with a Danish energy company in 2000 called Thameswey Energy Ltd. Thameswey

Energy Ltd enabled the Council to take forward the innovative and unique decentralized energy services concept that the Council had so successfully employed over the previous 10 years at a small-scale level using local authority finance to a large-scale level using primarily private finance. The Council now has the most energy efficient public sector housing stock in the UK and the profits generated by Thameswey are reinvested into renewable energy and tackling fuel poverty in the private sector.

The Thameswey model has been so successful that it has enabled the Council to increase its shareholding from 19% in 2000 to 90% today. The model has also been used to establish other Thameswey companies to deliver other Council policies that the private sector has failed to deliver such as affordable housing and sustainable new development. By 2013, Woking's emissions for the whole of the Borough had been reduced by 36% from 1990 levels.

### **Gothenburg, Sweden**

Göteborg Energi, founded in 1846 and owned by the City of Gothenburg is Sweden's largest company owned by a municipality and fourth largest energy company in Sweden. The company first established its world-class district heating system in 1953, which today covers 90% of the city's apartment buildings and extends to four neighbouring municipalities over a 1,000 km district heating network. In 2002, the City of Gothenburg reviewed its ownership of Göteborg Energi and set new energy and climate change objectives, strategies and policies to deliver a sustainable Gothenburg society, which changed the energy company's business model.

To achieve Göteborg Energi's vision to help deliver a sustainable Gothenburg society profits are reinvested to implement the change to renewable energy solutions. For example, the district heating network, which was originally supplied by fossil fuels is today fuelled by 95% from renewable energy and waste heat. An innovative feature of the company's project portfolio is the installation of biogas and gasification plants, where the renewable gas is converted into substitute natural gas and injected into the gas grid for both decentralized energy and transport.

Today, Göteborg Energi provides utility services to more than 300,000 customers in Greater Gothenburg, including cogeneration/trigeneration, district heating and cooling, natural and renewable gases, fibre optic cabling and technologies for consumers not connected to the district heating network. Göteborg Energi owns Gothenburg's electricity distribution network and was originally joint venture owner with Vattenfall of an electricity trading company called Plusenergi. However, Vattenfall sourced its electricity from the country's grid, primarily fossil fuels and nuclear energy so in 2009, the partnership was dissolved and Göteborg Energi established Göteborg Energi Din El AB to supply as well as distribute electricity.

### **London, United Kingdom**

As part of the Mayor of London's 2004 election manifesto was a commitment to establish a climate change agency for London. There was a recognition that although the Mayor had implemented robust policies and strategies on decentralized energy and climate change, which would be further developed during his second term in office, delivery of these policies and strategies remained at risk without a body to stimulate, develop, enable and/or deliver projects on the ground. Following his re-election, the Mayor established the London Climate Change Agency (LCCA) in 2006 to transform London into a leading low-carbon sustainable city. The LCCA was established as a municipal corporation to develop and implement projects in the sectors that impact on climate change, especially in the energy, water, waste and transport sectors.

In addition to implementing its own projects and providing advice to the Mayor on London's energy and climate change policies the LCCA also established the London ESCO, a public/private joint venture energy services corporation between the LCCA Ltd and EDF Energy (Projects) Ltd to design, finance, build and operate local decentralized energy systems for both new and existing development. The London ESCO project portfolio covered around 50 potential short, medium and long term decentralized energy projects with an investment value of £200 million (\$US260 million) in projects reducing greenhouse gas emissions by 310,000 metric tons a year. The decentralized energy and energy services markets were catalyzed by the establishment of the London ESCO which saw the ESCO market in London increasing from having no ESCO corporations in 2006 to having twelve ESCO corporations in 2007.

### **Boulder, Colorado, United States of America**

In 2002, Boulder City Council passed a resolution committing the community to reducing its greenhouse gas emissions to the target established by the Kyoto Protocol. Following lengthy discussions and actions with the investor owned utility, Xcel Energy, including supporting Xcel Energy's failed SmartGridCity project, which never produced any significant benefit to the Boulder community, local citizens grew frustrated with the lack of climate change leadership and pressure grew for the municipalization of the city's electricity system. It had become obvious that Xcel Energy did not really want to implement renewable energy and in fact was proposing a new 750 MW coal plant, spending \$250 million on pollution controls to extend the life of old coal plants and extending Xcel Energy's coal commitment until 2069.

Responding to citizen frustration the City held a ballot to establish a municipal electric utility and to purchase the local electric utility, which was approved by a majority of voters. The City's Climate Action Plan and "Carbon Tax" were also approved at the ballot box. Key in voter approval was to the target to reach 100% renewable electricity and to reduce greenhouse gas emissions by 80% by 2030. Xcel Energy responded to the vote by introducing a ballot initiative to stop the voter-approved municipalization and an attempt to rewrite the city Charter which was rejected by 68% of voters.

In 2014, the City established a local electric utility which was followed by a lawsuit filed by Xcel Energy alleging that the City's formation of a utility was premature and that the City had failed to meet requirements laid out in the City Charter. The court case was settled in the City's favour but Xcel Energy filed a new lawsuit on the transfer of assets. The case principally revolves around Xcel Energy not being forced to use the City's electricity distribution network in supplying its customers and preventing the City from acquiring customers outside the city unless Xcel Energy was unwilling or unable to supply those customers. Litigation is ongoing but a settlement appears to be reached. Boulder has turned into an iconic example of a much broader movement of "re-municipalization" initiatives (energy, transport, water, waste) in North America.

### **Hamburg, Germany**

Prior to 1997, the electricity, gas and district heating grids were owned by the City of Hamburg but between 1997 and 2002 the grids were privatized and sold to major European energy corporations. However, following dissatisfaction with increasing energy prices, growing opposition to coal and nuclear power plants and the private energy corporation's failure to install any meaningful renewable energy capacity led to the City in 2008, deciding to establish its own energy corporation.

Hamburg Energie was established by the City in 2009 to supply renewable electricity and gas to Hamburg consumers and by 2012, Hamburg Energie had become the second largest energy supplier in the city. In 2013, Hamburg electors voted in a referendum for the City of

Hamburg to re-municipalize the electricity, gas and district heating grids. Key factors in the yes vote was the desire to reduce energy costs, increase renewable energy and the fact that private utilities generated electricity predominantly coal and nuclear power plants. City analysts had also calculated that if profits in the local grids were reduced by 50% and the remaining profits recycled into building more renewable energy, consumers energy bills could be reduced at the same time as accelerating the uptake of local renewable energy.

The City bought back the electricity grid in 2015 and will exercise its options to buy back the gas and district heating grids in 2018 and 2019, respectively. Similar to Boulder in the U.S., the Hamburg case stands for a much larger re-municipalization movement in Germany, and other European cities.

### **Sydney, Australia**

Sustainable Sydney 2030 is the vision and strategic plan for the City of Sydney to make Sydney a green, global and connected city by 2030. The full spectrum of interested individuals and groups were consulted on Sustainable Sydney 2030 over a period of 18 months making it the most extensive engagement process in the City's history. Of key significance to energy and climate change was that 90% of respondents wanted urgent action on climate change. Sustainable Sydney 2030 was adopted by Council in 2008 and provided the mandate for the Lord Mayor and Council to deliver the 10 targets to make Sydney more sustainable by 2030.

As 80% of Sydney's greenhouse gas emissions come from coal fired power plants the 70% reduction in greenhouse gas emissions could not be delivered without replacing coal fired centralized energy generation with low or zero carbon decentralized energy generation. Therefore, the 100% local electricity demand would need to be met principally by decentralized energy - 70% from trigeneration and 30% from renewable electricity generation by 2030.

In 2012, the City appointed Cogent Energy as the energy services provider to design, finance, build, operate and maintain the city-wide trigeneration network. Although the City may have preferred to establish a public/private joint venture energy services corporation to implement the project any corporation that a local authority participates in must first be approved by the appropriate Minister of State, ie, the Energy Minister. Due to the difference between State and City politics this was regarded as too much of a risk, particularly as State Government owned both the electricity supply and distribution corporations, so a compromise was reached. Cogent Energy would deliver, operate and maintain the projects, own the energy plants, own any private wire networks and supply electricity, heating and cooling to customers. The City would own the district heating and cooling networks and charge distribution use of system charges providing the City with a return on investment.

### **Seoul Energy Corporation – Policy, Strategy and Governance**

The workshop will provide extensive questions and answers sessions following each case study presentation and the workshop will culminate with an open discussion on the pros and cons and the lessons learnt from the case studies and how this knowledge can be applied to the Seoul Energy Corporation in terms of policy, strategy and governance.

### **Workshop Attendance**

SIEAC recommends that attendance of the workshop would be targeted at key players at SMG and SHC, in charge of the Seoul Energy Corporation implementation, as well as selected representatives of the industrial, financing, academic and NGO sectors. About fifty participants appears to be an appropriate number.

## WORKSHOP PROGRAM

<b>08:30 – 08:45</b>	<b>Introduction</b> Allan Jones MBE, International Energy Advisory Council
<b>08:45 – 09:00</b>	<b>Update on the Seoul Energy Corporation Project</b> Spokesperson, Seoul Metropolitan Government
<b>09:00 – 09:30</b>	<b>Woking, UK</b> Allan Jones MBE, International Energy Advisory Council
<b>09:30 – 10:00</b>	<b>Questions &amp; Answers + Discussion</b>
<b>10:00 – 10:30</b>	<b>Refreshment Break</b>
<b>10:30 – 11:00</b>	<b>Gothenburg, Sweden</b> Lars J. Nilsson, International Energy Advisory Council
<b>11:00 – 11:30</b>	<b>Questions &amp; Answers + Discussion</b>
<b>11:30 – 12:00</b>	<b>London, UK</b> Allan Jones MBE, International Energy Advisory Council
<b>12:00 – 12:30</b>	<b>Questions &amp; Answers + Discussion</b>
<b>12:30 – 13:30</b>	<b>Lunch</b>
<b>13:30 – 14:00</b>	<b>Boulder, Colorado, USA</b> Alan K. Meier, International Energy Advisory Council
<b>14:00 – 14:30</b>	<b>Questions &amp; Answers + Discussion</b>
<b>14:30 – 15:00</b>	<b>Hamburg, Germany</b> Manfred Fishedick, International Energy Advisory Council
<b>15:00 – 15:30</b>	<b>Questions &amp; Answers + Discussion</b>
<b>15:30 – 16:00</b>	<b>Refreshment Break</b>
<b>16:00 – 16:30</b>	<b>Sydney, Australia</b> Allan Jones MBE, International Energy Advisory Council
<b>16:30 – 17:00</b>	<b>Questions &amp; Answers + Discussion</b>
<b>17:00 – 17:30</b>	<b>Seoul Energy Corporation – Policy, Strategy and Governance</b> Workshop Attendees

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