

2023 Selection Committee: CEM Energy Management Leadership Awards

Overview

The Clean Energy Ministerial’s [Energy Management Leadership Awards](#) recognize leading organizations for their energy management achievements and raise the profile of the ISO 50001 energy management system as a proven, broadly applicable solution to global energy and climate challenges. To qualify for these awards, organizations prepare case studies to share a high-quality and replicable description of their ISO 50001 implementation and certification, resulting business benefits, and useful advice on lessons learned and keys to success.

An independent panel of international energy management experts evaluate the entries to determine the winners. The judges are nominated by CEM government representatives or energy management advisors from the United Nations Industrial Development Organization.

The Selection Committee for the 2023 Energy Management Leadership Awards consists of 22 judges representing 16 countries. This document contains biographies submitted by the judges, alphabetized by country.

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Click on country names to skip to judge biographies.

Argentina

Andrea Afranchi

Andrea has a Chemical Engineer degree and an Energy Management master's degree. She has over 25 years of experience in industry sector. She has large experience on energy efficiency and energy management systems (implementation, development, and audit). Currently, Andrea is technical expert in Energy Management System learning networks she provides assistance to the implementation and development of EnMS to participating companies of the region. She continues serving as senior energy consultant on energy efficiency, energy management system, sustainability, and energy transitions working for companies, governments, and international organizations.

She has the certification from IRCA (International Register of Certificated Auditors) as Leader Auditor in ISO 50001 (Energy Management Systems). Since 2014 she takes part in IRAM (Argentinian Standardization and Certification Institute), national committee from Argentina participating member of the international committee ISO TC 301 and since 2018 takes part in ISO TC 301/WG as technical expert for Argentina. She is Certified Measurement & Verification Professional from AEE (Association of Energy Engineers) since 2017.

She is author of several papers and publications about energy efficiency, energy management and climate change, and teaches undergraduate and graduate careers linked to the topics of her specialty.

Since 2019 she has participated as an expert in the Awards Selection Committee for the "Energy Management Leadership Awards," organized by the Clean Energy Ministerial (CEM).

Andrea Heins

Andrea is a senior energy professional, with 21 years of experience in corporate, public policy, consulting and academic activities.

From December 2015 to July 2018, she was the Undersecretary of Energy Efficiency and Savings at the Ministry of Energy and Mining of Argentina. In this position, she was the focal point at the National Cabinet of Climate Change, coordinator of the National Energy and Climate Action Plan, vice-chair of the G20 Energy Transitions Working Group under Argentina G20 Presidency (2018), and co-chair at the Executive Committee of IPEEC (International Partnership on Energy Efficiency Cooperation). One of the goals of her administration was to promote the implementation of Energy Management Systems in the industry sector based on different initiatives, one of them was to implement the National Award of the Energy Management Leadership Award.

Currently, she works as a international consultant in energy, energy efficiency and sustainable development, for private companies, public sector and international organizations.

She has a Chemical Engineering degree (University of Buenos Aires), a Petroleum Specialization (Institute of Petroleum and Gas at University of Buenos Aires) and several specific trainings. She has the certification from IRCA (International Register of Certificated Auditors) as Leader Auditor in ISO 50.001 (Energy Management Systems).

Since November 2019 she is the chair of the Argentine Committee of the World Energy Council (CACME), She has participated as an expert in the Awards Selection Committee for the “Energy Management Leadership Awards” since 2017.

She is professor at “Energy Efficiency Seminar” in the Master on Climate Change Law and Economics, FLACSO university; and professor of Energy Efficiency curricula in the Master of Sustainable Energy Development, at Instituto Tecnológico de Buenos Aires (ITBA); she also teaches related matters in other university postgraduate training courses.

She is author of several papers and publications about process optimization, energy efficiency and energy management, and teaches in different postgraduate programs linked to the topics of her specialty.

Australia

Albert Dessi

Albert Dessi chairs the EN001 Energy Auditing standards committee, the Australian mirror committee to ISO TC301 Energy Management and Energy Savings, since 2013. As part of this role he was also the lead drafter of the series of joint Australia-New Zealand energy auditing standards, AS/NZS3598, published in October 2014. In representing Australia numerous TC301 meetings, Mr. Dessi has contributed to developing the ISO50001:2018, ISO 50002, ISO50006, ISO50015 and ISO50004 standards.

Mr. Dessi works at the Australian Department of Industry, Science, Energy and Resources on emissions reduction policies for the transport sector. Prior to this he advised on industrial emissions reduction and energy efficiency calculations and was the lead technical advisor for the former Energy Efficiency Opportunities (EEO) program, a legislated energy assessment and energy management program for large companies. This role involved close contact with industry, including reviewing energy assessment plans and energy management systems, with a particular focus on power generation. Prior to this he worked in industry policy and economic research roles in government and university sectors.

In his previous role at the Department of Industry, Mr. Dessi also represented Australia on the Measurement and Verification task group of the Energy Management Working Group, part of the Global Superior Energy Performance partnership under the CEM. He has an honours degree in Mechanical and Materials Systems Engineering, and a degree and Postgraduate Diploma in Economics from the Australian National University, and is a Certified Measurement and Verification Professional.

Canada

Michael Kelly

Mike is the Manager of the Technical Services Team in the Industry Division of the Office of Energy Efficiency. Prior to this, he spent over four years as a Senior Industrial Engineer at

Natural Resources Canada. He has extensive knowledge of industry, programs and policies, with a focus on energy efficiency, emission reductions and economic performance.

Mike is a voting member of the ISO and CSA technical committees responsible for energy management and energy savings standards; a member of the ISO 50001 Lead Auditor Certification Board through the Association of Energy Engineers; a Leadership Team Member of the North American Strategic Energy Management Collaborative; and serves as a Judge for the Clean Energy Ministerial Energy Management Leadership Awards.

Before joining government, Mike spent over six years in industry as a Process Engineer and Energy Manager. In these roles, he facilitated production through the design, development and continual improvement of industrial equipment and processes. Mike championed energy saving initiatives, including the implementation of an energy management system, employee awareness campaign and a number of energy efficiency retrofits and process upgrades. This resulted in an award-winning program that achieved energy, water and emission reductions of over 60% in three years and provided millions of dollars in annual cost savings. During his time in industry, Mike served as a Chair for the General Manufacturing Sector of the Canadian Industry Partnership for Energy Conservation, a Standing Committee Member on Energy Efficiency in Buildings responsible for the National Energy Code of Canada for Buildings, and an Industrial Partner for Algonquin College.

Mike is an advocator of responsible energy use and believes that there is a direct link between meeting net-zero emissions targets and effective energy management. He is a strong supporter of the energy efficiency first principle and bringing behavioural, organizational and technological change together to maximize results. It starts with asking a simple question -- how can we save more energy? Mike first asked this question in industry and continues to ask it regularly in government.

Bei Wang

Bei Wang received her Ph.D. degree from the University of Toronto in Chemical Engineering and she is a Registered P. Eng. in Ontario. She has been working at Standards Council of Canada as a Lead Specialist in the Accreditation Branch since 2014. She has 11 years of quality assurance experience working in the sectors of Bio-Tech, Analytical Laboratory and Medical Devices in Canada prior to joining SCC, all augmented by experience in supply chain management, quality management, products design and regulatory compliance. She is active on a number of technical working groups and mirror committees including Nanotechnology (TC229 and TC113), Energy Management (TC301), Forestry Management (SFM TC) and Green House Gases (GHG) (TC207). Given her rich background, her technical expertise lends well to multiple accreditation programs for the Accreditation Services Branch.

Bei is a Certified Lead Assessor in EnMS 50001 and has been intensively involved in the Global Superior Energy Performance (GSEP) Global scheme development for the ISO 50001 Lead Auditor personnel certification programs since 2014. Canada is the founding countries of the collaborative group. In the development of an internationally-relevant certification scheme for ISO 50001 Auditor and Lead Auditor that meets the requirements of ISO/IEC 17024, she was invited to participate the Job Task Analysis (JTA) collaborative group in Washington DC. She has

also participated variety programs through NRCan and Department of Energy (DOE) promoting ISO 50001 and ISO 50003 in Canada.

Chile

Michel de Laire

Michel de Laire is an Industrial Engineer, Electrical Engineer, MBA and Certified Energy Manager (CEM) with over twenty years of experience in energy projects.

He worked from 2002 to 2006 for ABB in maintenance of power substations. From 2006 to 2011, he served as a consultant developing projects in mining sector, renewable energy and energy efficiency.

Since 2008, he has participated in the international committee ISO TC 301 Energy Management, responsible for developing the ISO 50001 Energy Management Systems' standard and other complementary standards.

From April 2011 to July 2014, he served in the Chilean Energy Efficiency Agency as Head of the Industry and Mining, where he had to start the process of ISO 50001 implementation in Chile, develop a program for funding the technical assistance in the industry and generate a training program for professionals in the industry.

He currently serves as a Head of Sustainable Energy in WSP, working in projects related to energy efficiency, energy management, renewable energy, asset management and business continuity for companies, governments and international organizations.

Juan Pablo Payero

Juan Pablo Payero is a Civil Environmental Engineer and also a Civil Industrial Engineer, and he has an MBA. In his 14 years of professional experience, he has worked in several areas of engineering, such as energization, maintenance, and energy efficiency projects, as well as a professor teaching technicians and engineers.

Juan Pablo has over 1 MW of installed power, leading solar bombing projects, over 3 MW of distributed generation (solar) running the largest demand aggregation projects in Chile, and has managed energy savings for more than 600 GWh a year. In addition to that, he was responsible for the design and implementation of the only Energy Efficiency Consultants Register, and led the reformulation process of financial guarantees for ESCO projects in this country, being in charge of two GEF projects.

As the manager of the Industry and Mining Area at the Energy Efficiency Chilean Agency, Juan Pablo took part in the design team of the main public policy on energy management: The Energy Efficiency Seal. Additionally, he has run for over five years the Promotion Program for Energy Management Systems in Chile, and is responsible for the implementation of four combined heat and power projects in the Chilean industrial sector based on Internal Combustion Engines, totaling over 1MW of power in these pilot projects.

Juan Pablo has also been an energy professor for over six years, teaching over 3,500 students of technical and engineering majors in over 6,000 class hours in different education organizations. He is also a professor in the European Energy Manager (EUREM) and the Master of Energy Efficiency and Sustainability of the Metropolitan University of Technology in Santiago, Chile. In addition to that, he has given several lectures to many audiences and has co-edited the Energy Management System based on ISO 50001:2011 Norm paper.

Juan Pablo has the CEM and CRU Certifications, is an ISO 50001 Lead Auditor with international IRCA Certification, and is a member of the ISO/TC 301 committee.

China

Qing Ding

Ms. Qing Ding works for Resource and Environment Branch, China National Institute of standardization as the associate professor. She serves as the secretary support team of ISO/TC301 Energy management and energy savings, the registered expert of ISO/TC301/WG1 Energy management, and the committee member of China's national mirror committee to ISO/TC301 from 2016.

She does research on policies and standardization in the field of energy efficiency of end-using products and appliance, energy saving monitoring, energy management, green finance, etc.

Ms. Qing Ding participated in nearly 10 items of national key S&T special projects and the international cooperation projects.

She was responsible for or involved in more than 10 items of national standards development and review works, such as the National Standard "Energy management system requirements" (GB/T 23331), Minimum allowable values of energy efficiency and energy efficiency grades of LED products for indoor lighting (GB 30255-2019).

Denmark

Erik Gudbjerg

International Expert on Industrial Energy Efficiency and Energy Management System Implementation. Have assisted over 200 organisations in implementing - improving Energy Management in Denmark, Iran, Malaysia, China, Turkey, Egypt, Ukraine and Uzbekistan since 2012. Worked as consultant for UNIDO, World Bank and the Danish Technology Institute among others. CTA on the TEVMOT project in Turkey. Other focus points financing energy efficiency in industries, non energy benefits, behavioral change in organizations, electric motor systems. Certified energy consultant by the Danish Energy Agency and ISO 50001 lead auditor.

Germany

Christoph Graser

Christoph Graser is holding a degree as electrical engineer. He had been working for over 18 years in various places in the German electricity utility sector. His professional activities have covered all aspects of electrical energy supply, i.e. conventional power generation, electricity transmission and distribution systems, renewable energy technologies and embedded generation.

In 2006, Mr. Graser joined the Power Generation business group of Siemens AG, in Muelheim/Ruhr (Germany), where he took the lead of the Standardization and Regulation Management Group within the Steam Turbine Engineering business segment. Mr. Graser is now working for Siemens Energy as Senior Key Expert for product safety, technical regulation and standards, with a special responsibility for energy management and energy transition related standardization.

Mr. Graser has a long track of experience in international standardization on subjects like environmental management or system aspects of electrical energy supply, as well as product safety and environmental legislation. He is actively involved in energy management system standardization in international and European bodies and has been chairman of the German mirror committee to ISO/TC 301 energy management and energy savings since 2007. In addition, he was appointed as co-chair of the CEN/CENELEC Sector Forum Energy Management and Energy Transition in 2017.

He co-authored several publications on energy management and ISO 50001, chaired several workshops and seminars and held numerous presentations on energy management and energy efficiency.

India

Padmanabhapuram Radhakrishnan

Padmanabhapuram Radhakrishnan (Radha) is a Post Graduate Chemical Engineer (BTech and MS) with over 35 years' experience in R&D, Operations in Chemical, Oil & Gas and manufacturing industries, QHSE and Energy. He has recently retired after 12+ years as Chief Energy Officer for ENOC, an Oil & Gas Company headquartered in Dubai.

Radha's experience in Energy began in 1987 as an Advisor to NY state Energy Advisory Services conducting energy audits of small and medium chemical and processing companies and recommending projects for energy conservation and efficiency improvements. Since then, as head of operations in a carbon black plant (total 10 years), he has executed several projects to improve waste heat and waste gas utilization and yield improvements.

Radha has held his last position for over 12 years and retired in Oct 2020. He was responsible for developing strategies, policies, manuals and standards for both energy management and energy conservation and efficiency improvements. Some of his notable outputs are given below:

- ENOC Energy policy in 2008.

- ENOC Energy Management System Manual in 2009, revised in 2015 to align with ISO 50001
- More than 50 EnMS audits of our Business units ranging from retail to refinery and chemical plant
- Development of ISO50001 systems for 4 of our units (certified)
- ENOC SEP Manual, Purchase and design efficiency standards etc.
- Motor efficiency manual for Dubai

Radha has been key to putting in place several other energy initiatives such as KPIs for business units, energy business plans, metering systems etc.

Indonesia

Gema Khusnul Fitrika

Gema Khusnul Fitrika has extensive working experience in Energy Management System ISO 50001, Energy Audit and Green House Gas Emission reduction, he also gains expertise on ISO 50001 by United Nation Industrial Development Organization (UNIDO), he has more than 20 Years experiences. During his tenures, Mr. Gema held position General Secretary of Indonesia Energy Institute and SNI ISO 50003 Technical Committee to National Board of Standardization (BSN), member of Technical Committee 27-06 of BSN focusing on development national standard or ISO 50000 series such as SNI ISO 50001, 50002, 50006, 50003, 50015, 50021, dan 50045. He provides advice to compile and formulate Indonesia's response to the draft international standard and other documents related to the development of ISO 50001 standard Energy Management System. He is currently working for PT. Adaro Energy Indonesia Tbk as Corporate Department Head of Energy and GHG Management and enjoys a good standing with government institutions and industry/professional associations.

Titovianto Widyantoro

Titovianto is senior energy professional with 25 years of experience in government (public policy), consulting and academic activities.

From 1993 to 2007, he was government officer on energy conservation and energy efficiency of Indonesia. From 2008-2012 he was active as energy planner and Currently he is active as academic lecturer in several university, consultant of energy management system implementation, energy auditor and international organizations.

He has a Chemical Engineering degree (University of Diponegoro Semarang), post graduate on computer science and public policy (Indonesia University), several national and international training (as national energy expert on ISO 50001).

He actively participate as technical committee member of National Standard Board and Since 2021 he has participated as an expert in the Awards Selection Committee for the "Energy Management Leadership Awards," organized by the Clean Energy Ministerial (CEM).

He is author of several papers, guideline book and publications about energy efficiency and conservation and energy management, and teaches in different undergraduate and postgraduate programs linked to the topics of his specialty.

Ireland

Liam McLaughlin

Liam McLaughlin is the Chief Executive Officer with GEN Europe, an independent energy management systems and decarbonisation consultancy with offices in Ireland and Spain and Ireland. He has worked in energy efficiency for over 31 years, initially as an energy manager in industry and since 2001 as an independent consultant. He works with large energy consuming clients in industry, commerce and the public sector internationally.

His background is in energy engineering but has specialised in energy management systems and ISO 50001 in recent years. He is a member of the ISO TC301, participating in developing ISO 50001 and its supporting standards. He is the lead international expert with the United Nations Industrial Development Organisation (UNIDO) on energy management systems.

He has published 2 guide books on energy management system implementation, one with UNIDO and the other for ISO/ITC/UNIDO and is currently writing a third. He has been the lead international trainer with ISO on ISO 50001 and ISO 50006, working with the standards bodies and energy agencies of over 100 countries.

He has spoken on the topics of energy management and energy performance measurement at a number of international conferences in over 25 countries in Europe, Asia, Africa and North and South America.

He is currently developing a methodology for decarbonising organisations based on the principles of ISO 50001.

Japan

Akira Ishihara

Akira Ishihara is the Special Adviser of the International Cooperation Division at the Energy Conservation Center (ECCJ). In this role, he promotes international cooperation to help developing countries establish energy conservation laws, train energy managers, and manage international partnership programs. He has served as a senior general manager for Japanese energy management system auditor registration and as a member of the examination committee for national qualification of energy managers. He has also led technical implementation and management for energy efficiency and conservation. He was appointed by METI to the national energy efficiency judgment standard sub-committee, he serves as a Japanese expert for ISO50001 and related standards (2007-present) including co-convenor of WG4 (energy audit), and he is a TC242 member from Japan for ISO strategic advisory group for energy efficiency and renewable energy.

Prior to ECCJ, Mr. Ishihara worked in the iron and steel industry. At Nippon Steel Corporation he led technical research and development for rolling quality, productivity and energy efficiency, design and construction of rolling mill. At Yawata, he was the representative of quality management system throughout the production process and technology development from steel to final products. He also served as the national qualified manager for environment (air pollution).

Mr. Ishihara has authored books in Japanese on Energy Management and ISO 50001 Implementation. He received a Bachelor of Science (1973) and a Master's Degree of Engineering (1975) from the Tokyo Institute of Technology.

South Africa

Wendy da Cruz

Wendy da Cruz is South African born and bred. She has been involved in management system consulting, training and auditing since the early 1990-ies, is one of the first successful graduates of the UNIDO EnMS Expert programme and is currently an International UNIDO EnMS Expert.

Her qualifications include a B. Sc. Chemistry and B Sc. Honours Biochemistry, with M.Sc. Certificate - Industrial Engineering – University of Stellenbosch.

Wendy has provided successful assistance to more than 50 organizations in their achievement of management system certification and accreditation, in fields of energy as well as environment and quality management.

Her EnMS exposure has included various industrial sectors, eg chemical, beverage, waste treatment, automotive, IT, plastics, aviation, sanitation. Wendy has participated in the UNIDO Energy General Meetings, Vienna, as the South African conformity assessment representative. She has also held lead auditor registration status since 1999.

Energy case studies of her clients reflect millions of kWh and rand savings.

Wendy's EnMS training and facilitation experience includes EnMS introduction and expert level as well as Lead Auditor since 2012, delivered in South Africa, Ukraine and Kenya.

Among other energy management roles, Wendy serves on

- NCPCC EnMS Technical Committee
- Energy Professionals International (EPI) – Leadership Committee and EPI ISO 50001 Lead Auditor Scheme Committee
- South African and ISO Technical Committee member for Energy (TC301)

Wendy's passion for systematic energy management is her personal experience of energy performance improvement across a wide scope of organizations, and the associated positive financial, environmental and morale impacts.

Alfred Hartzenburg

Alf Hartzenburg, National Project Manager of the South African Industrial Energy Efficiency Project, has been part of the project since joining the NCPC-SA in 2011, following a 35-year career in industry.

He studied Civil Engineering and Project Management at the University of Cape Town, is a Certified Energy Manager (CEM) and Measurement & Verification Professional (CMVP) with the Association of Energy Engineers. He holds qualifications in Business Administration (Damelin), Financial Management (Boston Management School) and Textiles Technology (Cape University of Technology).

Alf is also a Eurem and UNIDO expert and lead trainer in Energy Management Systems, Energy Performance Management and Indicators, Steam, Fan, Compressed Air and Electric-Motor Systems Optimisation. He co-authored the Resource Efficient Cleaner Production and reviewed the Chiller and Refrigeration training material for the NCPC-SA.

He regularly conducts energy system optimisation assessments and facilitates energy management system implementation in industrial plants and has done so in South Africa, Ghana and Myanmar since 2011. Alf has been facilitating ISO 50001 certification audits in industrial plants since 2013.

He served on the IEA's Digital Energy Management Systems Experts Panel and as a Special Advisor to the South African Government's Parliamentary Portfolio Committee on Energy (PCE). Alf also serves on the Climate Change Response Forum of the Western Cape Government and in 2016 he received the Energy Efficiency Patron award from the Southern African Association for Energy Efficiency for his contribution to energy efficiency in South Africa.

Spain

Andrea López Sanz

Andrea López Sanz is the Energy Management Leader in Gen0 and a food industry engineer by the Polytechnic University of Madrid, with master's degree in Project Management of Engineering in the Natural Environment by the same institution.

She is an international expert in the implementation of Energy Management Systems and Decarbonization plans, working with clients at national and international level and providing training for various international organizations. She is also an international expert in energy management at the United Nations Industrial Development Organization (UNIDO) and develops training materials that ISO (International Organization for Standardization) teaches in 16 countries today.

She is a member of the technical committee TC 301 of ISO representing Spain in the drafting and revision of international standards of energy management (ISO 50001 and derivatives, such as ISO 50002, ISO 50015). She is also a technical expert at ENAC, accrediting certification bodies in ISO 50001 and has been a speaker at various national and international conferences.

United Arab Emirates

Mahra Ebrahim Alhoot

Mahra Alhoot is an Energy Engineer at the Energy Efficiency and Renewables Office (Reem), in Ras Al Khaimah Municipality, UAE. She built and managed Reem's Energy Management Program and led the ISO 50001 certification of 20 entities of the government of Ras Al Khaimah, making it the first local government in the world fully ISO 50001 certified. She also manages M&V activities of Ras Al Khaimah Energy Efficiency and Renewables (EE&R) Strategy 2040 as well as the GHG inventory of the emirate.

Prior to joining Ras Al Khaimah Municipality, Mahra worked as research intern in Masdar Institute to develop enhanced lithium-ion battery cathodes.

She holds a bachelor's degree in Sustainable and Renewable Energy Engineering, University of Sharjah. Mahra is also a certified energy manager (CEM) and a certified ISO 50001 Energy Management internal auditor.

United Kingdom

Kit Oung

Kit is an energy and resource efficiency practitioner, consultant, trainer, and author on the subject of energy and resource efficiency, operational excellence, and triple bottom line. He consults with both commercial and industrial businesses across five continents, with a focus on energy and resource efficiency; environmental management, health and safety, operational excellence, triple bottom line, and reporting and communicating complex and technical subjects. Currently, he serves on IChemE's Congress, IChemE's Energy Community of Practice, IChemE's annual sustainability awards judging panel, UNIDO's global energy management leadership awards judging panel, and takes part in developing National, Regional and International standards. Kit chairs ISO 14002-2 (current), ISO 50002 (current), PAS51215, EN16247-3, and participated in the development of ISO 14001 series, ISO 50001 series, and EN16247 series of standards. His recent engagements focused on public sectors, life science, manufacturing, professional sports, media, and luxury retail.

With more than 25 years of experience, Kit understands technical and managerial challenges, working with different stakeholders, managing multi-disciplinary projects, identifying opportunities for improvements, and troubleshooting performance deficits. His notable past engagements include (1) designing regulations in the UK (energy and climate change regulations); Sharjah, UAE (mandatory Health and Safety awareness), and Singapore (waste regulation); drafting guidebooks on integrated management systems (ISO), energy efficiency (UNEP), and ISO 50001 (ISO/UNIDO) and promoting of good governance in energy, environment, and health safety in India, Zambia, UAE, Qatar, Saudi Arabia, Oman, Nigeria, Uganda, Namibia, USA, Canada, and Mexico.

Kit holds a M.Sc.(Eng.) in Environmental and Energy Engineering and B.Eng. in Chemical and Process Engineering with Fuel Technology from the University of Sheffield, and a General Management Programme certificate from Judge Business School, The University of Cambridge.

He also trains new and aspiring professionals in ISO 14001, ISO 45001, ISO 50001, and integrated management systems at British Standards Institution (BSI).

United States of America

Steve Schultz

Steve is the president of International Energy Consultants, LLC, a company which Steve formed to further the implementation of Energy Management Systems throughout industry. Steve's previous experience includes twenty-three years leading the global energy program for 3M, a multi-national Fortune 100 corporation. Steve developed and managed the 3M energy program with responsibility for controlling energy use and costs at over 275 locations in 70 countries. During Steve's leadership, 3M reduced costs and improved efficiency by over 50% between 2000 and 2019. Steve developed and led training for internal staff, presented to multiple levels of executive management and has presented at numerous external events globally. Steve represented 3M with government and nongovernment agencies and achieved global and national recognition for the company energy program.

Steve led the effort for 3M to become certified at the Enterprise level to the Management System for Energy ISO 50001, and has championed the effort for numerous global 3M locations to achieve ISO 500001 and Superior Energy Performance certification.

Steve coordinated 3M's participation in various voluntary programs such as the EPA ENERGY STAR™ program, which has awarded 3M the Sustained Excellence award for Energy Management a record ten consecutive years, and the U.S. Department of Energy Better Buildings program.

Additional background includes eight years of experience in factory operations and eight years of experience in a corporate engineering group.

Paul Sheaffer

Paul Sheaffer is a Program Manager in the Building and Industrial Systems Group at Lawrence Berkeley National Laboratory (LBNL) with more than 21 years of experience in commercial and industrial energy efficiency. Mr. Sheaffer is an engineer and program manager with a broad background in industrial and building sector energy use; end-use technologies and markets; motor-driven, steam, and process heating systems; distributed generation; energy management systems; and standards development. Paul worked as an energy consultant for more than 20 years before joining LBNL, and managed numerous large projects in industrial and building sector energy efficiency.

Mr. Sheaffer's experience covers cross-cutting technologies including motors, drives, pump, compressed air, fan, steam, and process heating systems. Paul also has experience with sector-specific systems and technologies, as well as energy management systems. He developed numerous tools, technical publications, training, standards, projects, certification programs, and efficiency assessments related to industrial and building systems efficiency, energy management systems, and distributed generation. Mr. Sheaffer is currently managing a USDOE-funded project analyzing the installed base and efficiency opportunities of motor-driven systems in the

US. He is also supporting Superior Energy Performance and 50001 Ready, programs to certify or recognize industrial plants and commercial buildings for energy efficiency and energy management systems.
