

Global ISO 50001 Achievements:

Reducing costs, energy use, and CO₂ emissions



2023 ENERGY MANAGEMENT LEADERSHIP AWARDS



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In 2023, 17 organizations received global recognition. This booklet highlights their successes using the ISO 50001 energy management system standard.

Clean Energy Ministerial

The **Clean Energy Ministerial (CEM)** is a high-level international forum that brings together the world's largest and leading countries, international organizations and companies to achieve a single mission: accelerate clean energy transitions.

The CEM has been driving the global dialogue on quality ISO 50001 implementation since 2010.

Energy Management Leadership Awards

To showcase leading organizations and share their ISO 50001 energy management successes, the CEM offers the Energy Management Leadership Awards.

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 select the winners.

2023 Awards Program

In 2023, two organizations received the top honor, the Award of Excellence in Energy Management. Another 15 organizations received Energy Management Insight Awards for helping to build global insight on the benefits of energy management systems.

This booklet showcases these leading organizations and highlights the business benefits achieved through use of ISO 50001 (currency for cost savings are listed in United States dollars).

All awardees are listed on page 5. To see the awardees listed by country, region, or sector, see pages 26–27.

www.cleanenergyministerial.org/EM Awards

Why ISO 50001?

ISO 50001 is a framework to help organizations of all sizes and in diverse sectors continually improve their energy performance and reduce emissions.

Countries and organizations are looking for strategies to reduce energy and carbon emissions. A strategic approach to energy management has demonstrated value. Energy efficiency is the least expensive, most quickly deployable, and cleanest of all energy resources.

ISO 50001 Energy management systems – Requirements with guidance for use (or simply “ISO 50001”) is the international energy management standard that represents the efforts of over 50 countries from around the world to develop an international best practice to help organizations better manage energy.

Leading organizations around the world are achieving their energy and carbon reduction goals by using the ISO 50001 standard. These organizations are proving the business value of ISO 50001 and paving the way for its broad implementation.

The CEM Energy Management Leadership Awards highlight the clear, environmental, energy, and business benefits achieved by the diverse types of organizations that invest in energy efficiency.

The awards also underscore ISO 50001’s flexibility and applicability across sectors, as award winners represent diverse organization types. Within the 2023 class of awardees, fourteen recipients are from the industrial sector and three are from the public sector.

Collectively, the 17 winners in 2023 (representing 872 facilities in 13 countries and regions) reported annual energy cost savings of over \$325 million and annual emissions reductions of over 4.4 million metric tons of carbon dioxide. The CO₂ reductions are the equivalent of taking roughly 1 million passenger vehicles off the road—or the amount of carbon sequestered by 5 million acres of forest land in one year.

CEM 2023 AWARDS OF EXCELLENCE IN ENERGY MANAGEMENT

Coop Danmark A/S

Denmark: Albertslund (headquarters), with 792 sites certified to ISO 50001 throughout Denmark

PT Semen Tonasa (Member of SIG)

Indonesia: Pangkep, South Sulawesi

CEM 2023 ENERGY MANAGEMENT INSIGHT AWARDS

Abu Dhabi City Municipality

United Arab Emirates: Abu Dhabi

Abu Dhabi Polymers Company (Borouge)

United Arab Emirates: Abu Dhabi

Aditya Aluminium (A Unit of Hindalco industries Ltd)

India: Lapanga

Al Ain Cement Factory – Emirates Steel Arkan Group

United Arab Emirates: Al Ain

Al Nakheel Hygenic Paper Manufacturing

United Arab Emirates: Abu Dhabi

Crown Paper Mill LLC

United Arab Emirates: Abu Dhabi

Cummins Inc.

Brazil: Guarulhos

China (11 sites): Beijing; Chongqing; Dong Feng; Guangxi; Hubei; Shanghai; Wuhan (2); Wuxi (3)

France: Quimper

Germany: Marktheidenfeld

India (9 sites): Dewas; Kothrud (2); Phaltan (4);

IndoPithampur; Telco Township

Mexico (3 sites): Juarez; San Luis Potosi (2)

United Kingdom (3 sites): Darlington; Daventry; Huddersfield

United States of America (16 sites): Charleston, SC (2); Clovis, NM; Columbus, IN (6); Cookeville, TN; Fridley, MN; Lakewood, NY; Mineral Point, WI; Neillsville, WI; Stoughton, WI; Whitakers, NC

Curtiembre Arlei S.A.

Argentina: Las Toscas, Santa Fe

Government of Ras Al Khaimah

United Arab Emirates (19 sites): Ras Al Khaimah (19)

HARBEC, Inc.

United States of America: Ontario, NY

PT Angkasa Pura I – I Gusti Ngurah Rai International Airport

Indonesia: Badung, Bali

PT PLN Nusantara Power Muara Karang

Indonesia: North Jakarta, Jakarta

Saudi Aramco – Safaniya Offshore Producing Department (SOFPD)

Saudi Arabia (3 sites): Safaniya (3)

Saudi Aramco – Uthmaniyah Gas Plant Department

Saudi Arabia: Udhaliyah

YPF S.A.

Argentina: Luján de Cuyo, Mendoza

CEM Energy Management Leadership Awards

Congratulations to the 2023 Award Recipients!



بلدية مدينة أبوظبي
ABU DHABI CITY MUNICIPALITY



ADITYA BIRLA



AL Nakheel
Hygienic paper manufacturing LLC



BANDAR UDARA
INTERNASIONAL

I Gusti
Ngurah Rai
INTERNATIONAL
AIRPORT
BALI



PLN
Nusantara Power



أرامكو السعودية
saudi aramco



YPF



In 2023, the Clean Energy Ministerial honored two organizations with the Award of Excellence in Energy Management:

Coop Danmark A/S

Coop Danmark is a leading Danish retail company with over 1,000 stores and 40,000 employees. It aims to be a sustainability leader in the retail industry. Coop's climate action plan, which aligns with Paris Agreement goals, targets a 91% reduction in CO₂ emissions by 2030 requiring a 17% reduction in total energy use. To achieve this, Coop introduced an ISO 50001 energy management system (EnMS) in 2016, establishing both a climate department and an energy department. Coop has implemented various company-wide energy management projects such as installing over 200,000 LED lightbulbs, updating HVAC strategies, reducing the use of energy-consuming devices, installing solar cells and EV charging stations, and engaging all 40,000+ employees in energy management. Since the 2016 EnMS launch, Coop has reduced energy costs by \$29 million (USD) and energy consumption by 24%, equivalent to 42,000 metric tons of CO₂ emissions.

PT Semen Tonasa (Member of SIG)

Indonesia-based cement producer PT Semen Tonasa has reduced energy use and lowered costs by implementing an ISO 50001 energy management system. Tonasa uses established strategies such as setting up an energy management team, measuring energy use, and training staff. Advanced approaches include developing an implementation roadmap and adopting digital tools for enhanced energy efficiency. Tonasa is overseen by PT Semen Indonesia (Persero) Tbk "SIG," the country's largest cement producer, and pursues initiatives in keeping with the SIG Sustainability Roadmap. Tonasa's ISO 50001 efforts reinforce a commitment to address ESG issues. Tonasa has engaged suppliers in its transition from coal to biomass, creating lower-carbon supply chains. The company's sustainability measures have led to an 18.5% improvement in energy performance over four years, saving \$16+ million (USD) in energy costs and 435,864 metric tons of CO₂e emissions. Such accomplishments earned Tonasa the 2021 INDI 4.0 award, five prizes, and other green certifications.

Coop Danmark A/S



ISO 50001 Certified:

Albertslund (headquarters), with 792 sites certified to ISO 50001 throughout Denmark

Cost savings: \$29,000,000 over 6 years

CO₂ reduction: 42,000 metric tons

PT Semen Tonasa (Member of SIG)

ISO 50001 Certified:

Cement Plants 4 and 5, and Power
Generation Facilities C & D

Cost savings: \$16,164,305 over 4 years

CO₂ reduction: 435,864 metric tons





In addition, 15 organizations received Energy Management Insight Awards in 2023 for helping to build global insight on the benefits of energy management systems in industrial, commercial, and public-sector facilities.

Abu Dhabi City Municipality



ISO 50001 Certified:

Abu Dhabi Municipality Buildings

Cost savings: \$73,578.40 over 1 year

CO₂ reduction: 301,850 metric tons

Abu Dhabi Polymers Company (Borouge)

ISO 50001 Certified:

Abu Dhabi Polymers Company
(Borouge)

Cost savings: \$30,656,339 over 4 years

CO₂ reduction: 709,998 metric tons



Aditya Aluminium (A Unit of Hindalco industries Ltd)



ISO 50001 Certified:

Aditya Aluminium

Cost savings: \$17,804.73 over 1 year

CO₂ reduction: 380,451 metric tons

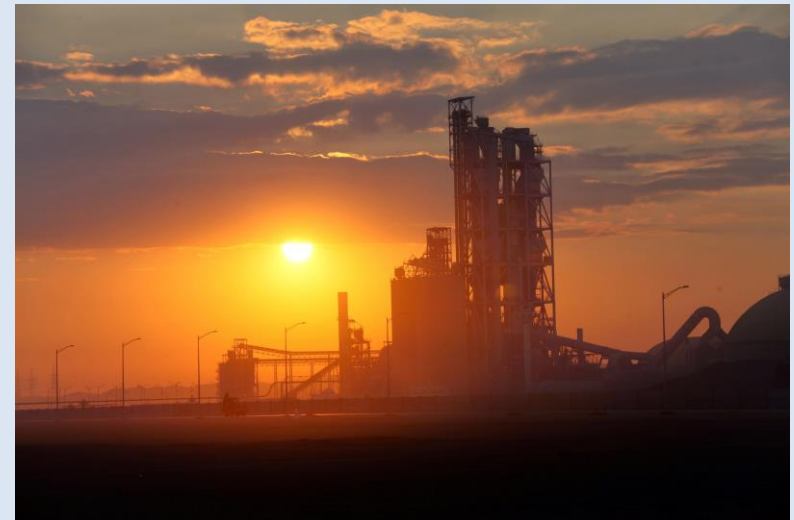
Al Ain Cement Factory – Emirates Steel Arkan Group

ISO 50001 Certified:

Al Ain Cement Factory

Cost savings: \$8,411,486.38 over 4 years

CO₂ reduction: 183,721 metric tons



Al Nakheel Hygenic Paper Manufacturing



ISO 50001 Certified:

Al Nakheel Hygenic Paper
Manufacturing

Cost savings: \$1,570,000 over 5 years

CO₂ reduction: 5,629 metric tons

Crown Paper Mill LLC

ISO 50001 Certified:

Crown Paper Mill LLC

Cost savings: \$404,502 over 3 years

CO₂ reduction: 1,821 metric tons



Cummins Inc.



ISO 50001 Certified:

45 sites across 8 countries

Cost savings: \$183,775,216 over 4 years

CO₂ reduction: 2,297,587 metric tons

Curtiembre Arlei S.A.

ISO 50001 Certified:

Las Toscas Plant

Cost savings: \$98,652 over 1 year

CO₂ reduction: 1,534 metric tons



Government of Ras Al Khaimah



ISO 50001 Certified:

Department of Antiquities and
Museums

Cost savings: \$926,000 over 3 years

CO₂ reduction: 4,865 metric tons

HARBEC, Inc.

ISO 50001 Certified:

HARBEC, Inc.

Cost savings: \$126,187 over 6 years

CO₂ reduction: 508 metric tons



PT Angkasa Pura I – I Gusti Ngurah Rai International Airport



ISO 50001 Certified:

I Gusti Ngurah Rai Airport

Cost savings: \$1,865,197 over 2 years

CO₂ reduction: 21,008 metric tons

PT PLN Nusantara Power Muara Karang

ISO 50001 Certified:

Muara Karang Power Plant

Cost savings: \$88,308,962 over 3 years

CO₂ reduction: 793,461 metric tons



Saudi Aramco – Safaniya Offshore Producing Department (SOFPD)



ISO 50001 Certified:

Safaniya, Marjan, and Zuluf

Cost savings: \$7,430,400 over 1 year

CO₂ reduction: 227,000 metric tons

Saudi Aramco – Uthmaniyah Gas Plant Department

ISO 50001 Certified:
Uthmaniyah Gas Plant

Cost savings: \$72,546,755 over 3 years
CO₂ reduction: 948,397 metric tons



YPF S.A.



ISO 50001 Certified:

Lujan de Cuyo Refinery

Cost savings: \$198,229,863 over 1 year

CO₂ reduction: 2,197,157 metric tons

2023 Participating Organizations, by Industry

Aluminum

Aditya Aluminium (A Unit of Hindalco industries Ltd)

Automotive

Cummins Inc.

Aviation

PT Angkasa Pura I – I Gusti Ngurah Rai International Airport

Cement

Al Ain Cement Factory – Emirates Steel Arkan Group

PT Semen Tonasa (Member of SIG)

Government

Government of Ras Al Khaimah

Municipal Services

Abu Dhabi City Municipality

Oil & Gas

Saudi Aramco – Safaniya Offshore Producing Department (SOFPD)

Saudi Aramco – Uthmaniyah Gas Plant Department

YPF S.A.

Plastic

HARBEC, Inc.

Petrochemical

Abu Dhabi Polymers Company (Borouge)

Pulp and Paper

Al Nakheel Hygenic Paper Manufacturing

Crown Paper Mill LLC

Power Generation

PT PLN Nusantara Power Muara Karang

Retail

Coop Danmark A/S

Tannery

Curtiembre Arlei S.A.



2023 Participating Organizations, by Country & Region

Argentina

Curtiembre Arlei S.A., Las Toscas, Santa Fe

YPF S.A., Luján de Cuyo, Mendoza

Denmark

Coop Danmark A/S, 792 sites throughout Denmark

Brazil

Cummins Inc.*, Guarulhos, São Paulo

China

Cummins Inc.*, Beijing; Chongqing; Dong Feng; Guangxi; Hubei; Shanghai; Wuhan; Wuxi

France

Cummins Inc.*, Quimper

Germany

Cummins Inc.*, Marktheidenfeld

India

Aditya Aluminium (A Unit of Hindalco industries Ltd), Lapanga, Odisha

Cummins Inc.*, Dewas, Madhya Pradesh; Kothrud, Maharashtra; Phaltan, Maharashtra; Pithampur, Madhya Pradesh; Telco Township, Jharkhand

Indonesia

PT Angkasa Pura I – I Gusti Ngurah Rai International Airport, Badung, Bali

PT PLN Nusantara Power Muara Karang, North Jakarta, Jakarta

PT Semen Tonasa (Member of SIG), Pangkep, South Sulawesi

Mexico

Cummins Inc.*, Juarez, Chihuahua; San Luis Potosi, San Luis Potosi

Saudi Arabia

Saudi Aramco – Safaniya Offshore Producing Department (SOFPD), Safaniya

Saudi Aramco – Uthmaniyah Gas Plant Department, Udhaliyah

United Kingdom

Cummins Inc.*, Darlington; Daventry; Huddersfield

United Arab Emirates

Abu Dhabi Municipality, Abu Dhabi

Abu Dhabi Polymers Company (Borouge), Abu Dhabi

Al Ain Cement Factory – Emirates Steel Arkan Group, Al Ain

Al Nakheel Hygenic Paper Manufacturing, Abu Dhabi

Crown Paper Mill LLC, Abu Dhabi

Government of Ras Al Khaimah, Ras Al Khaimah

United States of America

Cummins Inc.*, Charleston, SC; Clovis, NM; Columbus, IN; Cookeville, TN; Fridley, MN; Lakewood, NY; Mineral Point, WI; Neillsville, WI; Stoughton, WI; Whitakers, NC

HARBEC, Inc., Ontario, NY

*Indicates sites included in an organization's global or broader regional submission

Clean Energy Ministerial

Energy Management Leadership Awards

www.cleanenergyministerial.org/EMAwards