

2019 ENERGY MANAGEMENT LEADERSHIP AWARDS



Global ISO 50001 Achievements:

Reducing costs, energy use, and CO₂ emissions around the world



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In 2019, 32 organizations across 19 countries/economies received global recognition.

This booklet highlights their successes using the ISO 50001 energy management system standard.

The **Clean Energy Ministerial's Energy Management Working Group (EMWG)** has been driving the global dialogue on quality ISO 50001 implementation since 2010.

To showcase leading organizations and share their ISO 50001 energy management successes, the EMWG organizes 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 experts select the winners.

In 2019, 32 organizations (with facilities in 19 countries or economies) received global recognition.

Four organizations receive the top honor, the Award of Excellence in Energy Management, at the tenth Clean Energy Ministerial (CEM10) in Vancouver, British Columbia, Canada:

- 3M Company (Global),
- Areej Vegetable Oils & Derivatives (Oman),
- JK Tyre & Industries, Ltd. (India), and
- PT Pupuk Kalimantan Timur (Indonesia).

Another 28 organizations received Energy Management Insight Awards for helping to build global insight on the benefits of energy management systems.

This booklet highlights the business benefits achieved by the awardees through use of ISO 50001. All awardees are listed on page 5, and at the end of the booklet, awardees are listed by country/economy and by sector.

Clean Energy Ministerial

The Clean Energy Ministerial (CEM) is a high-level international forum that promotes policies and programs to advance clean energy.

Through the EMWG, government officials worldwide share best practices and leverage their collective expertise to accelerate the use of EnMS in industry and commercial buildings.

Governments participating in the EMWG include Argentina, Australia, Canada, Chile, China, Denmark, the European Commission, Germany, India, Indonesia, Japan, Mexico, Republic of Korea, Saudi Arabia, South Africa, Sweden, United Arab Emirates, and the United States. The EMWG was launched in 2010 by the CEM and International Partnership for Energy Efficiency Cooperation.

www.cleanenergyministerial.org/EnergyManagement

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

Why ISO 50001?

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 using the global ISO 50001 standard for energy management systems. These early adopters 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 energy, environmental, and business benefits achieved by the diverse types of organizations that invest in energy efficiency.

The 2019 class of awardees includes organizations at both ends of the spectrum in energy management experience—from single facilities to enterprise-wide platforms—showing that all organizations can use the ISO 50001 energy management system standard to advantages sectors and around the globe.

Collectively, all 32 organizations report annual energy cost savings of up to USD 57 million and emissions reductions of up to 554 million metric tons of carbon dioxide—the equivalent of taking seven million passenger vehicles off the road.

CEM 2019 AWARDS OF EXCELLENCE IN ENERGY MANAGEMENT

3M Company

Belgium: Zwiijndrecht

Canada (7 sites): Brockville (2); London; Morden;
Perth (2); Saint-Laurent

France: Tilloy

Germany (7 sites): Hilden; Jeuchen; Kamen;
Kempten; Neuss; Seefeld; Wuppertal

Poland (3 sites): Wroclaw (3)

Republic of Korea (3 sites): Hwaseong (2); Naju-si

Taiwan: Tainan

United States of America (7 sites): Aberdeen, SD;
Cordova, IL; Cottage Grove, MN; Cynthiana, KY;
Decatur, AL; Hutchison, MN; Prairie du Chein, WI

Areej Vegetable Oil & Derivatives

Oman: Russayl

JK Tyre & Industries, Ltd.

India: Chennai

PT Pupuk Kalimantan Timur

Indonesia (2 sites): Bontang (2)

CEM 2019 ENERGY MANAGEMENT INSIGHT AWARDS

3M Canada

Canada (7 sites): Brockville (2); London; Morden;
Perth (2); Saint-Laurent

A-Evangelista S.A.

Argentina: Ezeiza

Aguas Andinas S.A.

Chile (6 sites): Santiago (6)

ArcelorMittal Dofasco G.P.

Canada: Hamilton

Bambi

Serbia: Pozarevac

Dubai Electricity & Water Authority (DEWA)

United Arab Emirates: Dubai

Fiat Chrysler Automobiles

Brazil: Betim

Haier Group Company

China: Qingdao

Henan Xinlianxin Fertilizer Co., Ltd.

China: Xinxiang City

Hubei Xiangyun (Group) Chemical Co., Ltd.

China: Wuxue City

Ingersoll Rand

Mexico: Monterrey

Jing Brand Co., Ltd.

China: Huangshi City

Mall Plaza

Chile (15 sites): Antofagasta; Calama; Concepción;
Copiapó; Iquique; La Serena; Los Ángeles; Santiago
(7); Talcahuano

Mastellone Hnos. S.A.

Argentina (2 sites): General Rodríguez (2)

METRO S.A.

Chile: Santiago

MONDINO SRL

Argentina: Rosario

Ningxia Eppen Biotech Co., Ltd.

China: Yinchuan

Pampa Energía S.A.

Argentina: Marcos Paz

PT Chandra Asri Petrochemical

Indonesia (2 sites): Cilegon

Qingtongxia Aluminum Industry Stock Co., Ltd.

China (6 sites): Ningdong; QingTongXia (5)

Shenzhen Airport (Group) Co., Ltd.

China (10 sites): Shenzhen (10)

Terminales Río de la Plata S.A.

Argentina: Puerto Nuevo

Wyeth Nutrition

Ireland: Askeaton

Yishui Shanshui Cement Co., Ltd.

China: Linyi City

YPF SA (Headquarters)

Argentina: Puerto Madero

YPF SA (Petrochemical)

Argentina: Ensenada

Yumen Oil Field Company

China (7 sites): JiuQuan (7)

Zaozhuang Innovative Landscape Cement Co., Ltd.

China: Zaozhuang City

CEM Energy Management Leadership Awards

Congratulations to the 2019 Award Recipients!





In 2019, four organizations earned the top honor, the Award of Excellence in Energy Management:

3M Company

30 sites globally

3M expanded its ISO 50001 expertise and certification from two initial plants in 2011 (pilot study) to 30 sites in seven countries as part of its global enterprise model. Over three years, the 30 sites improved their collective energy performance by 4.5%—reducing energy use by more than 1.9 million GJ, cutting emissions by 330,000 tons (carbon dioxide equivalent), and lowering energy costs by USD 13.5 million.

Areej Vegetable Oils & Derivatives

1 site in Oman

Areej Vegetable Oils & Derivatives S.A.O.C (AVOD), the first company in Oman to achieve ISO 50001 certification, used its ISO 50001-certified EnMS to reduce natural gas use 23% and electricity use 11% over a one-year performance period. The plant installed energy meters; trained and engaged staff members; made simple changes in daily operations; and installed more energy efficient motors, pumps, and variable frequency drives.

JK Tyre & Industries, Ltd.

1 site in India

JK Tyre & Industries Ltd. of India saved nearly USD 1.8 million over a six-year period as its Chennai Plant gained certification and recertification to ISO 50001. By identifying the pieces of equipment that use the most energy, the plant prioritized opportunities for energy savings. In addition to using more renewable energy, the plant installed devices that alert staff to even slight increases in energy use and upgraded multiple systems to reduce both energy and water demand.

PT Pupuk Kalimantan Timur

2 sites in Indonesia

PT Pupuk Kalimantan Timur in Indonesia has certified two plants to ISO 50001. As the largest fertilizer company in Southeast Asia, the company supplies more than six million tons of product to domestic and foreign markets. The EnMS system led the state-owned company to upgrade operations and equipment at the two plants to save more than 866,000 GJ and USD 3.9 million in energy costs. An internal award for energy-saving innovations has led to two patents.

3M Company



ISO 50001 Certified:

30 sites globally

Cost savings: \$13.5 million over 3 years

CO₂ reduction: 330,000 metric tons

Areej Vegetable Oils & Derivatives

ISO 50001 Certified:

Areej Vegetable Oils & Derivatives
S.A.O.C

Cost savings: \$779,000 over 1 year

CO₂ reduction: 11,382 metric tons



JK Tyre & Industries, Ltd.



ISO 50001 Certified:

Chennai Tyre Plant

Cost savings: \$1,790,676 over 6 years

CO₂ reduction: 144,932 metric tons

PT Pupuk Kalimantan Timur

ISO 50001 Certified:

PKT-3 Plant & PKT-1A Plant

Cost savings: PKT-3: \$3,696,325 over 2.5 years; PKT-1A: \$225,529 over 1 year

CO₂ reduction: PKT-3: 40,896 metric tons; PKT-1A: 2,670 metric tons





In addition, 28 organizations received Energy Management Insight Awards in 2019 for helping to build global insight on the benefits of energy management systems in industrial and commercial facilities.

3M Canada

ISO 50001 Certified:

7 sites in Canada

Cost savings: \$3,960,000 over 3 years

CO₂ reduction: 27,200 metric tons



A-Evangelista S.A.



ISO 50001 Certified:

Planta Canning

Cost savings: \$44,182 over 2 years

CO₂ reduction: 212.5 metric tons

Aguas Andinas S.A.

ISO 50001 Certified:

6 sites in Chile

Cost savings: \$1,076,893 over 1 year

CO₂ reduction: 7,689 metric tons



ArcelorMittal Dofasco G.P.



ISO 50001 Certified:

ArcelorMittal Dofasco G.P.

Cost savings: \$15,325,000 over 3 years

CO₂ reduction: 398,772 metric tons

Bambi

ISO 50001 Certified:

Bambi

Cost savings: ~\$110,000 over 2 years

CO₂ reduction: 1,325.66 metric tons



Dubai Electricity & Water Authority (DEWA)



ISO 50001 Certified:

Dubai Electricity & Water Authority
Head Office

Cost savings: \$75,747 over 3 years
CO₂ reduction: 105.66 metric tons

Fiat Chrysler Automobiles

ISO 50001 Certified:

FCA Betim Powertrain

Cost savings: \$1,430,880 over 3 years

CO₂ reduction: 3,644 metric tons



Haier Group Company



ISO 50001 Certified:

Haier Group Company

Cost savings: \$50 million over 5 years

CO₂ reduction: 157,105.02 metric tons

Henan Xinlianxin Fertilizer Co., Ltd.

ISO 50001 Certified:

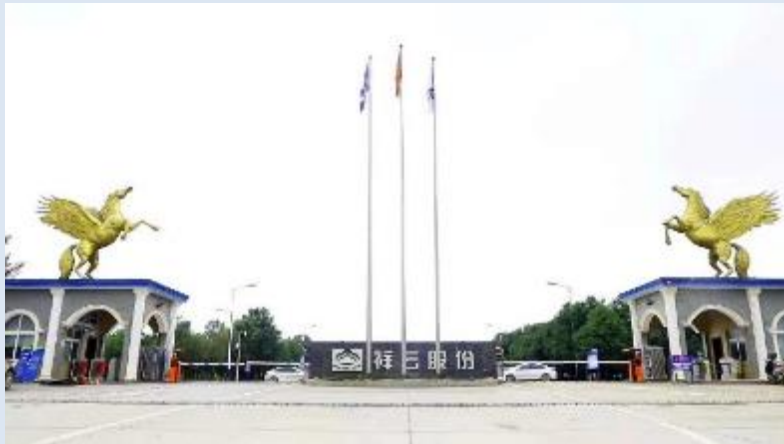
Henan Xinlianxin Fertilizer Co., Ltd.

Cost savings: \$37.5 million over 5 years

CO₂ reduction: 560,930 metric tons



Hubei Xiangyun (Group) Chemical Co., Ltd.



ISO 50001 Certified:

Hubei Xiangyun (Group) Chemical Co., Ltd.

Cost savings: \$1,863.07 over 3 years

CO₂ reduction: 297,664.2 metric tons

Ingersoll Rand

ISO 50001 Certified:

Ingersoll Rand Manufactura S de R.L
de C.V.

Cost Savings: \$785,880 over 5 years

CO₂ Reduction: 3,140 metric tons



Jing Brand Co., Ltd.



ISO 50001 Certified:

Jing Brand Co., Ltd.

Cost savings: \$3.02 million over 3 years

CO₂ reduction: 29,164 metric tons

Mall Plaza

ISO 50001 Certified:

15 sites in Chile

Cost savings: \$1,982,278 over 1 year

CO₂ reduction: 14,951 metric tons



Mastellone Hnos. S.A.



ISO 50001 Certified:

Complejo Pascual Mastellone &
Planta Armonia

Cost savings: \$522,733 over 1 year
CO₂ reduction: 3,456 metric tons

METRO S.A.

ISO 50001 Certified:

Salvador Station - Line 1

Cost savings: \$3,425 over 1 year

CO₂ reduction: 9,146 metric tons



MONDINO SRL



ISO 50001 Certified:

MONDINO SRL

Cost savings: \$1,710.65 over 1 year

CO₂ reduction: 2.29 metric tons

Ningxia Eppen Biotech Co., Ltd.

ISO 50001 Certified:

Ningxia Eppen Biotech Co., Ltd.

Cost savings: ~\$4.71 million over 3 years

CO₂ reduction: ~912,258 metric tons



Pampa Energía S.A.



ISO 50001 Certified:

Central Termoeléctrica Genelba

Cost savings: \$1,469,600 over 5 years

CO₂ reduction: 96,490 metric tons

PT Chandra Asri Petrochemical

ISO 50001 Certified:

Polymer Plant & Cracker Plant

Cost savings: \$6.36 million over 2 years

CO₂ reduction: 55,697 metric tons



Qingtongxia Aluminum Industry Stock Co., Ltd.



ISO 50001 Certified:

6 sites in China

Cost savings: \$15 million over 4 years

CO₂ reduction: 203,797 metric tons

Shenzhen Airport (Group) Co., Ltd.

ISO 50001 Certified:

10 sites in China

Cost savings: \$318,530.30 over 3 years

CO₂ reduction: 14,959.73 metric tons



Terminales Río de la Plata S.A.



ISO 50001 Certified:

Puerto Buenos Aires

Cost savings: \$2,013,300 over 4 years

CO₂ reduction: 9,278 metric tons

Wyeth Nutrition

ISO 50001 Certified:

Wyeth Nutrition

Cost savings: \$2,790,667 over 7 years

CO₂ reduction: 24,161 metric tons



Yishui Shanshui Cement Co., Ltd.



ISO 50001 Certified:

Yishui Shanshui Cement Co., Ltd.

Cost savings: \$382,329 over 4 years

CO₂ reduction: 182,754 metric tons

YPF SA (Headquarters)

ISO 50001 Certified:

Torre YPF Puerto Madero

Cost savings: \$2.77 million over 7 years

CO₂ reduction: 15,017.76 metric tons



YPF SA (Petrochemical)



ISO 50001 Certified:

Petrochemical YPF

Cost savings: \$9,561,000 over 4 years

CO₂ reduction: 98,378,280 metric tons

Yumen Oil Field Company

ISO 50001 Certified:

7 sites in China

Cost savings: \$6.854 million over 3 years

CO₂ reduction: 62,500 metric tons



Zaozhuang Innovative Landscape Cement Co., Ltd.



ISO 50001 Certified:

Zaozhuang Innovative Landscape Cement Co., Ltd.

Cost savings: \$789,077 over 1 year
CO₂ reduction: 2,840 metric tons

2019 Participating Organizations, by Sector

Agriculture Manufacturing

- Ningxia Eppen Biotech Co., Ltd.

Aluminum Manufacturing

- Qingtongxia Aluminum Industry Stock Co., Ltd.

Automotive & Parts Manufacturing

- Fiat Chrysler Automobiles

Cement Manufacturing

- Yishui Shanshui Cement Co., Ltd.
- Zaozhuang Innovative Landscape Cement Co., Ltd.

Chemicals Manufacturing

- Henan Xinlianxin Fertilizer Co., Ltd.

Electrical Equipment Manufacturing

- Haier Group Company

Fertilizer Manufacturing

- Hubei Xiangyun (Group) Chemical Co., Ltd.

Food and Beverage Manufacturing

- Areej Vegetable Oil & Derivatives
- Bambi
- Jing Brand Co., Ltd.
- Mastellone Hnos. S.A.
- Wyeth Nutrition

Iron Steel and Fabricated Metals Manufacturing

- A-Evangelista
- ArcelorMittal Dofasco G.P.

Machinery Manufacturing

- Ingersoll Rand
- MONDINO SRL

Manufacturing (General)

- 3M Company
- 3M Canada

Oil and Gas Production

- YPF S.A. (Headquarters)
- Yumen Oil Field Company

Petrochemical

- PT Chandra Asri Petrochemical
- PT Pupuk Kalimantan Timur
- YPF S.A. (Petrochemical)

Power Generation

- Dubai Electricity & Water Authority (DEWA)
- Pampa Energía S.A.

Public Transportation

- METRO S.A.
- Shenzhen Airport (Group) Co., Ltd.

Retail

- Mall Plaza

Rubber Manufacturing

- JK Tyre & Industries, Ltd.

Shipping Ports

- Terminales Río de la Plata S.A.

Water and Wastewater

- Aguas Andinas

2019 Participating Organizations, by Country/Region

Argentina

A-Evangelista, Ezeiza, Buenos Aires
Mastellone Hnos. S.A., General Rodríguez, Buenos Aires
MONDINO SRL, Rosario, Santa Fe
Pampa Energía S.A., Marcos Paz, Buenos Aires
Terminales Río de la Plata S.A., Puerto Nuevo, Buenos Aires
YPF S.A. (Headquarters), Puerto Madero, Buenos Aires
YPF S.A. (Petrochemical), Ensenada, Buenos Aires

Belgium

3M Company*, Zwijndrecht, Antwerp

Brazil

Fiat Chrysler Automobiles, Betim, Minas Gerais

Canada

3M Company*, Brockville, Ontario; London, Ontario; Morden, Manitoba; Perth, Ontario; Saint-Laurent, Quebec
3M Canada, Brockville, Ontario; London, Ontario; Morden, Manitoba; Perth, Ontario; Saint-Laurent, Quebec
ArcelorMittal Dofasco G.P., Hamilton, Ontario

Chile

Aguas Andinas, Santiago, Santiago Province
Mall Plaza, Antofagasta, Antofagasta Province; Calama, El Loa Province; Concepción, Concepción Province; Copiapó, Copiapó Province; Iquique, Iquique Province; La Serena, Elqui Province; Los Ángeles, Bío Bío Province; Santiago, Santiago Province; Talcahuano, Concepción Province
METRO S.A., Santiago, Santiago Province

China

Haier Group Company, Qingdao, Shandong
Henan Xinlianxin Fertilizer Co., Ltd., Xinxiang City, Henan
Hubei Xiangyun (Group) Chemical Co., Ltd., Wuxue City, Hubei
Jing Brand Co., Ltd., Huangshi City, Hubei
Ningxia Eppen Biotech Co., Ltd., Yinchuan, Ningxia

Qingtongxia Aluminum Industry Stock Co., Ltd., Ningdong, Hechi; QingTongXia, Ningxia

Shenzhen Airport (Group) Co., Ltd., Shenzhen, Guangdong Province

Yishui Shanshui Cement Co., Ltd., Linyi City, Shandong

Yumen Oil Field Company, Jiuquan, Gansu

Zaozhuang Innovative Landscape Cement Co., Ltd., Zaozhuang City, Shandong

France

3M Company*, Tilloy-lez-Cambrai, Nord

Germany

3M Company*, Hilden, North Rhine-Westphalia; Jüchen, North Rhine-Westphalia; Kamen, North Rhine-Westphalia; Kempten, Bavaria; Neuss, North Rhine-Westphalia; Seefeld, Bavaria; Wuppertal, North Rhine-Westphalia

India

JK Tyre & Industries, Ltd., Chennai, Tamil Nadu

Indonesia

PT Chandra Asri Petrochemical, Cilegon, Banten

PT Pupuk Kalimantan Timur, Bontang, East Kalimantan

Ireland

Wyeth Nutrition, Askeaton, County Limerick

Mexico

Ingersoll Rand, Monterrey, Nuevo León

Oman

Areej Vegetable Oil and Derivatives, Rusayl, Muscat

Poland

3M Company*, Wrocław, Lower Silesian Voivodeship

Republic of Korea

3M Company*, Hwaseong, Gyeonggi Province; Naju, South Jeolla Province

Serbia

Bambi, Pozarevac, Braničevo District

Taiwan

3M Company*, Tainan

United Arab Emirates

Dubai Electricity & Water Authority (DEWA), Dubai

United States of America

3M Company*, Aberdeen, South Dakota; Cordova, Illinois; Cottage Grove, Minnesota; Cynthiana, Kentucky; Decatur, Alabama; Hutchinson, Minnesota; Prairie du Chein, Wisconsin

Clean Energy Ministerial

Energy Management Working Group (EMWG)

www.cleanenergyministerial.org/EnergyManagement