



# ENERGY MANAGEMENT WORKING GROUP

**Project to Enhance Conformity Assessments &  
Successful ISO 50001 Outcomes in APEC Region**

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# THE NEED FOR COOPERATION TO BOOST COMPETENCY OF ISO 50001 LEAD AUDITORS GLOBALLY

- Robust implementation of ISO 50001 represents an important tool for companies and countries seeking to attain their energy and climate change mitigation goals.
- ISO 50001 requires a new combination of skills:
  - Management system auditing knowledge and skills (ISO 9001, ISO 14001, etc.).
  - Energy efficiency knowledge and skills.
- The effectiveness and impact of ISO 50001 standards requires auditors with these skills.
- ISO 50003 auditing standard supports improved conformity assessment.
- But, as a global standard, coordinated action is needed to ensure robust and consistent Implementation.



# ISO 50003 auditing standard supports improved conformity assessment....

## ISO 50003:2014

**Energy management systems — Requirements for bodies providing audit and certification of energy management systems**

- Developed by Technical Committee ISO/TC 242 (now 301), in collaboration with the ISO Committee on conformity assessment (CASCO).
- Applies to Certification and Verification Bodies.
- Governs how ISO 50001 conformity assessment should be conducted.
- **Also includes some competency requirements for EnMS auditors.**



# ...But further government action is needed to ensure successful ISO 50001 outcomes!

- Requires governments to work with national accreditation and certification bodies to ensure that quality infrastructure meets national energy goals:
  - Need to build upon ISO 50003 to reinforce auditor skill sets and create certification programs for auditors.
- Opportunities for international collaboration:
  - Governments can work together through the EMWG to create a quality infrastructure that meets national needs and ensures internationally consistency.





# ENERGY MANAGEMENT WORKING GROUP (EMWG)

The EMWG leverages the extensive expertise of its 17 member governments to **accelerate the adoption and use of energy management systems such as ISO 50001** in industry and in commercial buildings worldwide.

**Fora:** The EMWG is an initiative of the Clean Energy Ministerial and IPEEC and also reports out to the G20 Energy Efficiency Action Plan.

**Partners:** A range of organizations promoting energy efficiency and energy management (e.g., UNIDO, Institute for Industrial Productivity, etc.).  
The EMWG is a Category A Liaison to ISO TC 301.

**EMWG's Energy Management Campaign:** Driving action to reach 50,001 global certifications to ISO 50001 by 2020.

[www.driveto50001.org](http://www.driveto50001.org)

<http://www.cleanenergyministerial.org/EnergyManagement>





# EPI ISO 50001 LEAD AUDITOR CERTIFICATION OVERVIEW

EMWG partners came together to create the **Energy Professionals International (EPI) ISO 50001 Lead Auditor Certification Program**. The program establishes a standardized and high level of knowledge and skills for ISO 50001 Lead Auditors globally.

The Certification Program is consistent with ISO/IEC 17024 and ISO 50003. Implementation Principles guide the use of the Program.

**EPI Partners: Canada, Chile, Mexico, Republic of Korea, South Africa, United States, and UNIDO.**

## Elements of Certification Program

- Scope for ISO 50001 Lead Auditor
- Job Task Analysis
- Blueprint
- Education and experience requirements
- International Exam

## Implementation Principles

- Guide use of the Certification Scheme for each participating country
- Maintain consistency of outcomes
- Prepare countries to meet requirements of ISO/IEC 17024 accreditation



# EPI PROGRAM ALIGNMENT WITH ISO 50003

Knowledge	Certification functions		
	Conducting the application review to determine required audit team competence, to select the audit team members, and to determine the audit time	Reviewing audit reports and making certification decisions	Auditing
EnMS principles	X	X	X
Energy specific terminology	X	X	X
Basic energy principles	X	X	X
Energy related legal and other requirements	X	X	X
Energy performance indicators, energy baseline, relevant variables and static factors		X	X
Energy performance evaluation and related basic statistics		X	X
Common energy systems For example: steam systems, refrigeration systems, motor systems, process heat, etc.		X	X
Energy performance improvement actions (EPIA)		X	X
Energy performance improvement technology		X	X
General measurement and verification (M&V)		X	X
Measurement, monitoring and analysis of energy data		X	X



# ISO 50001 LEAD AUDITOR CERTIFICATION IMPLEMENTATION OPTIONS

**Countries have flexibility in adopting the certification scheme and international exam.**

## **Option 1: License the Certification Scheme and develop own exam**

- Personnel certification body (PCB) chooses to develop its own national exam using the Certification Scheme and undertakes cost of exam development
- Must demonstrate equivalence of national exam
- Attain ISO/IEC 17024 accreditation

## **Option 2: License both the Certification Scheme and International Exam**

- PCB attains ISO/IEC 17024 accreditation
- No cost associated with exam development

## **Option 3: Use a PCB that is already accredited to ISO/IEC 17024 for the ISO 50001 Lead Auditor Certification Scheme**

- Country refers candidates to a PCB that has been licensed to use the scheme and exam and has attained ISO/IEC 17024 accreditation
- Suited for countries that want to begin credentialing their personnel quickly





# COORDINATION WITH NATIONAL BODIES TO SUPPORT EPI CERTIFICATION

EMWG in coordination with EPI will work with a variety of national bodies, where appropriate, to support implementation of EPI ISO 50001 Lead Auditor Certification:

- **Main Partners - Governments** can promote EPI certification as a mechanism to support effective implementation of ISO 50001 to meet national energy and climate goals. With direction and support from governments, EMWG will partner with:
  - **Accreditation Bodies** can promote EPI certification as a new offering consistent that can help to better align government policies with international standards.
  - **Certification Bodies** can signal the high quality of their ISO 50001 auditing services to their customers by using certified EPI ISO 50001 Lead Auditors.
  - **Auditing professionals** with energy performance and/or management system experience can broaden their work opportunities by obtaining the ISO 50001 Lead Auditor international credential.
  - **Companies** seeking ISO 50001 certification can ask their certification bodies to use certified EPI ISO 50001 Lead Auditors to demonstrate high quality of their ISO 50001 EnMS.



# **ENHANCING CONFORMITY ASSESSMENTS & SUCCESSFUL ISO 50001 OUTCOMES IN APEC REGION**



# PROJECT OVERVIEW

**The U.S. DOE is leading a project to develop a series of regional workshops in APEC member economies, particularly from developing economies.**

- Focus: building regional capacity to ensure successful implementation of the ISO 50001 standard through improved conformity assessment.
- Project will build on EMWG work on the Energy Professionals International ISO 50001 Lead Auditor.
- **UNIDO** is a key partner through its ISO 50001 work in several APEC economies.

## **The project will:**

- Outline regional approaches to build consistent ISO 50001 auditor personnel certification programs.
- Create successful stakeholder consultations to design domestic actions plans based on the APEC regional approach.
- Support implementation of those domestic action plans resulting in the establishment of personnel certification credentialing programs.



# WORKSHOP AUDIENCES

## Target audiences

- Government reps leading domestic energy efficiency efforts
- Domestic standards authorities
- Accreditation and Certification Bodies
- Private sector end users
- Experts/practitioners that conduct ISO 50001 audits

Each audience makes unique contributions to the success in both initiating a workforce program and sustaining long-term impact.

Locations for each set of workshops to be confirmed upon commitment from government representatives.

## Tentative locations:

- China
- Latin America (likely Peru)
- TBD



# REGIONAL WORKSHOP DESIGN

- Three sets of training workshops for regional capacity building:
  - Pre-workshop planning meeting to gain greater insight into existing workforce programs, infrastructure, and relevant national policies or issues that may affect ISO 50001 uptake in industry.
  - Training workshop to develop regional action plan to build workforce capacity, establish workforce programs, and promote equal participation by women and men.
  - Follow-up webinars to solidify next steps for regional action plan implementation.
- Result: three regional action plans (one per location) designed by national stakeholders



# BENEFITS

## **This project will enable APEC economies to accomplish the following:**

- Develop new, robust training and personnel certification programs that support ISO 50001 conformity assessments.
- Stimulate greater interaction and collaboration among critical domestic actors (the workshop training audiences) to ensure long-term viability of the workforce programs.
- Broaden career opportunities by developing ISO 50001 auditors that have skills and expertise that is consistent with the latest international best practices.
- Increase the number of qualified ISO 50001 auditors in the market.
- Increase uptake of ISO 50001 certification, resulting in a continual reduction of energy intensity and improvement of energy performance in APEC economies.



Thank you!