



Overview of the UNIDO EnMS Capacity Building Programme

Industrial Energy Efficiency Unit
UNIDO

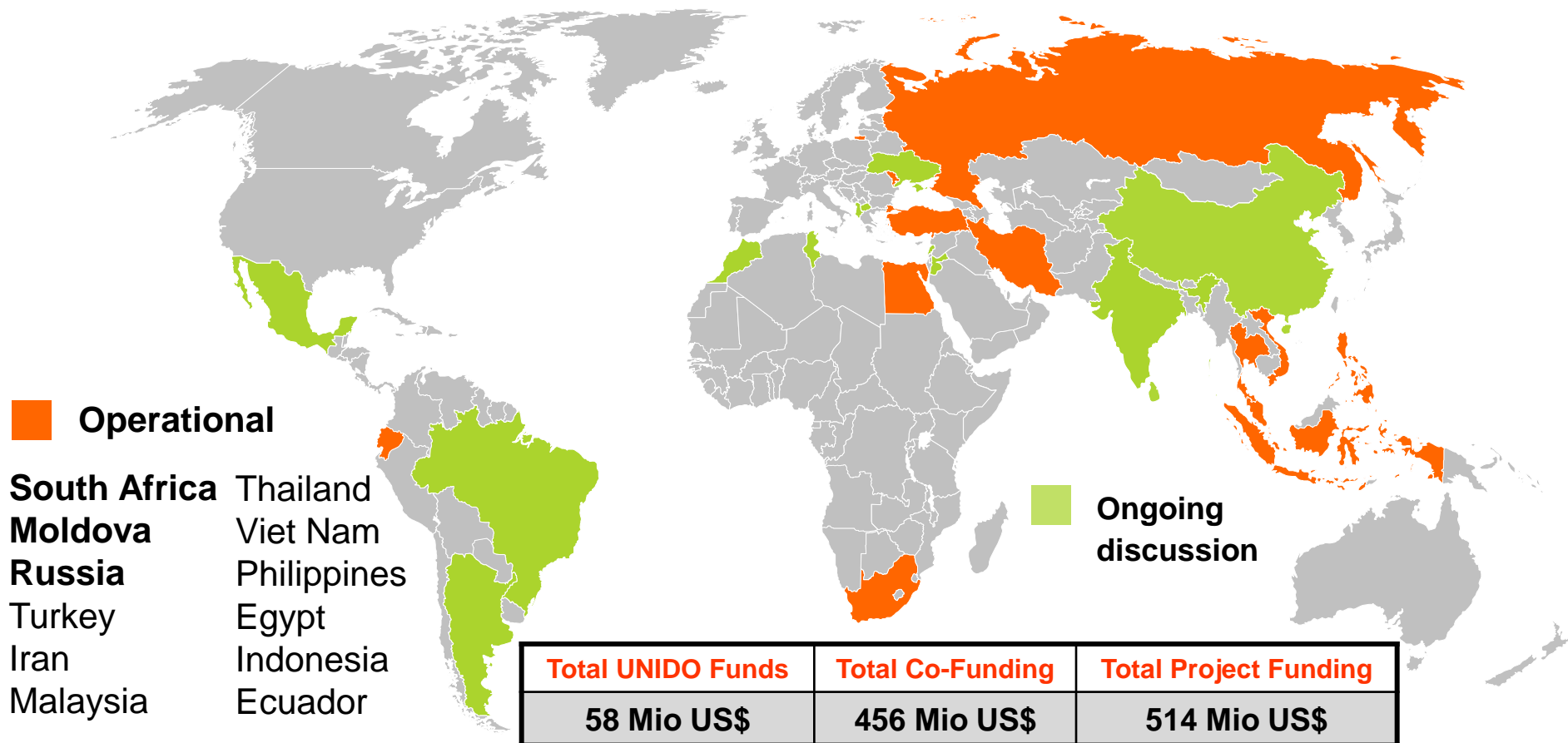
UNIDO Industrial Energy Efficiency Programme

Thematic focus areas

- ✓ Energy management systems (EnMS) and standards
- ✓ Energy systems optimization (steam, pumps, etc.)
- ✓ Industrial energy and carbon benchmarking
- ✓ Sub-sector, process and product specific low-carbon technology
- ✓ Energy and Carbon Storage technologies
 - Hydrogen technology applications (RE+H₂, fuel-cells in industry & transport)
 - Carbon Capture & Storage technology in selected industrial sectors
- ✓ Renewable energy technologies for industrial applications

UNIDO EnMS Programme

Operational in 12 countries; ongoing & planned activities in more than 30 countries



UNIDO Industrial Energy Efficiency Programme

Taking a Comprehensive Approach

Objectives: To reduce GHG emissions & enhance competitiveness of industry through improved energy efficiency and the transformation of the market for industrial energy efficiency products and services

Project components

1. Policy and institutional support
2. Capacity building (EE service providers, vendors and enterprises)
3. EE projects development and implementation
4. Development of/ support to IEE investment supporting schemes (in partnership with financing institutions)

UNIDO Industrial Energy Efficiency programme

Example of country project

Project objective	To reduce GHG emissions and enhance competitiveness of industry through improved energy efficiency and the transformation of the market for industrial energy efficiency products and services
Project components:	
Policy and institutional support	<p>Development and establishment of:</p> <ul style="list-style-type: none"> ✓ National Energy Management Standard compatible with ISO 50001 ✓ National IEE Monitoring, Verification and Benchmarking Programs ✓ IEE Best-Practice Information, Dissemination and Recognition Programs ✓ Incentives for IEE and other
Capacity-building	<ul style="list-style-type: none"> ✓ Energy Management Systems (EnMS) Expert Training ✓ System Optimization (SO) Expert Training (steam, pumps, compressed air, ..) ✓ Development and provision of tools to assist industry in developing and implementing EnMS and system optimization projects ✓ Training of industry energy managers and engineers
Pilot IEE projects	<ul style="list-style-type: none"> ✓ Implementation of pilot EnMS and SO projects in selected enterprises
Financing for IEE	<ul style="list-style-type: none"> ✓ Development of IEE investment supporting schemes in partnership with international as well as national financing institutions

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Example of country project

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Factors for successful EE capacity building

- ✓ Skills for system optimization and energy management can be transferred through concentrated training programs
- ✓ Cultural context is important
- ✓ Provides opportunities for hands-on experience and learning-by-doing
- ✓ Ensure technical support for an adequate period of time
- ✓ Provide tools to support implementation and platforms for sharing experiences
- ✓ **Management support and engagement is essential** for successful capacity building and sustainable EE projects implementation
- ✓ Large energy savings can be identified and achieved

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Elements, target groups and objectives

½ day Awareness Workshop

Target group:

Top management

Objective:

To buy in EnMS and SO and the project

2 day Users Training

Target group:

Management repr., energy managers and other personnel of enterprises/ org.

Objective:

Enable to develop and implement EnMS

Experts Training

Target group:

EE consultants, ESCOs, ISO 14001 experts and others

Objective:

Enable to provide EnMS dev. & impl. TA and training

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1/2 day EnMS Awareness Workshop

1/2 day Awareness
Workshop

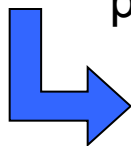
Target group: Enterprises' top management

Objective: To get enterprises buying into EnMS (& SO) and decide to send staff to project trainings

Modality: 1/2 day, business language, networking

Outputs: Top management understands

- ✓ Economic and strategic benefits of EnMS and relevant resources requirements
- ✓ Technical assistance made available by UNIDO-EBRD projects and relevant "partnership requirements"



Enterprises' staff is sent to 2 day Users training

2 day Users
Training

Experts
Training

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2 day EnMS Users Training

½ day Awareness
Workshop

2 day Users
Training

Experts
Training

Target group: Management representative, energy managers and other enterprises personnel

Objective: Enable enterprises to implement EnMS

Modality: Preparation, class-room, workshop

Outputs: Enterprises' staff

- ✓ Understands all elements of EnMS in line with ISO 50001 and the use of tools provided to support implementation
- ✓ Is able to put together a high-level project management plan (time, resources, costs, etc) to implement an EnMS
- ✓ Is able to report back on the EnMS and its benefits to top management

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2 day EnMS Users Training – cont.

½ day Awareness
Workshop

**2 day Users
Training**

Experts
Training

Requirements for enterprises attending:

- ✓ Select/appoint right staff to attend the training
- ✓ Allocate staff time for preparation to the training (i.e. collection of basic info for self-assessment)
- ✓ Allocate staff time for attending the training (i.e. collection of basic info for self-assessment)
- ✓ Provide feedback on EnMS implementation progress, if applicable

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EnMS Experts training

½ day Awareness
Workshop

Target group: National EE consultants, ESCOs, ISO 14001 experts and others

2 day Users
Training

Objective: Enable to provide EnMS technical assistance (dev. & impl.) and training enterprises

Modality: Class-room, learning-by-doing, pairing with selected enterprises ([partner enterprises](#))

Experts
Training

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EnMS Experts training

½ day Awareness
Workshop

2 day Users
Training

Experts
Training

Structure:

Module 1: Planning

Trainees apply skills and work with partner enterprises under the remote supervision and coaching of international experts

Module 2: Implementation and Operation

Trainees apply skills and work with partner enterprises under the remote supervision and coaching of international experts

Module 3: Checking and Management Review and Qualification test

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EnMS Experts training

½ day Awareness
Workshop

2 day Users
Training

Experts
Training

Outputs:

- ✓ Trained experts are able to work with enterprises to establish and implement effective EnMS, in conformance with ISO 50001
- ✓ Trained experts are able to deliver the ½ day Awareness workshop and present technical and financial assistance available
- ✓ Trained experts are able to deliver the 2-day Users training to enterprises' energy managers/personnel
- ✓ Partners enterprises implement EnMS in line with ISO 50001 and improve their energy performance (i.e. save energy and costs)

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EnMS Experts training – cont.2

½ day Awareness
Workshop

2 day Users
Training

Experts
Training

Requirements for trainees :

- ✓ To make a commitment to attend the full Expert training program. Estimated time requirements per trainee
 - 7-8 days for class-room training
 - 10-15 days to work with one partner enterprise in establishing and implementing an EnMS

Qualified trained EnMS experts will be recruited by the UNIDO project to deliver ½ day Awareness workshops and 2 day Users trainings

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EnMS Experts training – cont.2

½ day Awareness
Workshop

2 day Users
Training

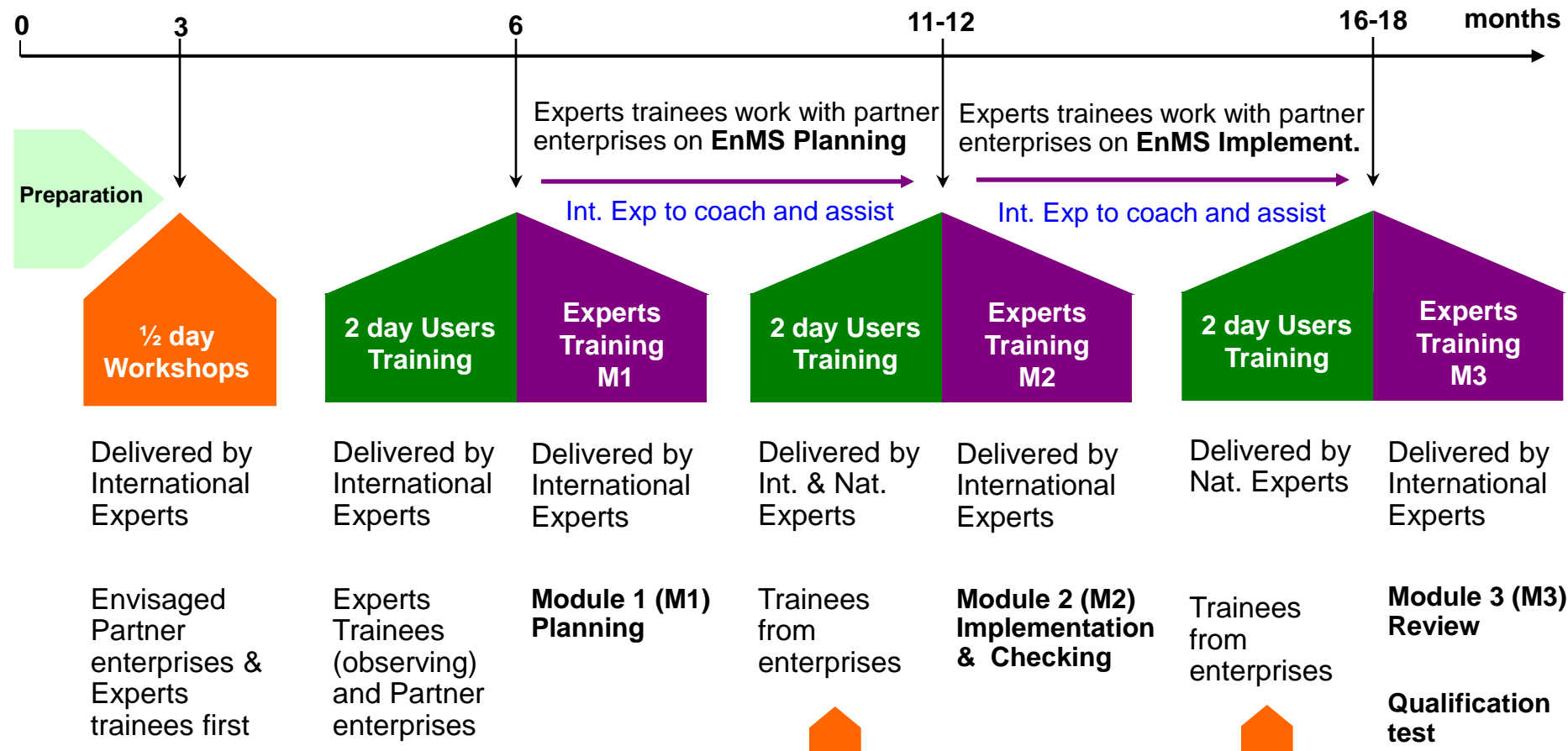
Experts
Training

Requirements for **Partner** enterprises:

- ✓ To send their energy management representative (other staff optional) to the 2 day Users training
- ✓ To allocate staff time (management representative and other personnel) for
 - collecting energy information and data
 - working with national and international experts to establish and implement an energy management system
- ✓ To make a commitment to implement EE measures that meet agreed financial and economic criteria
- ✓ To report to the UNIDO project on activities performed and energy performance improvements (without disclosing confidential information)

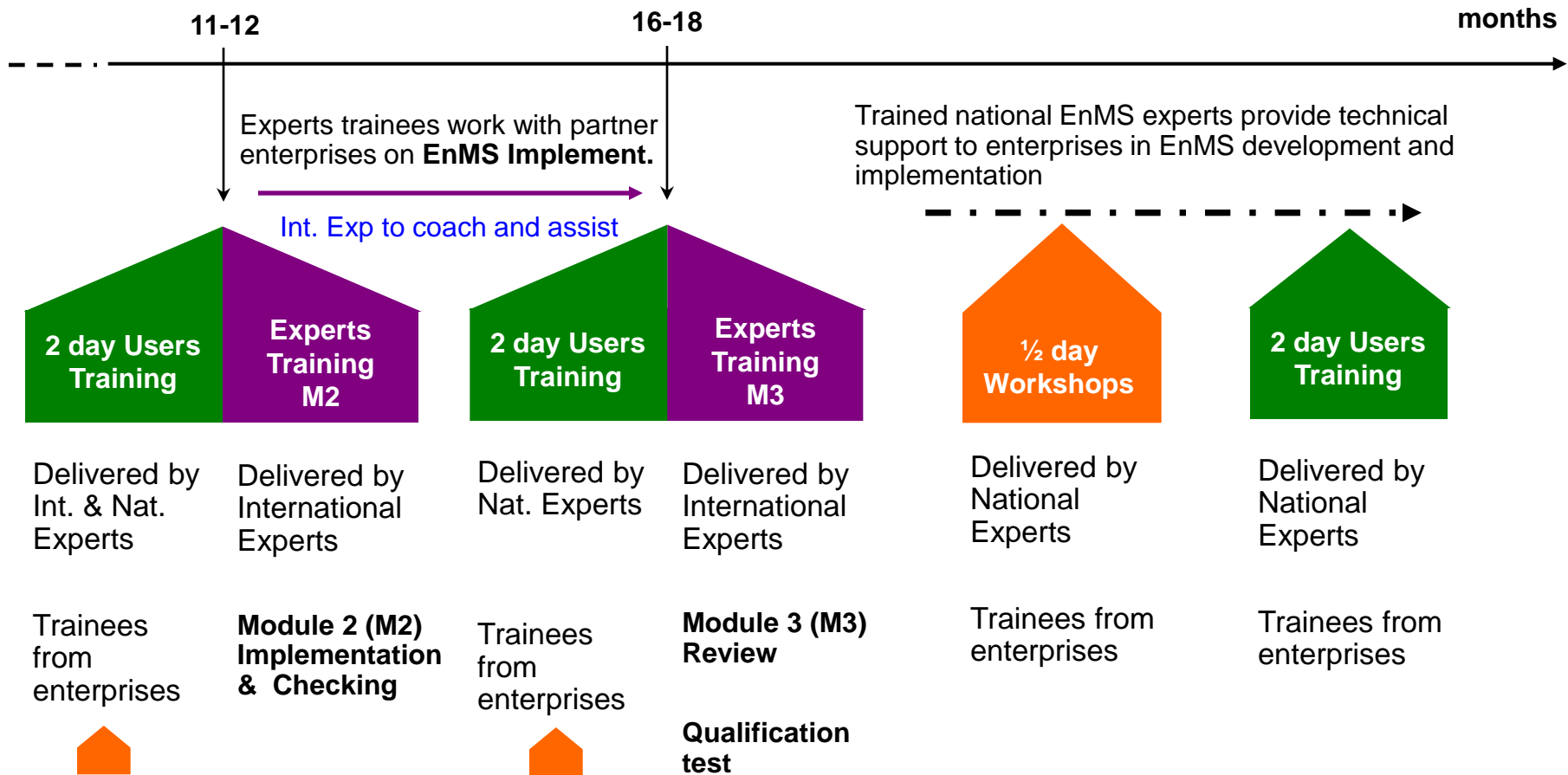
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Envisaged scheduling



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Envisaged scheduling





PARTNER FOR PROSPERITY

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Thank you for your attention!