

## Introduction of MVP in Greece C. Tourkolias CRES Munich 08/03/17



The project has received funding from the European Union's Seventh Framework Programme for Research, Technological Development and Demonstration under Grant Agreement Number 613286.







**Alternative measures** 

• 18 energy efficiency measures were designed for the period 2014-2020 in order to achieve the energy saving target.

• 5 energy efficiency measures have been reported until 2015.

**Energy Efficiency Obligation Scheme** 

• Introduction of the EEOS from the beginning of 2017 until 2020.





Buildings of residential and tertiary sector

- Measurement: Scaled method through EPCs
- Monitoring: EPC registry
- Control & Verification: EPC registry & YPEN's responsible authority
- **Reporting**: Annual basis

**Passenger cars** 

• Measurement: Deemed method

- **Monitoring**: Submitted documentation from Ministry of Infrastructure and Transport
- Control & Verification: Ministry of Infrastructure and Transport
- **Reporting**: Annual basis



- Measurement: Deemed method
- Monitoring: Data for validated tickets from passengers using metro by Attica Metro
- Control & Verification: Attica Metro
- **Reporting**: Annual basis

YPEN has undertaken the coordination and administration of the MRV with the technical collaboration of CRES.

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#### 3/14/2017

# **KARE EEOS: Monitoring, measurement, CRES** verification and reporting framework

- The efficient measurement of the achieved energy savings.
- The effective control and verification of the implemented energy efficiency measures.
- The precise reporting of the achieved energy savings.
- The continuous evaluation of progress towards the established energy efficiency targets.









Bottom-up methods for the measurement of the achieved energy savings
BU1: Awareness raising campaigns
BU2: Energy audits for households
BU3: Smart Meters and informative billing
BU4: Energy upgrade of the building envelope in buildings of the residential and tertiary sectors
BU5: Energy upgrade of the existing cooling systems with high-efficient in buildings of the residential and tertiary sectors
BU6: Energy upgrade of the existing heating boilers with high-efficient in buildings of the residential and tertiary sectors
BU7: Production of hot water with solar energy
BU8: Energy audits of technical processes
BU9: Introduction of energy management systems
BU10: Energy efficient lighting in buildings of the residential sector
BU11: Energy efficient lighting in buildings of the tertiary sector
BU12: Efficient lighting in industrial buildings
BU13: Energy efficient street lighting
BU14: Alternative vehicle technologies
BU15: Eco-driving
BU16: Efficiency improvement through use of fuel-savings lubricants and tyres
BU17: White goods
BU18: Office equipment
BU19: Standby killer in households
BU20. Systems for heat recovery in buildings
BU21: High efficient heating circulating pumps
BU22: Improved thermal insulation of warm water tanks
BU23: Thermal insulation of pipes in the heating system
BU24: Installation of thermostatic valves on radiators
BU25: Other measures
BU26: Efficiency improvement through various energy efficiency measures in the transport sector

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### The multEE Monitoring and Verification Platform (MVP) allows

authorities to consistently measure progress towards energy efficiency targets.

acilitating multi-level government for Energy Efficiency				-	2. Building envelope and building components     3. Cooling of buildings	•	Į.
2		Plans and measures	Administration		4. Circulating pump		
Plans overview  New plan  Export				5. Combined Heat and Power	,		
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New measure implementation				,	7. Smart district heating grids		atio
<	Measure assignments overview Master search Transport			8. Energy Audits of technical processes		ce	
2					9. Introduction of energy management systems		atia
	٩	3rd NEEAP Slovakia	Third National EE plan		10. Heat pumps	٠	akia
					11. Heating system improvement		
Copyright ComTrade d.o.o. All rights reserved. Version: 1.1.1.1				13. Lighting	٠		
				15. Office equipment			
					16. Photovoltaic plants		



## **EEOS: Control and verification CRES** framework



#### Proposed methodological approach



Stage 2







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### Thank you for your attention !!!



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