

Sustainable use of energy in transport in South East Europe

Challenges in achieving of EE and RES targets

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14th November 2016

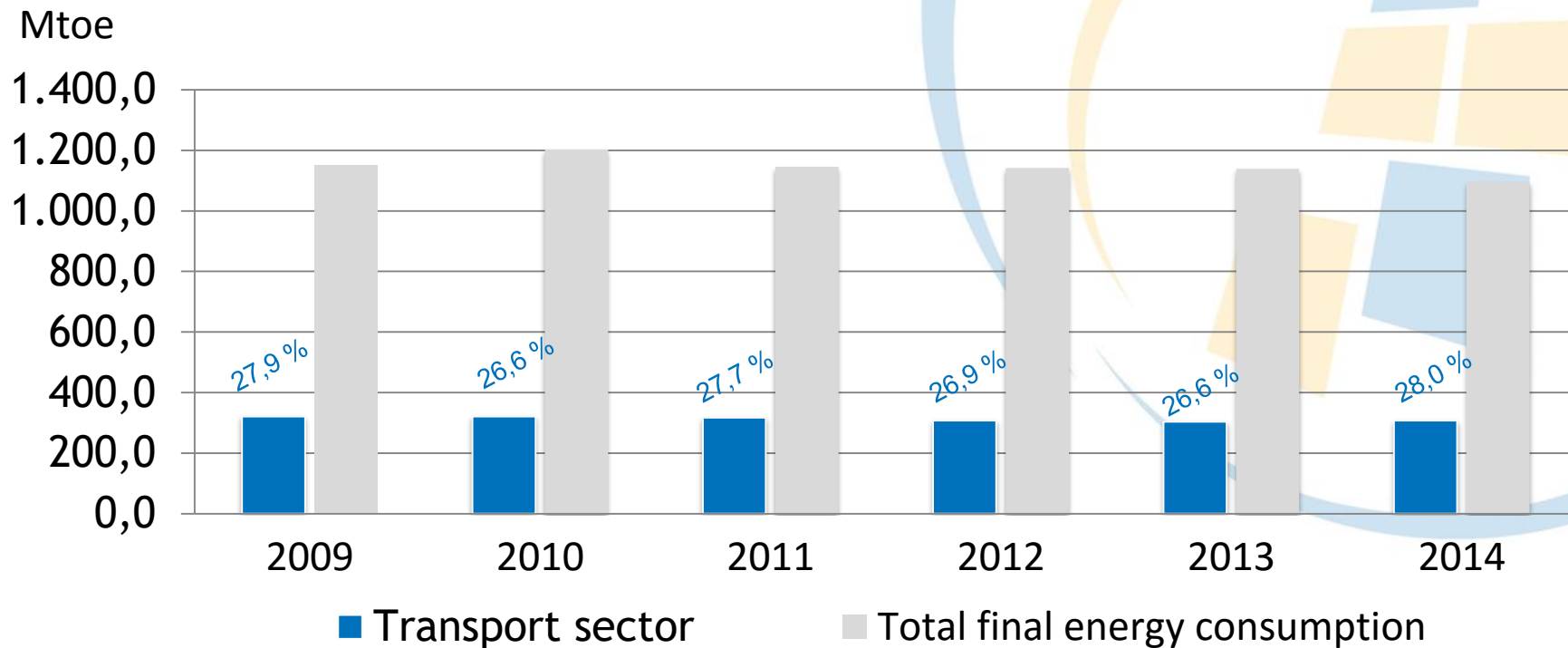
Why sustainable use of energy in the transport sector is important for us?

- Directive 2006/32/EC on energy end-use efficiency and energy services
Energy Efficiency Action Plans (national level)
(measures in sectors of: Buildings, Industry, Services, Transport, and horizontal (cross sectorial measures));
- Directive 2012/27/EU on Energy Efficiency
- Directive 2009/28 /EC on the promotion of the use of energy from renewable sources
National Renewable Energy Action Plans
(Overall RES target, and sectorial targets: E, H/C and Transport)

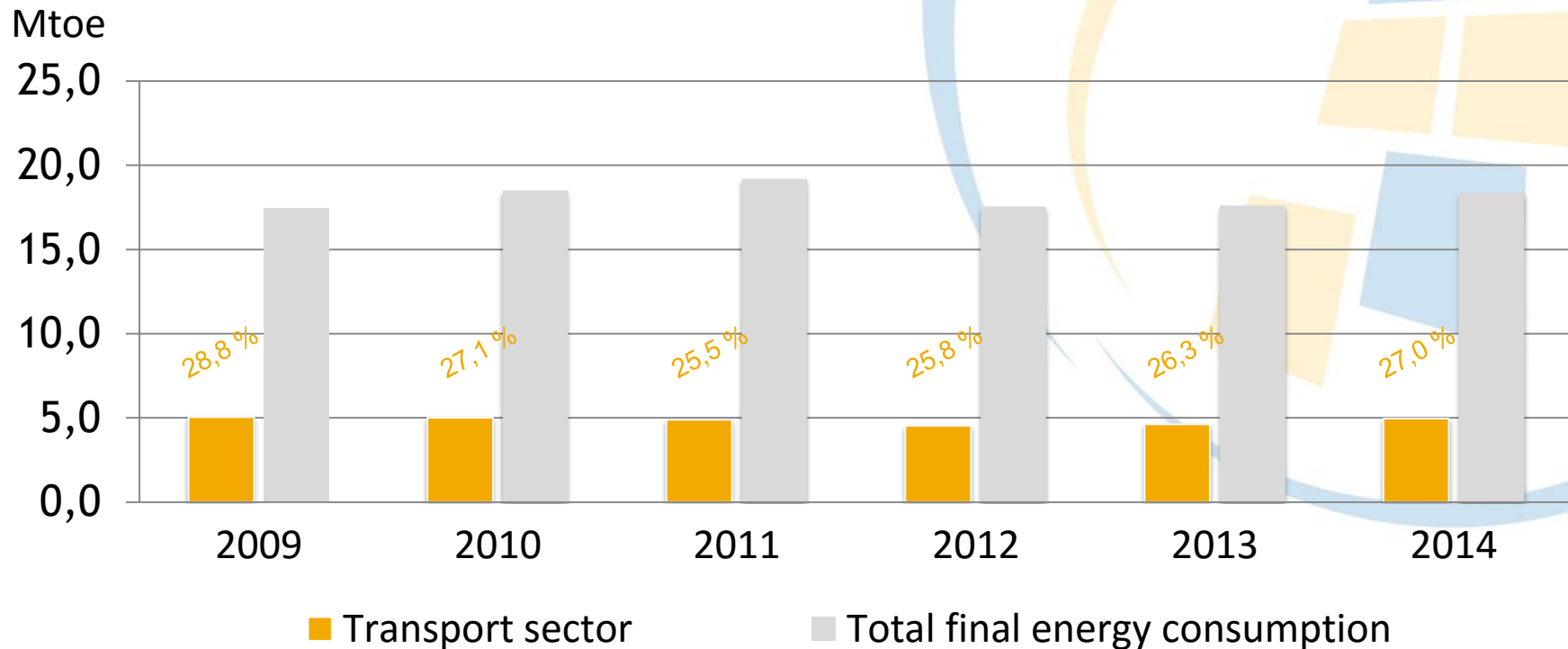
Why transport is so important in terms of energy consumption?

- more than $\frac{1}{4}$ in total energy consumption in the EU;
- over 300 Mtoe of final energy per annum (last decade);
- 94 % from fossil fuels, 5% biofuels 1% all other propulsion energies;
- 25 % of Europe's total GHG emissions;
- 11 million of the EU citizens are employed in the transport sector;
- transport contributes with 5% in the EU GDP.

Energy consumption in the EU



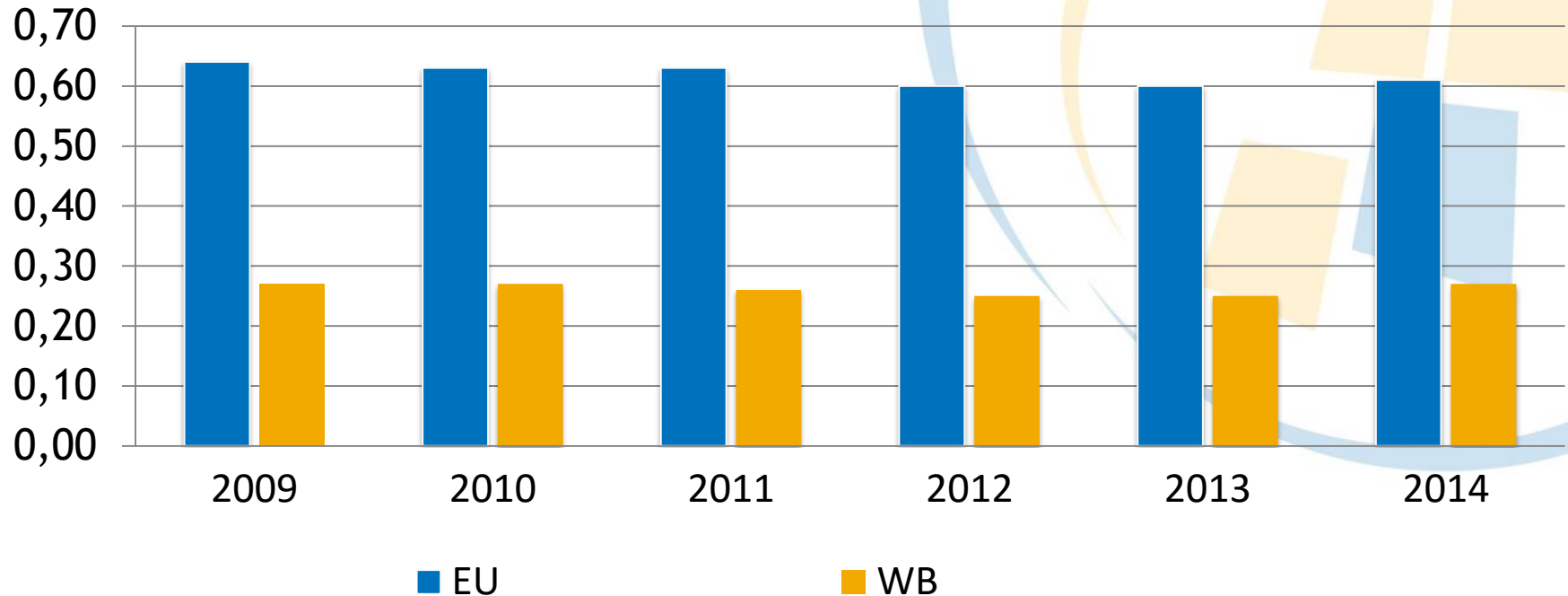
Energy consumption in six WB economies



Energy consumption in transport per capita

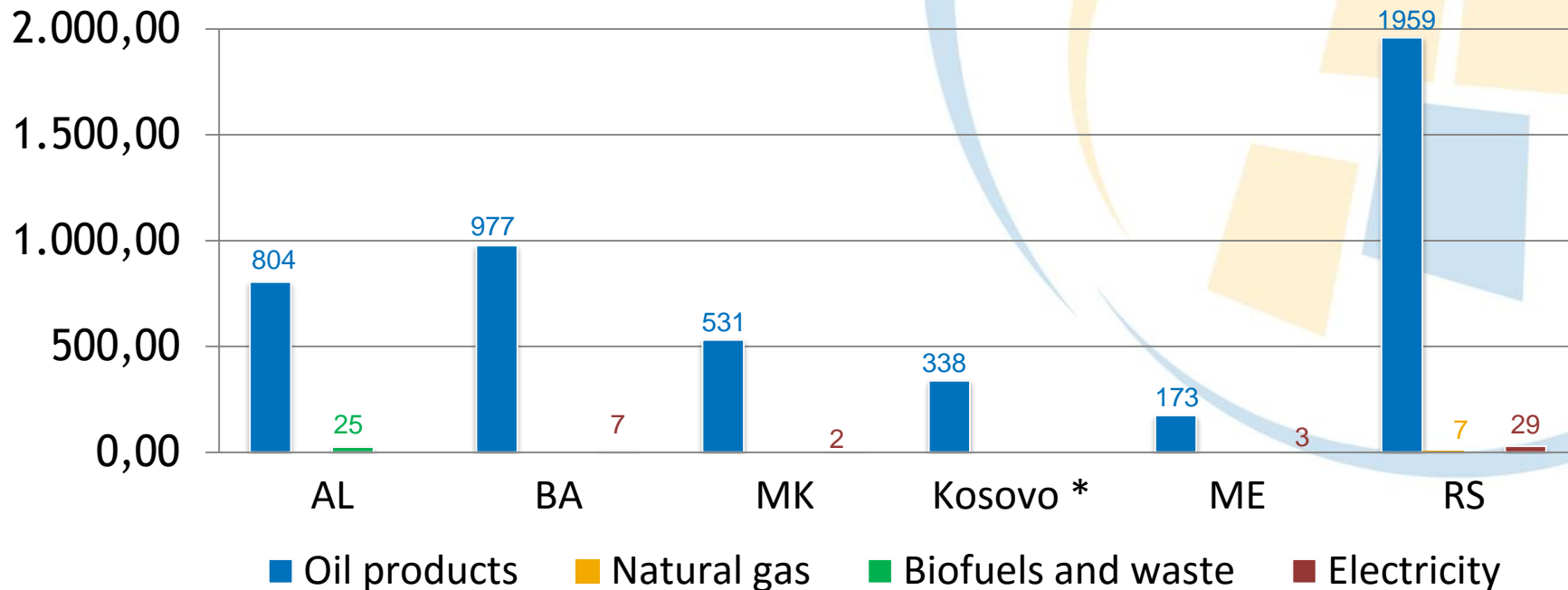
Raitio between an average EU citizen and a citizen in Western Balkans

toe per annum



The most frequently used fuels in WB

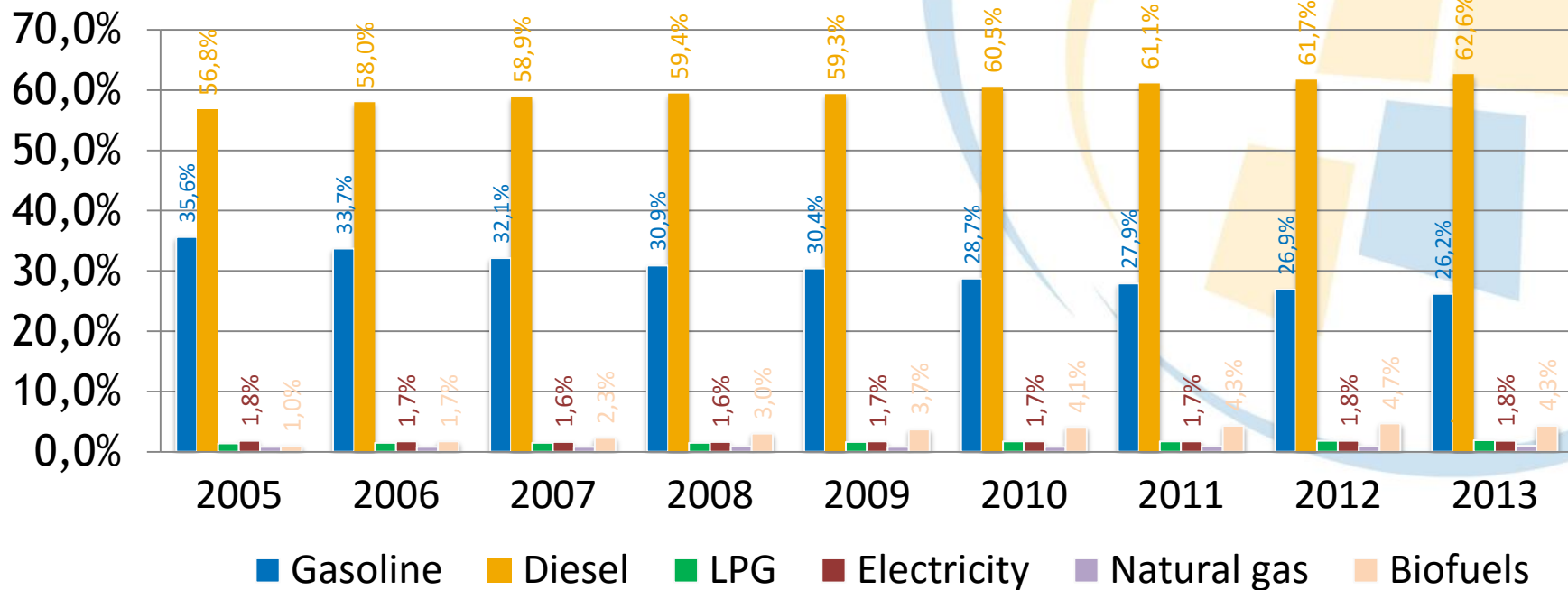
ktoe in 2014



* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence

** The full name of MK is: The Former Yugoslav Republic of Macedonia

The most frequently used fuels in the EU



Status in the SEE region

- Despite a lot of efforts and lot of concrete achievements (implementation of measures from EEAPs) the region did not reach its full Energy Efficiency Potential yet.
 - Energy Efficiency Plan 2011 (COM(2011)109final) identified sectors with highest energy saving potentials:
 - Buildings
 - Transport
- Renewable energies in the transport sector are far below trajectories given in NREAPs of the SEE economies.
 - biofuels (preconditions are not met)
 - renewable electricity (railways and road transport).

RCC recognized potential and need to support South East European economies in line with SEE 2020 Strategy.

- To help SEE economies to develop their strategies for energy efficient transport and implement measures from their NEEAPs.
- To help SEE economies to achieve their RES transport targets. through establishing preconditions for biofuels and renewable electricity in road and railway transport.

A case study from Montenegro Headlamps vs LED DRL on vehicles

- Project Sustainable use of Energy in Montenegro;



European
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eptisa



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Crna Gora

Ministarstvo ekonomije

- Three studies developed within the project (among other results)...
 1. Biofuels
 2. Alternative fuels
 3. Energy Efficiency

A case study from Montenegro

- Daytime Running Lights (DRL) after 7th February 2011 for all passenger cars and small vans.
- For trucks and busses from 7th August 2012.
- Directive 2008/89/EC introduced this requirement, imposing obligations to all member states to transpose it in national legislation.
- A country may regulate by its law the use of DRL.

A case study from Montenegro

- Vehicles use different technologies to meet this requirement.

Option A:

Older car models use headlamps to light the road ahead and as DRL (in order to become easy to notice).

- Tungsten filament bulbs
- Halogen lamps
- High intensity discharge lamps (HID)
- Laser technology -(state of the art technology)

Option B:

New car models have specially designed DRL - LED technology

A case study from Montenegro

Montenegro has around 200.000 passenger vehicles.

182 hours yearly x 120 W x 160.000 vehicles = 3.494.400 kWh

182 hours yearly x 5 W x 160.000 vehicles = 145.600 kWh

3.494.400 – 145.600 = 3.348.800 kWh (95,8% - possible savings)

Two halogen lamps (2 x 55 W) + two parking lamps (position lamps) (2 x 5W) = 120 W;

Dedicated LED DRL system consumes 5 W instead, (usually it is between 5 and 20 W);

There are 160.000 registered vehicles manufactured before 2011 (it means not equipped with dedicated DRL, but use headlamps for drive during the day);

A case study from Montenegro

Energy must be produced by vehicle engine

FUEL TYPE	% of vehicles	number of vehicles	energy used (GWh)	quantity of fuel (l)
Diesel fuel	65,0 %	104.000	2,18	220.854
Gasoline	31,0 %	49.600	1,04	111.953
LPG	4,0 %	6.400	0,13	18.272
Total:		160.000	3,35	351.079

A case study from Montenegro

- Converted into fuels



Good.
Better.
Regional.



Thank you!

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