

The background is a dark blue image of the Earth from space, with glowing blue lines representing a network or energy grid overlaid on the continents.

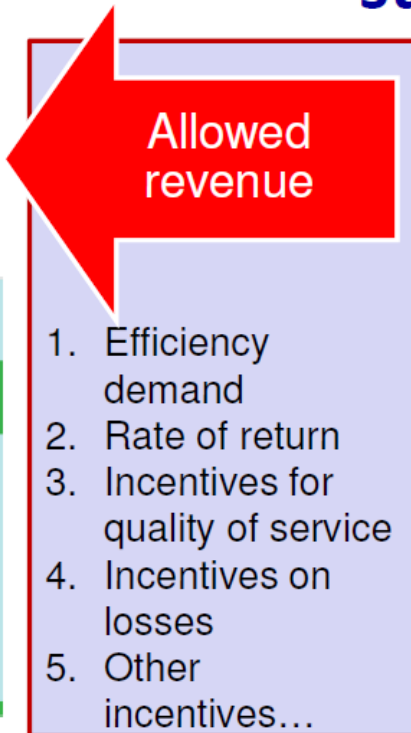
# *Network Costs and Tariffs*

Milka Mumović

# Network tariffs are determined by two major steps

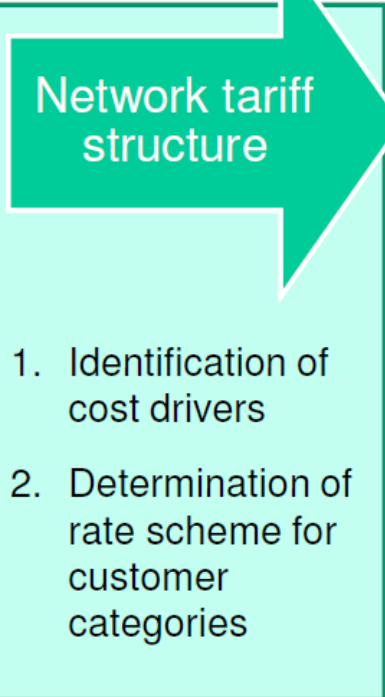


**Signals to DSOs**



**Allowed revenue**

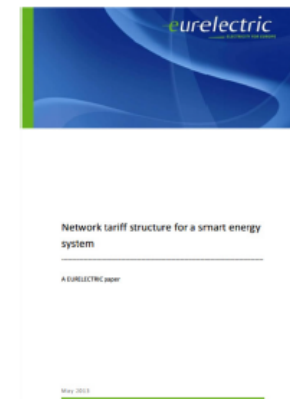
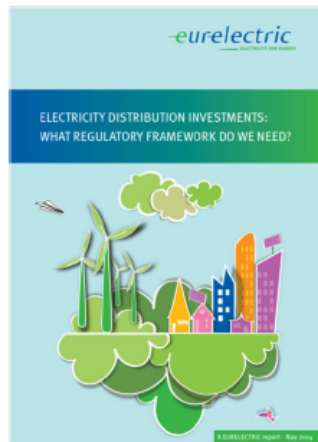
1. Efficiency demand
2. Rate of return
3. Incentives for quality of service
4. Incentives on losses
5. Other incentives...



**Network tariff structure**

1. Identification of cost drivers
2. Determination of rate scheme for customer categories

**Signals to customers**



# Is everything said already?

## EURELECTRIC Report 2013: Conclusions

- Network costs are mainly capacity driven
- Current volumetric (€/kWh) network tariffs do not provide right incentives to customers
- More capacity/power demand based network tariffs (e.g. two-part network tariffs with a prevailing capacity component) would help improve cost-reflectiveness and avoid cross-subsidies
- Information and gradual transition are key for bringing customers on board

## Energy efficiency directive on network tariffs

Network tariffs shall contribute to overall efficiency by providing signals for power saving/optimal utilisation of energy infrastructure assets, including demand side participation

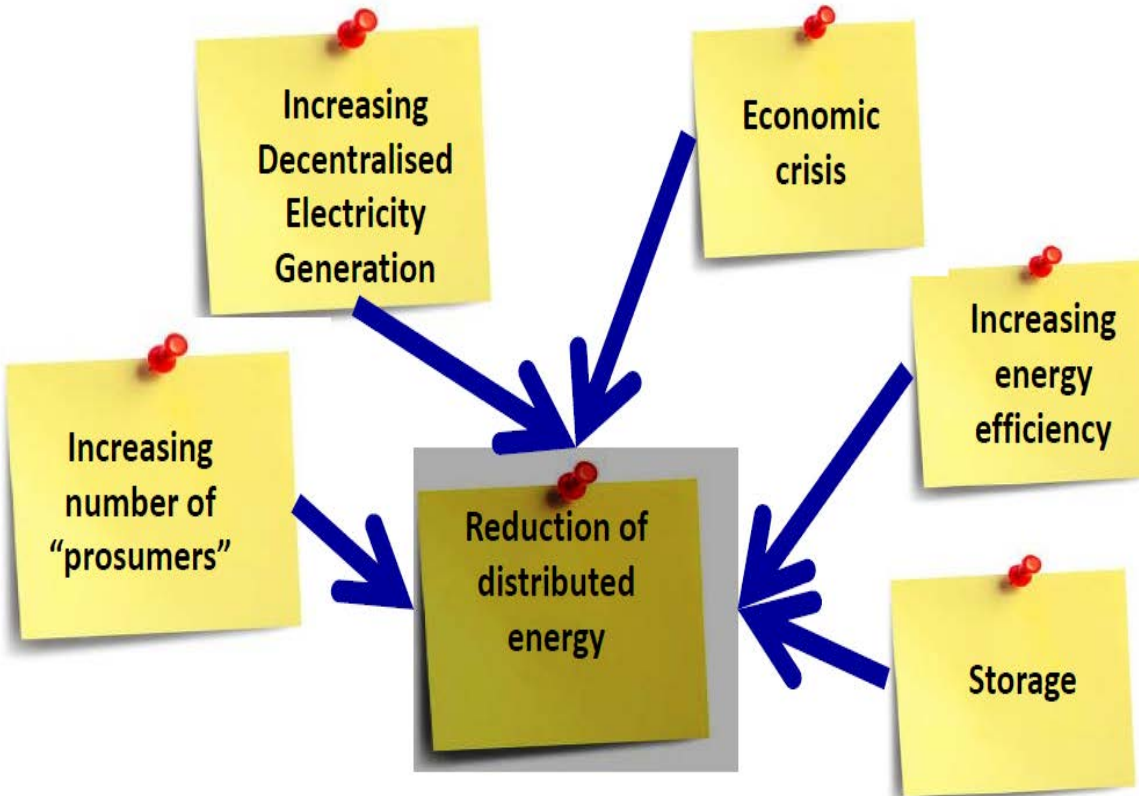
Member states shall ensure the removal of those incentives in transmission and distribution tariff that are detrimental to overall efficiency (including energy efficiency) of the generation, transmission, distribution and supply of electricity or those that might hamper participation of demand response in balancing markets and ancillary services  
(2012/27/EU, art. 15)

Network tariffs shall be cost-reflective of cost-savings in networks achieved from demand-side and demand response measures and distributed generation, including savings from lowering the costs of delivery or of network investment and a more optimal operation of the network.  
(2012/27/EU, Annex XI)



# What are the challenges for distribution tariffs?

## Further questions on distribution network



- Do DSOs face problems with collecting the allow revenue from customers?
- Netmetering/self-consumption: what is the impact on distribution tariffs?
- What network charging method is the most suitable for the future? How to choose the right quota of capacity/power element in tariffs?
- Are capacity based network tariffs compatible with developing market incentives for customer flexibility? Do they offer less possibilities for development of flexibility services?
- Could more dynamic network pricing such as ToU (or real time) be an option? Or are they a challenge for revenue adequacy? How to combine it with more capacity-based network tariffs?

## Re: Network tariffs, EURELECTRIC 2016

- *Full and timely recovery of network costs (OPEX, depreciation and a fair return on investment)*
- *The structure of the distribution network tariffs, and in particular the balance between the capacity (€/kW) and the volumetric (€/kWh) tariff components,*
- *Efficient and fair allocation of costs among different customer categories, avoiding cross-subsidisation between customer classes*
- *Instruments to incentivise energy efficiency and demand response*

# Action points



- 1. Allocation problem - upfront payment: analyse practices / best practice**
  - 2. Network structure - Update the list, Compare and evaluate**
  - 3. Cost drivers: identify and compare**
- ..... other ?**

# Recovery of network costs - remuneration



Upfront payment - Costs of connection

Regular (monthly) payments – Costs of use of network

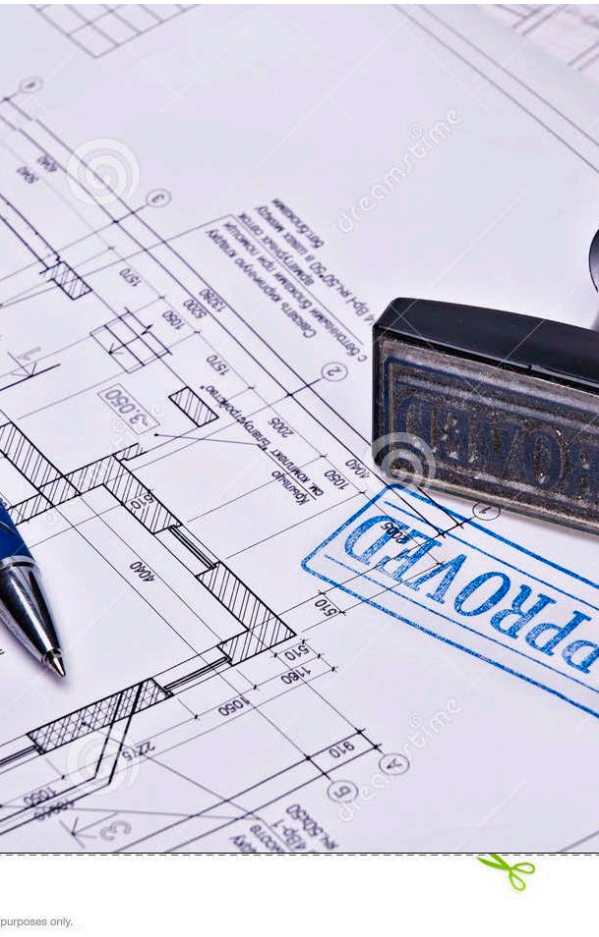
Fair costs allocation

Grid tariff structure: (Post in the ECDSO-E forum)

New elements: innovative services

- demand response,
- embedded generation,
- flexibility,
- storage...

# COSTS OF CONNECTION – ALLOCATION PROBLEM



(ECDSO-E document)

Initiated by public bodies / individual users

## RISKS:

- ✓ Planning
- ✓ Design
- ✓ Usage: duration and volume
- ✓ Customer's creditworthiness (No discrimination / social cohesion)

- shifting a fair share of the associated risks of an investment on the customers

1. Task one: analyse practices / best practice

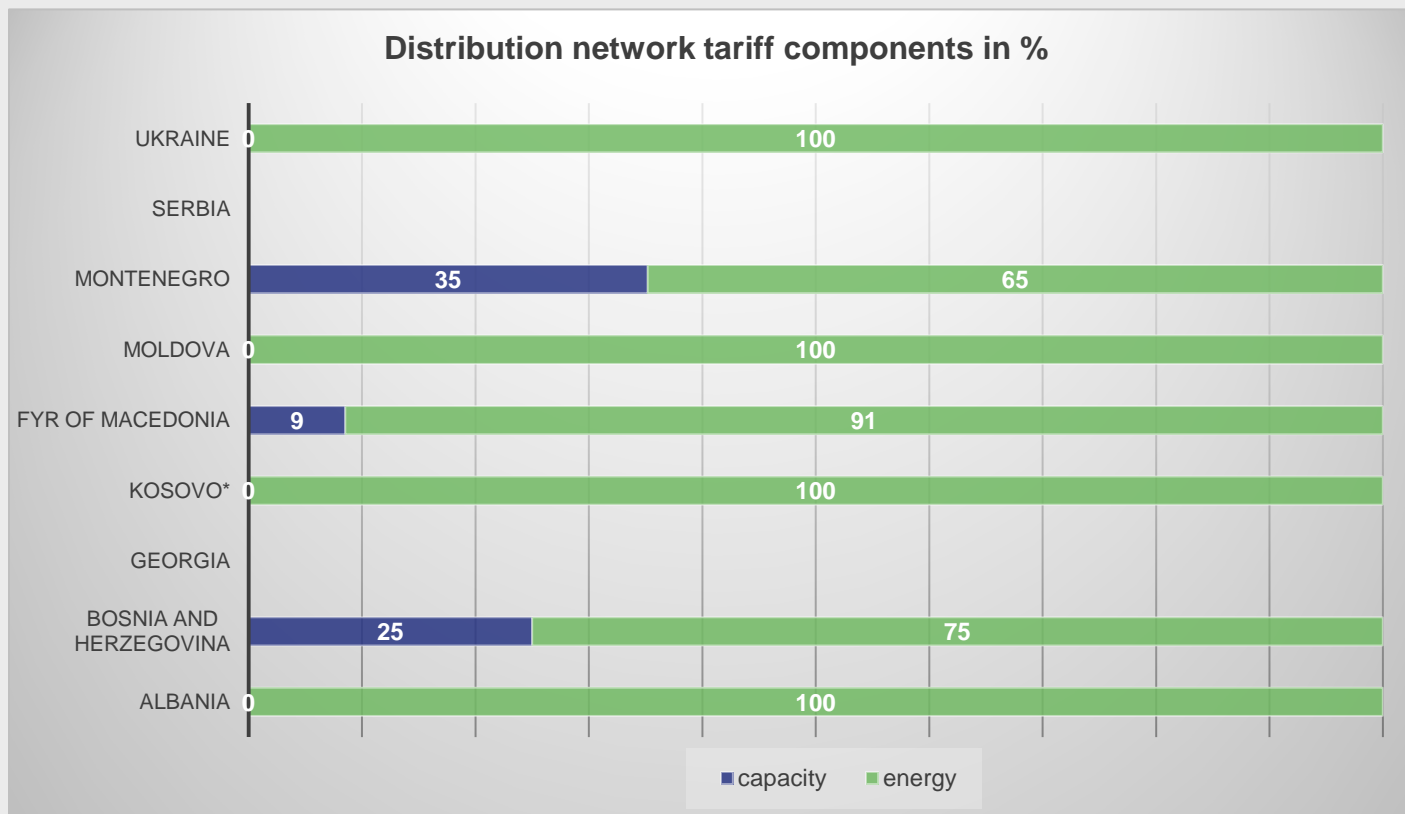


# Structure of network tariff

Network tariff	Upfront connection charge	single - volume tariff	Dual tariff (load and volume)	Average ratio volume – load
Albania	x	X		100/ 0
Bosnia and Herzegovina	x		x	40 /60
Kosovo*	x	x		100 /0
FYR of Macedonia	x		x	30 /70
Moldova	x	x		100 / 0
Montenegro	X		x	30 /70
Serbia	x		x	40/60
Ukraine	x	x		100/ 0

2. Update this list.  
Compare and evaluate!

# Structure of network tariffs - updated

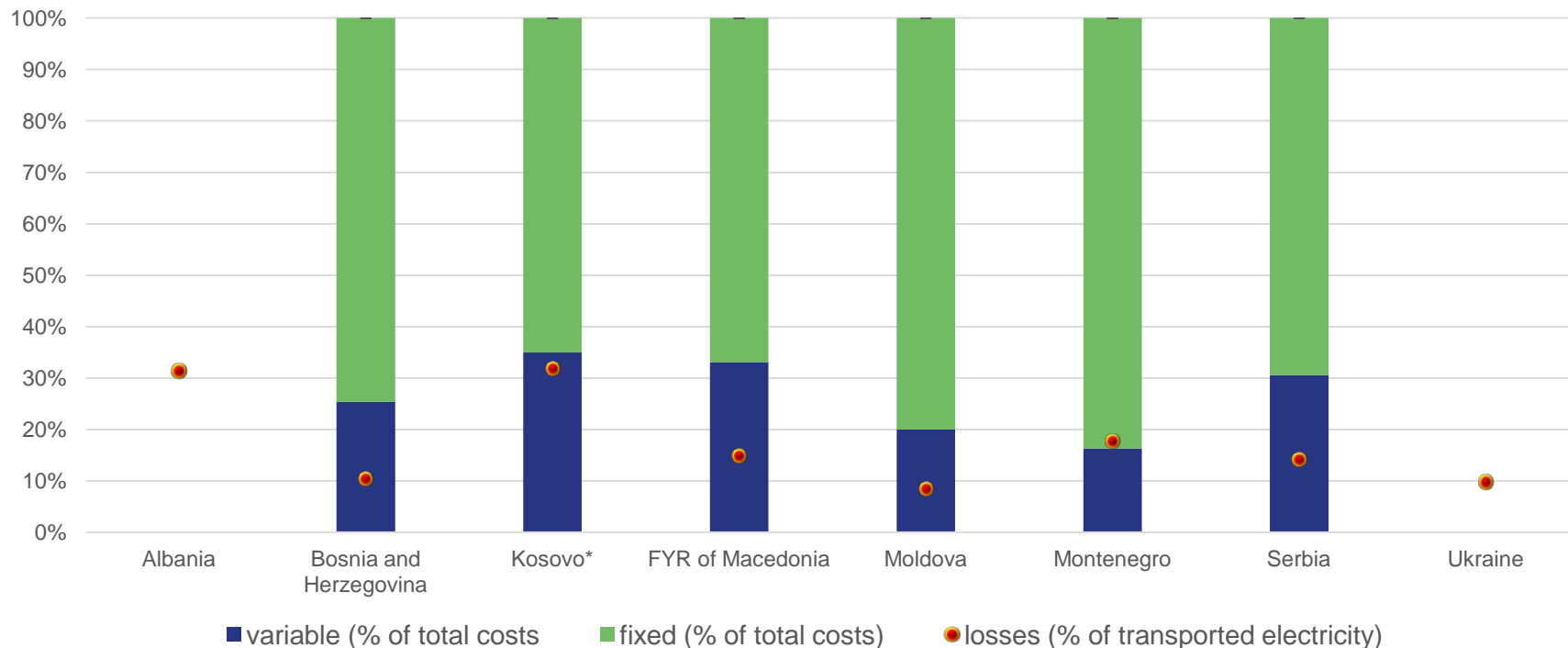


## Allocation of costs to capacity and energy charges in the EnC

Source: DSOs, compiled by TF

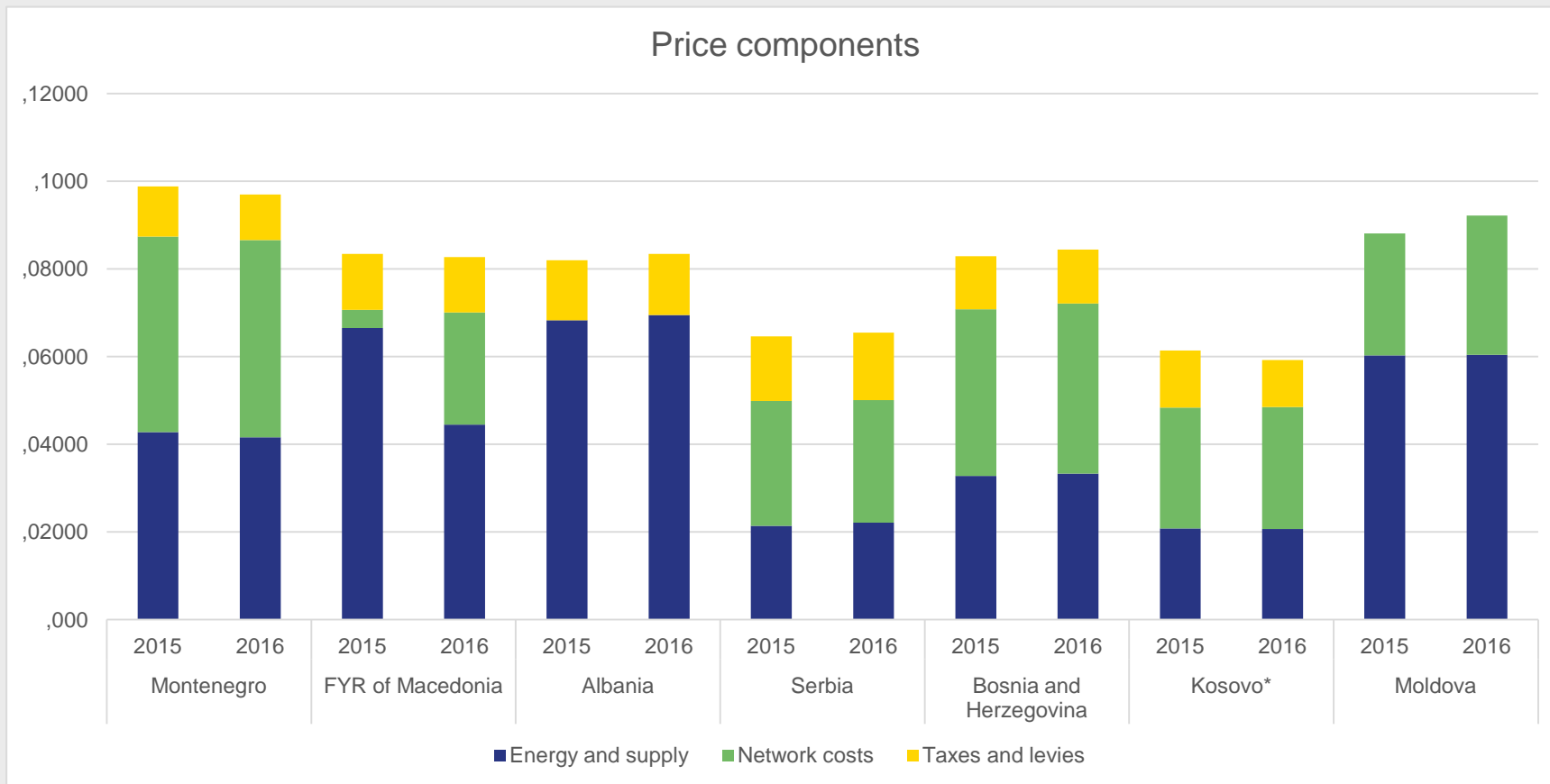
# Structure of network costs - Updated

### Fixed and variable costs in DSO



**Share of fixed and variable costs in approved revenues of DSOs**

Source: DSOs, compiled by TF





## Official statistics – change in network cost

Change in costs (TSO+DSO)	2013	2014	2015	2016
Montenegro	9%	-2%	0%	1%
FYR Macedonia				
Albania				
Serbia		-9%	-2%	-2%
Bosnia and Herzegovina	-1%			2%
Kosovo*		-6%	16%	1%
Moldova				14%

Information on **network costs and tariffs** has to be publicly available in a consistent and coherent manner.





DSOs are encouraged to **report necessary aggregated information**, as may be requested for this purpose

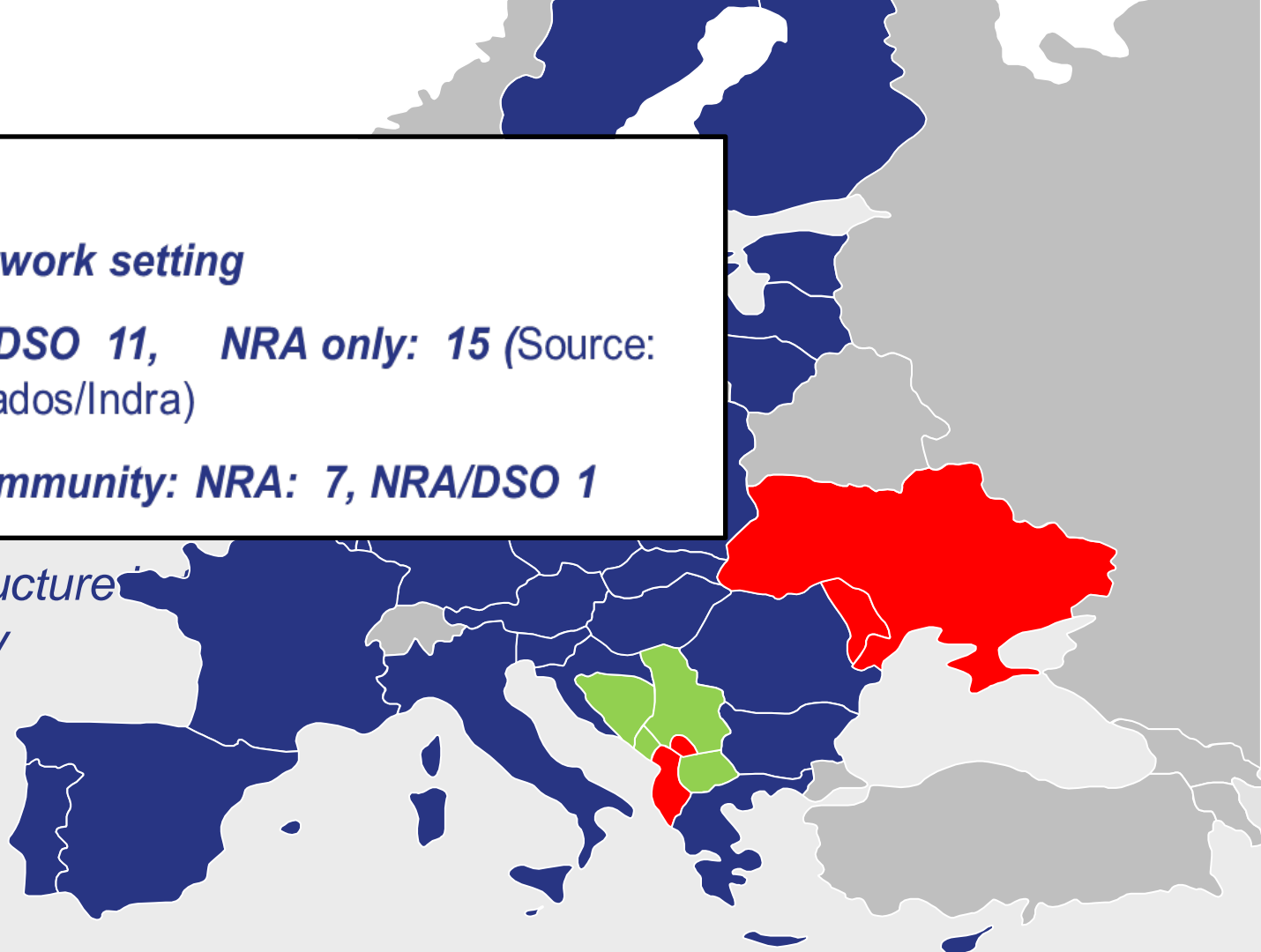
***Role in network setting***

***EU: NRA /DSO 11, NRA only: 15*** (Source: Refe/ Mercados/Indra)

***Energy Community: NRA: 7, NRA/DSO 1***

***Network tariffs structure  
Energy community***

-  European Union
-  Network tariff dual: volume and load based (energy and capacity)
-  Network tariffs only volume based (only energy)
-  Information not available



# Information on network structure – update

	No of DSOs	2015 Data Submission	2016 Data submission (No of DSOs)	Reported data 2015 - Coverage of national network
Albania	1	1	1	
Bosnia and Herzegovina	8	8	2	100%
Kosovo*	1	1	1	100%
FYR of Macedonia	2	1	1	99%
Moldova	3	1	1	75%
Montenegro	1	1	1	100%
Serbia	1	0		100%
Ukraine	44	12		40%

## *Few remarks on DSO costs and prices*

***The tariff design has to be flexible to adapt and properly address the emerging cost drivers.***

***DSO should be allowed to propose tariff design to the regulatory authority based on its own identification of costs drivers, observation of the dynamics in their network and anticipated changes.***

***DSOs have to be involved and consulted in the matters of their transition towards the envisaged role of a facilitator of a competitive retail market.***

***New roles of DSOs and tasks imposed on them have to be adequately reflected and recognized in the approved costs of service, including any stranded costs resulting from policy instruments.***

***Cost reflectivity and social cohesion shall not be conflicting objectives, as long as other energy activities are not subsidized from network charges.***