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# Review of the situation with adoption of EU Gas and Electricity standards. Identifying the regional and national priorities

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# Project's Approach to Harmonisation of Standards

When developing an Action Plan, a focus should be on the adoption of the standards from the List of the Generally Applicable Standards of **the Energy Community Treaty (ToR of the project)**:

- GENERALLY APPLICABLE STANDARDS – NATURAL GAS – Reg. №: MC2/4-3/04-04-07ECS
- GENERALLY APPLICABLE STANDARDS – ELECTRICITY – Reg. №: MC2/4-2/21-05-07ECS



# Electricity Standards



The document “GENERALLY APPLICABLE STANDARDS – ELECTRICITY” was developed in 2007.

The sheet v.0 of the file “Electricity R\_VP\_D\_v1 - 2013.06.21” (given to you) lists these 190 standards стандартов.

The previous project «Harmonisation of Electricity Standards» due to time constraints (18 months) could not carry out the systemic work of the identification of the priority electricity standards.

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# Actualisation of the List of Electricity Standards

There was a risk of removing or reworking of many standards. Thus, prioritisation of standards and identification of adopted ones by the Partner Countries were done in parallel with a review of the original list of standards. The list of file 419 standards is attached in file “Electricity R\_VP\_D\_v1 - 2013.06.21”, Sheet v.1.





## Actualisation of the List of Electricity Standards (2)



This table includes the standards that have substituted the original ones. Shown are all the parts and series of standards, that in the original list were shown as one item. The repealed standards are excluded from the Table, since they are adopted by the Partner Countries but yet to be replaced by the new ones. This Table is to be used to report about meeting the obligations of an Energy Treaty member.





# Actualisation of the List of Electricity Standards (3)



File “Electricity R\_VP\_D\_v1 - 2013.06.25”, Sheet v.2.1 has a Table which is sorted and shows the state of play as of 21/06/2013. The number of items is cut down to 394.

All the Tables have the same legend:

- **P** – priority standard
- **NS** – adopted as a national standard
- **IsS** – in effect as an Interstate standard





# New Table of Electricity Standards



File “Electricity R\_VP\_D\_v1 - 2013.06.25”, Sheet v.2.2 lists repealed and current standards with the priority transferred from the repealed to the current ones.

File “Electricity R\_VP\_D\_v1 - 2013.06.25”, Sheet v.2.3 lists only the current standards.

Next slide will show the findings of the processed data of Tables v.2.1 and v.2.3.









# Analysis Findings

The INOGATE Partner Countries are divided into 2 groups based on the adoption of Electricity Standards:

- EU neighbouring countries (Moldova, Ukraine and Belarus)
- Caucasus and Central Asia.



## Analysis Findings (2)



Moldova and Ukraine, being signatories to the Treaty establishing the Energy Community, fulfill in good faith their obligations. Judging from the number of standards planned for adoption within a few years, these countries can easily adopt the required electricity standards.



**These PCs need to ensure the participation of their TCs in the development of new standards.**

## Analysis Findings (3)



The Table shows that Georgia and Armenia's aspiration to become signatories to the Treaty establishing the Energy Community is not supported by the activities in harmonisation of standards.

Thus, the PCs in the Caucasus in Central Asia need to develop a Strategy for harmonisation of Electricity Standards, a similar one for the Gas Standards prepared 5 years ago.



# Main Stages in Development of Strategy for Harmonisation of Standards



- Actualisation of a List of Standards
  - Identification of priority areas
  - Identification of priority standards
  - Evaluation of integrity (comprehensiveness of a task solution)
  - Solution of the issue of normative references
  - Evaluation of cooperation potential
  - Legal analysis: available agreements with rights holders; possibilities to adopt standards without translation into the national language
  - Translation of standards into Russian and its application for adoption of standards using the reprinting (cover page) or a similar method.





## Identification of Priority Standards (Regional dimension)

9 countries answered the questionnaire.

A standard is regarded a priority if 5 and more countries voted for it.

There are 91 such standards.

For 31 standards voted 7 and more countries.

**8 and more countries voted for 5 standards.**



# Distribution of Priority Standards across the areas



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		$\Sigma$	5	7	8
2	Equipment supplies to power plants	39	11	5	0
3	Standard voltages, currents and frequencies	5	4	1	0
4	Measurements	9	9	4	0
5	Specification and requirements to equipment	187	56	19	5
6	High-voltage direct current	3	0	0	0
7	Complex insulation	3	0	0	0
8	Electrical equipment for explosive atmospheres	22	0	0	0
9	Safety of machinery	16	5	0	0
10	Impact of electricity and protection against electric shock	3	0	0	0
11	Lightning protection	6	6	2	0
12	Electromagnetic compatibility	31	0	0	0
13	Power generation from renewable sources	18	0	0	0

## Priority Areas

		$\Sigma$	5	7	8
2	Equipment supplies to power plants	39	11	5	0
3	Standard voltages, currents and frequencies	5	4	1	0
4	Measurements	9	9	4	0
<b>5</b>	<b>Specification and requirements to equipment</b>	<b>187</b>	<b>56</b>	<b>19</b>	<b>5</b>
9	Safety of machinery	16	5	0	0
11	Lightning protection	6	6	2	0
		<b>262</b>	<b>91</b>	<b>31</b>	<b>5</b>



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# Priority Standards-1

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55.	<b>IEC 62271-1 Edition 2.0 (2013-05-31 A2CD)</b> IEC 62271-1-am1 Edition 1.0 (2011-06-16) IEC 62271-1 Edition 1.0 (2007-10-24)	EN 62271-1:2008/A1:2011 IDT - IEC 62271-1:2007/A1:2011 EN 62271-1:2008 IDT - IEC 62271-1:2007	2004/108/E C - EMC (C 321/01, 2012-10-23)	IEC SC 17A CLC/SC 17AC	High-voltage switchgear and controlgear - Part 1: Common specifications
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## Priority Standards-2

55.	IEC 62271-3 100 Edition 2.1 (2012-09-27)	EN 62271-100:2009/Fpr A1:2012	IDT - IEC 62271-110:2012	IEC SC 17A CLC/SC 17AC	High-voltage switchgear and controlgear - Part 100: Alternating current circuit-breakers
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# Priority Standards-3



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55.	IEC 62271-102 Edition 1.2 (2013-02-14) IEC 62271-102-am2 Edition 1.0 (2013-02-14) IEC 62271-102-am1-cor1 Edition 1.0 (2012-01-27) IEC 62271-102-am1 Edition 1.0 (2011-08-19) IEC 62271-102-cor3 Edition 1.0 (2005-02-23) IEC 62271-102-cor2 Edition 1.0 (2003-05-27) IEC 62271-102-cor1 Edition 1.0 (2002-04-30) IEC 62271-102 Edition 1.0 (2001-12-19)	EN 62271- 102:2002/A2:2013 IDT - IEC 62271- 102:2001/A2:2013 EN 62271- 102:2002/A1:2011 IDT - IEC 62271- 102:2001/A1:2011 +Cor:2012 EN 62271- 102:2002 IDT - IEC 62271- 102:2001 +Cor:2002 + Cor:2003	IEC SC 17A CLC/S C 17AC	High-voltage switchgear and controlgear - Part 102: Alternating current disconnectors and earthing switches
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# Priority Standards-4,5



55. IEC 62271-103 6 Edition 1.0 (2011-06-16)	EN 62271-103:2011 IDT - IEC 62271-103:2011	IEC SC 17A CLC/SC 17AC	High-voltage switchgear and controlgear - Part 103: Switches for rated voltages above 1 kV up to and including 52 kV
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55.1 IEC 62271-108 1 Edition 1.0 (2005-10-24)	EN 62271-108:2006 IDT - IEC 62271-108:2005	IEC SC 17A CLC/SC 17AC	High-voltage switchgear and controlgear - Part 108: High-voltage alternating current disconnecting circuit-breakers for rated voltages of 72,5 kV and above
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# Recommendations for Harmonisation of Electricity Standards

Standard EN 62271 series over 8 PCs voted for 5 standards of which) includes 38 standards, 28 out of them are identified as priority ones. Over 7 Partner Countries voted for 10 of them.

- **Recommendation: to test a strategy for harmonisation of standards for these 5 standards, observing the stages mentioned on Slide 12**





# Recommendations for Harmonisation of Electricity Standards

- Additionally it possible to consider:  
“Standard voltages, currents and frequencies”,  
“Measurements” and  
“Lightning Protection”.



# Development of List of Priority Gas Standards



The List of Priority Gas Standards in the Partner Countries is based on the 3 documents:

- Document of Energy Community «GENERALLY APPLICABLE STANDARDS – NATURAL GAS»
- MARCOGAZ List «EN and ISO Standards applied in European gas infrastructure»
- List of priority gas standards of the project “Harmonisation of Technical Standards and Practices in the Oil and Gas Sectors in Eastern Europe and the Caucasus”



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# Quantity of Priority and Adopted Standards in the Partner Countries



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#	PC	Gas Standards (142)				Standards DVGW & OEVGW
		P	PL	NS	IsS	P
1	AM	32	3	3	3	30
2	AZ	40	0	0	1	31
3	BY	44	0	35	1	9
4	GE	45	2	57	0	50
5	KG	54	10	0	1	51
6	KZ	36	0	30	0	15
7	MD	46	9	50	0	12
8	TJ	54	0	0	1	18
9	TM	∞	∞	∞	∞	∞
10	UA	38	9	26	0	18
11	UZ	56	0	1	0	61



## Analysis of the findings (Regional dimension)

10 countries answered the questionnaire.

A standard is regarded a priority if 5 and more countries voted for it.

There are 50 such standards, 46 out of them are translated into Russian under the framework of the INOGATE project “Harmonisation of Oil and Gas Standards”.

For 23 and 15 standards voted 7+ and 8+ countries respectively. All these standards are translated.





# Priority Areas



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TC	$\Sigma$	5	7	8	IsS
CEN 234	12	12	10	7	5
CEN 237	5	5	2		2
CEN 238	1	1			1
<b>CEN 219</b>	<b>2</b>	<b>2</b>	<b>1</b>		
CEN 12/ISO67	9	9			3
ISO193/CEN SS N21	14	14	10	8	2
ISO 30	1	1			
ISO158	2	2			
	46	46	23	15	13



# Project's Recommendations



- Belarus and Uzbekistan should join voting on Interstate Standards (List is below)
- Ukraine should join voting on Standard GOST EN 12261-2012
- Partner Countries should prepare and sign an agreement with the EASC on transfer of translations of standards (draft agreement in prepared by the ITS and cleared with the EASC Bureau of Standards)





## Project's Recommendations (2)

- Assign the TC a task of translating standards to prepare and adopt them by the “cover page” method or a similar one, using the translation as a reference annex





#	NAME	AM	AZ	BY	GE	MD	UA	KZ	KG	TM	TJ	UZ	Quantity
1.	GOST EN 437-2012	1	1		1	1	1	1	1		1		8
2.	GOST EN 1918-1-2012	1	1		1	1	1	1	1		1		8
3.	GOST EN 1918-2-2012	1	1		1	1	1	1	1		1		8
4.	GOST EN 1918-3-2012	1	1		1	1	1	1	1		1		8
5.	GOST EN 1918-5-2012	1	1		1	1	1	1	1		1		8
6.	GOST EN 12261-2012	1	1		1			1	1		1		6
7.	GOST EN 12405-2012	1	1		1		1	1	1		1		7
8.	GOST ISO 10405-2012	1	1		1	1	1	1	1		1		8
9.	GOST ISO 10423-2012	1	1		1	1	1	1	1		1		8
10.	GOST ISO 15970-2012	1	1		1	1	1	1	1		1		8
11.	GOST ISO 15971-2012	1	1		1	1	1	1	1		1		8
12.	GOST CEN/TS 15173-2010	1	1	1	1	1	1	1	1			1	9