

Eestin maakaasutilanne

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DEVELOPMENT OF GAS BUSINESS IN ESTONIA

- 1865** The first gas factory was completed in Tallinn, where gas was produced from coal. Gas was mainly used for street lighting purposes.
- 1880** A similar gas factory was operated in Tartu.
- 1948** An oil shale processing plant was operated in Kohtla-Järve, which started to produce oil shale gas.
- 1949** A transmission pipeline was completed between St. Petersburg and Kohtla-Järve.
- 1953** The transmission pipeline Kohtla-Järve - Tallinn was completed and Tallinn was switched to oil shale gas.
- 1963** A second transmission pipeline Kohtla-Järve - Tallinn was completed.
- 1969** Tallinn, Rakvere and Kiviõli were switched to mixed gas (oil shale + natural gas)
- 1976** A gas pipeline Izborsk - Tartu was completed, which enabled Tartu to be the first to switch to natural gas.
- 1978** The Tartu - Rakvere transmission pipeline was completed, which enabled the consumers in Tallinn to switch to natural gas.
- 1994** The Viresi - Tallinn transmission pipeline was completed, which connects the Estonian gas network with the Latvian underground storages.

AS EESTI GAAS DEVELOPMENT 1991 - 2000

1991 - 1992

PUBLIC FIRM

Natural gas lines and
stations
Territorial Ltd
Liquefied Petroleum Gas Ltd
and LPG filling plants

1993 - 1994

CORPORATION, natural gas

Estonian state - 70 %
Gazprom - 30 %

1995 - 1996

CORPORATION, natural gas

Estonian state - 39 %
Gazprom - 31 %
Ruhrgas - 15 %
Investment fund - 10 %
Small shareholders - 5 %

1997

CORPORATION, natural gas

Estonian state - 27 %
Gazprom - 31 %
Ruhrgas - 15 %
Small shareholders - 27 %

1998

CORPORATION, natural gas

Estonian state - 11 %
Gazprom - 31 %
Ruhrgas - 21 %
Neste OY - 10 %
Small shareholders - 27 %

1999

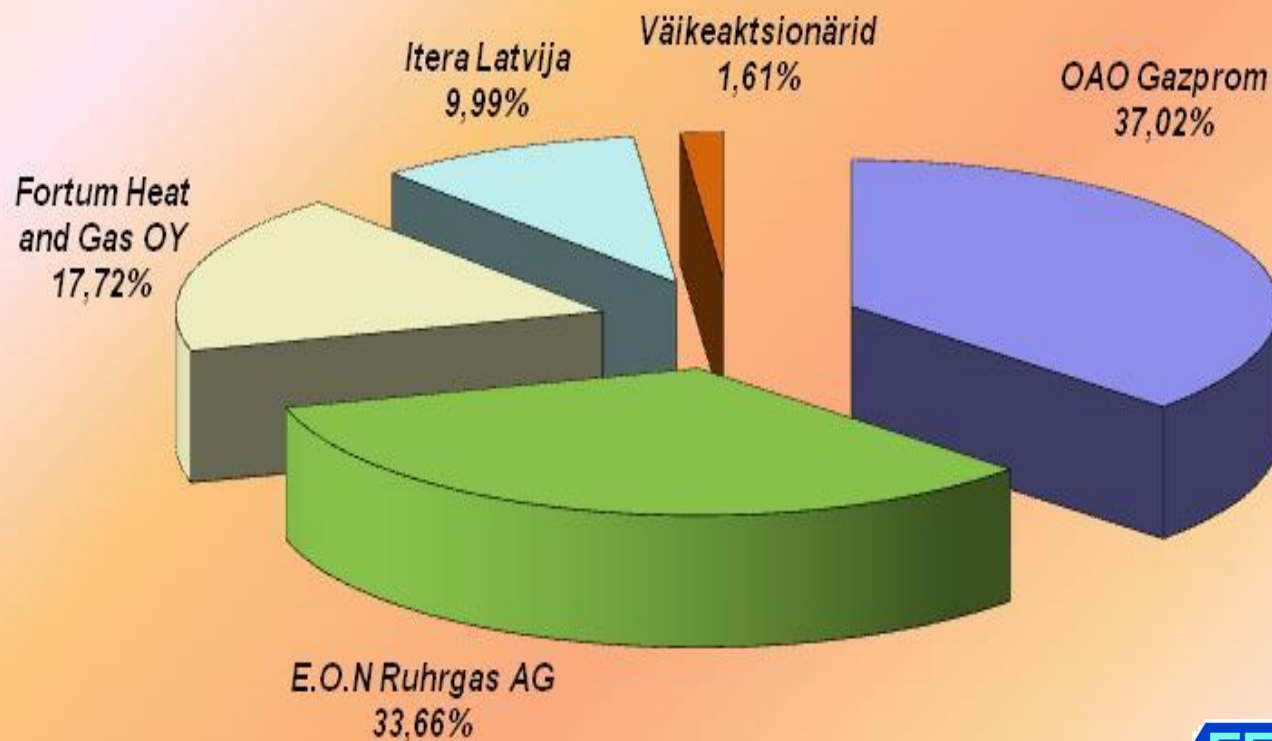
CORPORATION, natural gas

Gazprom - 31 %
Ruhrgas - 32 %
Neste OY - 10 %
Small shareholders - 27 %

EESTI GAAS

The shareholders of AS Eesti Gaas

AS Eesti Gaas aktsiate jagunemine
osaluse järgi aktsiakapitalis



AS Eesti Gaas

Natural gas purchase and sales, management of subsidiaries;

Established in 1993, 85 employees, incl 50 in sales

AS EG Võrguteenus

Natural gas transport and distribution service, network maintenance;

Started activity in 2006; 157 employees

AS EG Ehitus

Construction of pipelines;

Started activity in 2005; 56 employees

Siirtoverkko



Virossa on 15 läänia
näistä 10 on käytössä maakaasu

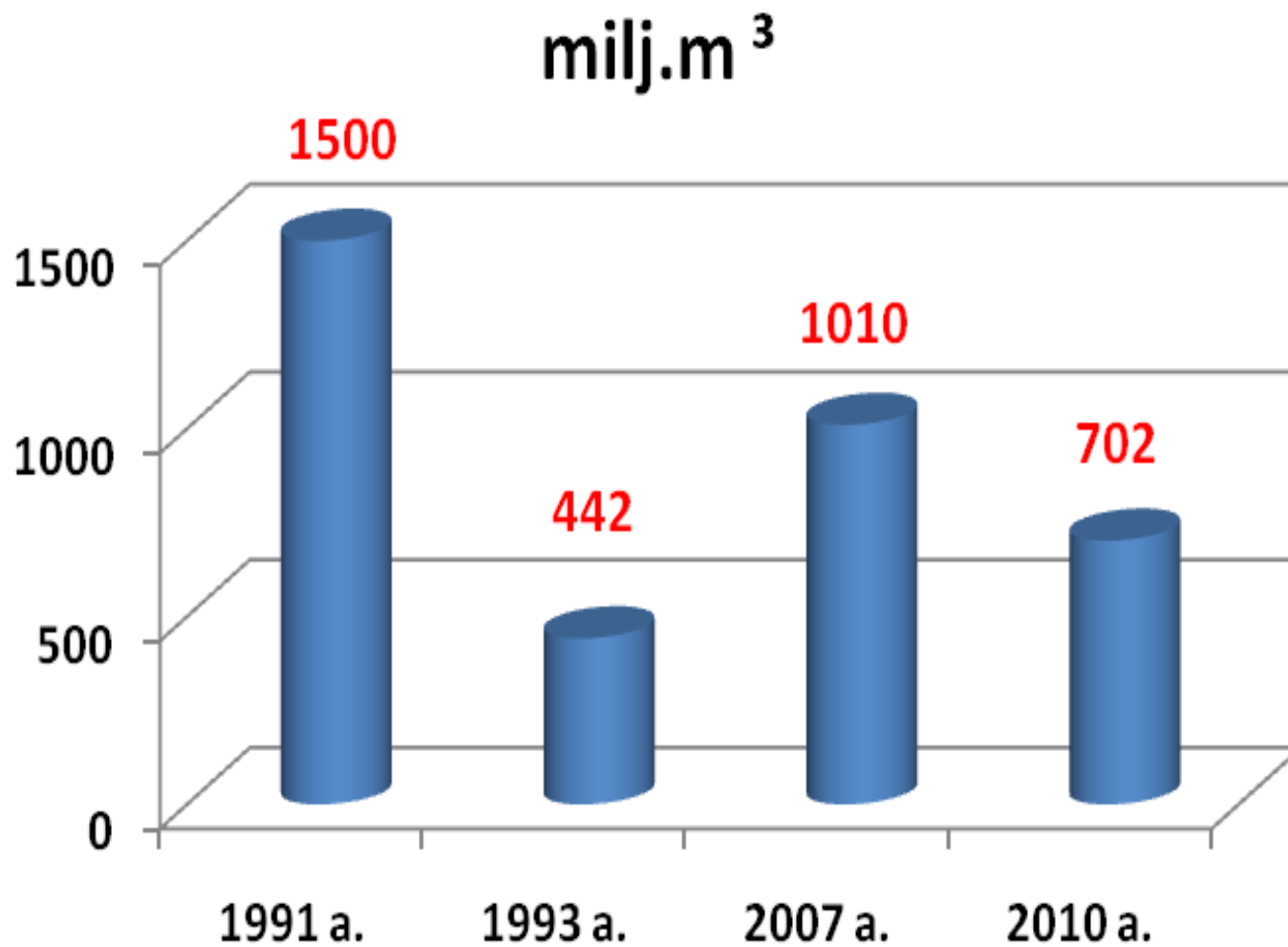
Virossa on 47 kaupunkia
näistä 22 on käytössä maakaasu

65 % Viron ihmisistä asuu
alueella jossa käytetään
maakaasun

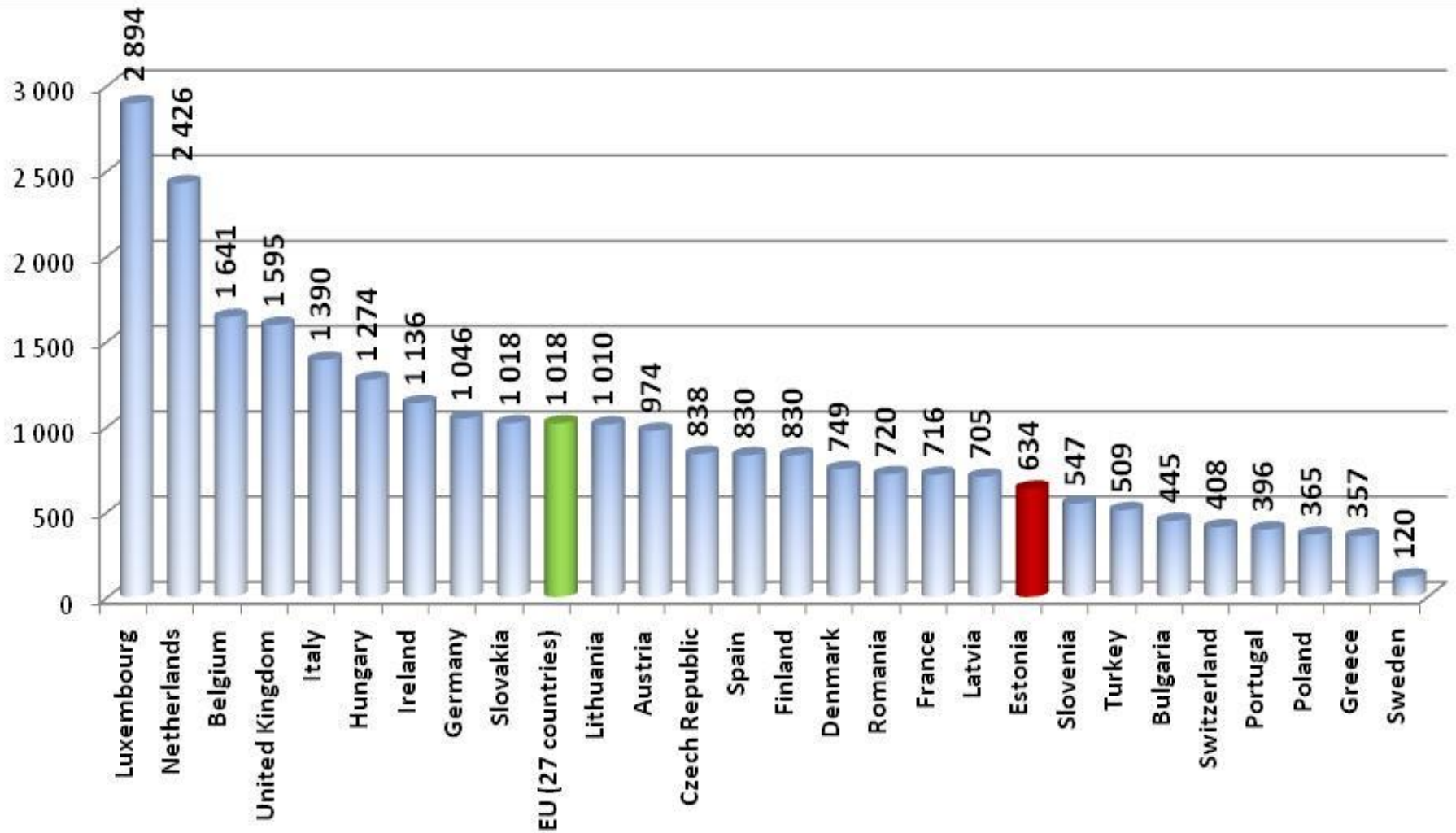
	Kaupunki	asukkaita
1	Tallinn	411 903
2	Tartu	98 548
3	Narva	64 650
4	Pärnu	42 937
5	Kohtla-Järve	40 581
6	Viljandi	19 145
7	Rakvere	16 884
8	Maardu	16 582
9	Sillamäe	15 458
10	Jõhvi	12 934
11	Kiviõli	6 328
12	Põlva	6 260
13	Saue	6 021
14	Jõgeva	5 760
15	Rapla	5 618
16	Põltsamaa	4 638
17	Sindi	4 265
18	Kunda	3 680
19	Kehra	2 998
20	Narva-Jõesuu	2 992
21	Räpina	2 629
22	Püssi	1 373
	Yhteensä	792 184
	Yhteensä Virossa	1 340 100



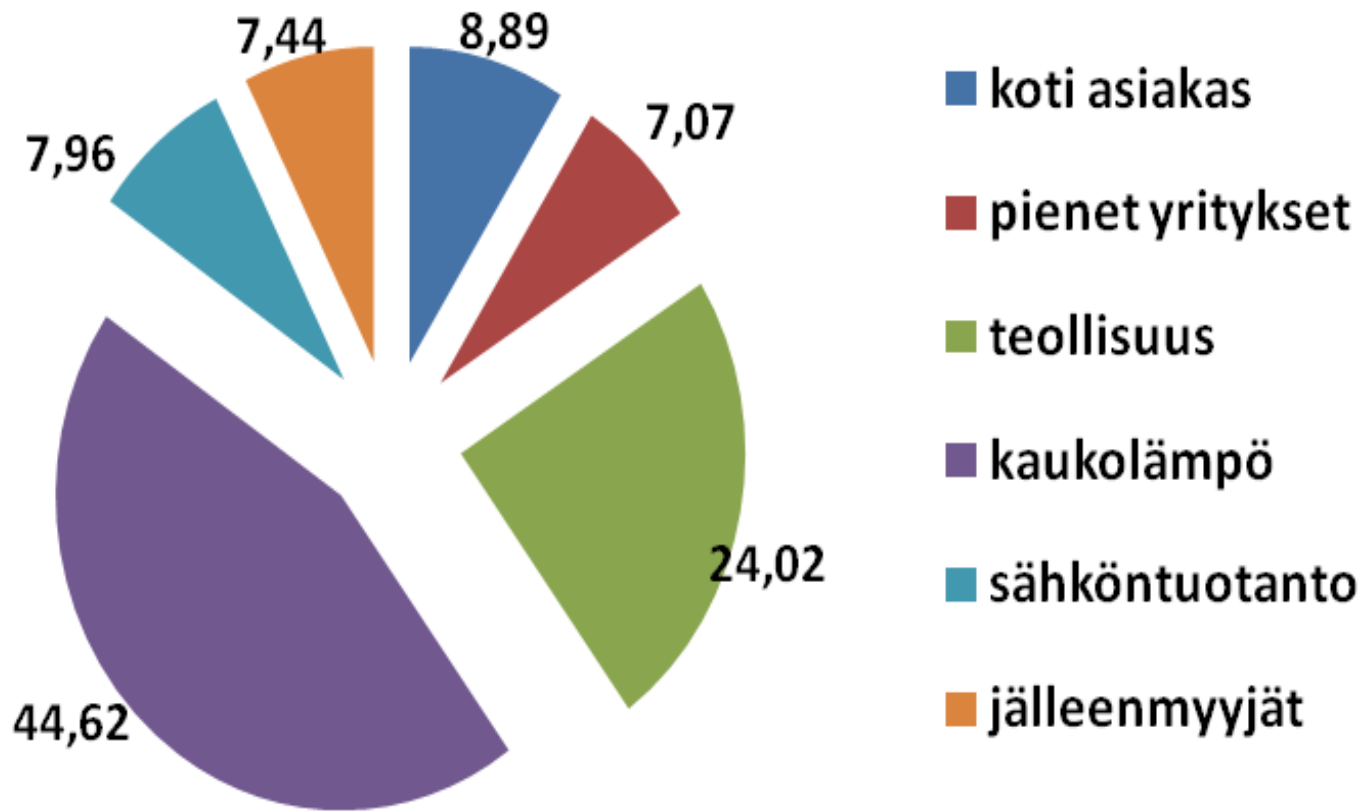
Maakaasun kulutus



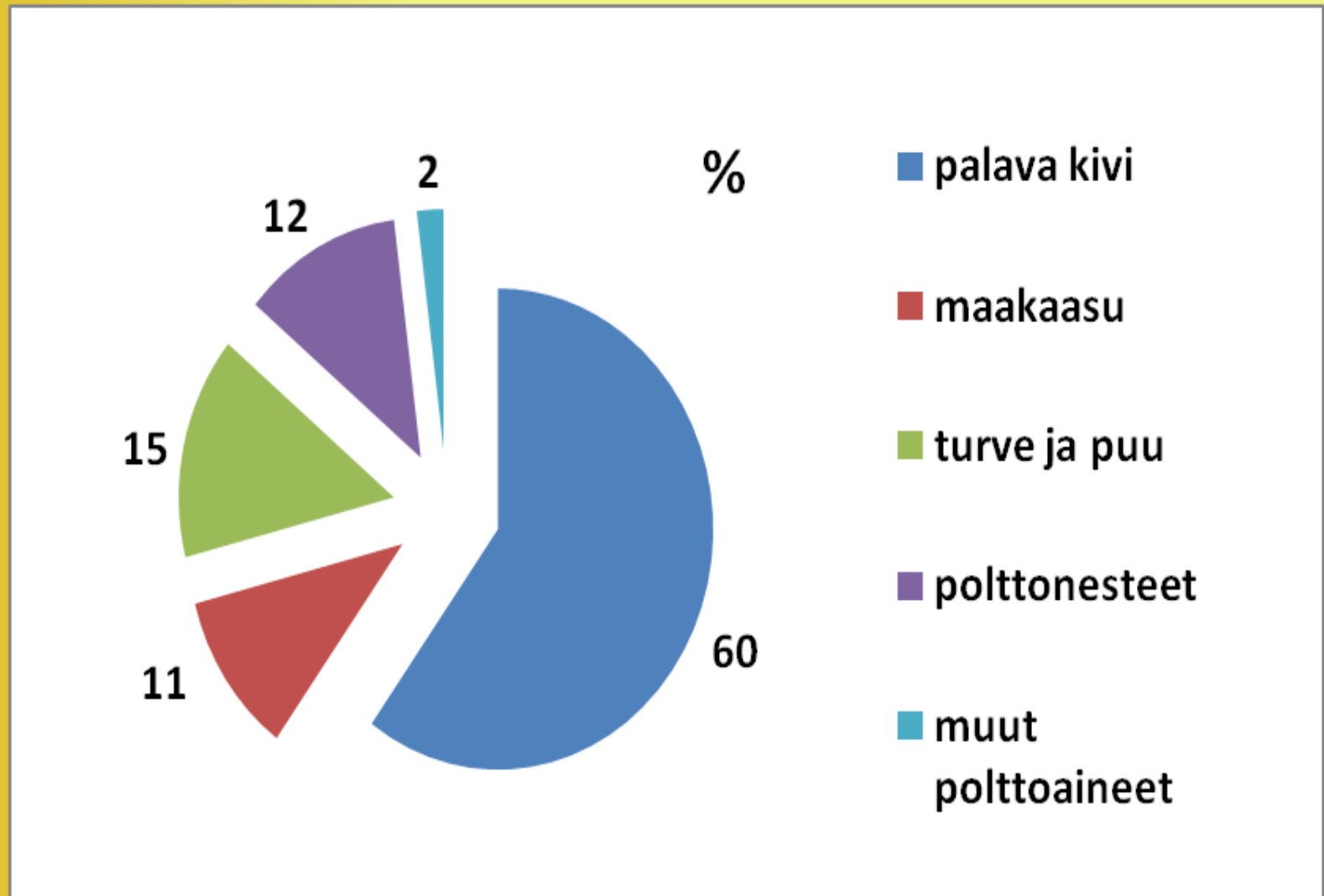
kaasun kulutus henkeä kohti m³/vuodessa



Kaasun myynti kuluttajaryhmissä %



Primäärienergian kulutus



Energia kehittämissuunnitelma 2020

- Hyväksyttiin parlamentissa 15.06.2009
- Palava kivi – 30 %, Muut polttoaineet – 20 %
- LNG terminaali – 2018
- Kaukolämpö - polttoaineiden moninaisuus, yhden osuus – 20 %. (maakaasu 2009 – 45 %)
- Maakaasun direktiivi - omaisuuden erottaminen

LNG

- Vaihtoehto Venäjän kaasuun
 - energeettinen riippumattomuus (hallitus)
- Edullisempi kaasun hinta (asiakkaat)

	USA	Euroopa	Jaapan
	usd/1000m ³	usd/1000m ³	usd/1000m ³
okt.10	132	272	326
veebr.11	142	298	354
märts.11	ydinvoimalaitoksen onnettomuus Japanissa		
sept.11	138	438	584

Потенциальные терминалы приема сжиженного природного газа
 Эстонии
 The potential of liquefied natural gas terminals in Estonia



LEGEND:

- Потенциальный терминал приема сжиженного природного газа
Liquefied natural gas terminal
- Газоперерабатывающий завод
Gas distribution station
- Газопровод категории D
Category D gas pipeline
- - - - - Планируемый газопровод категории D
Planned category D gas pipeline

Maakaasun direktiivi - omaisuuden erottaminen

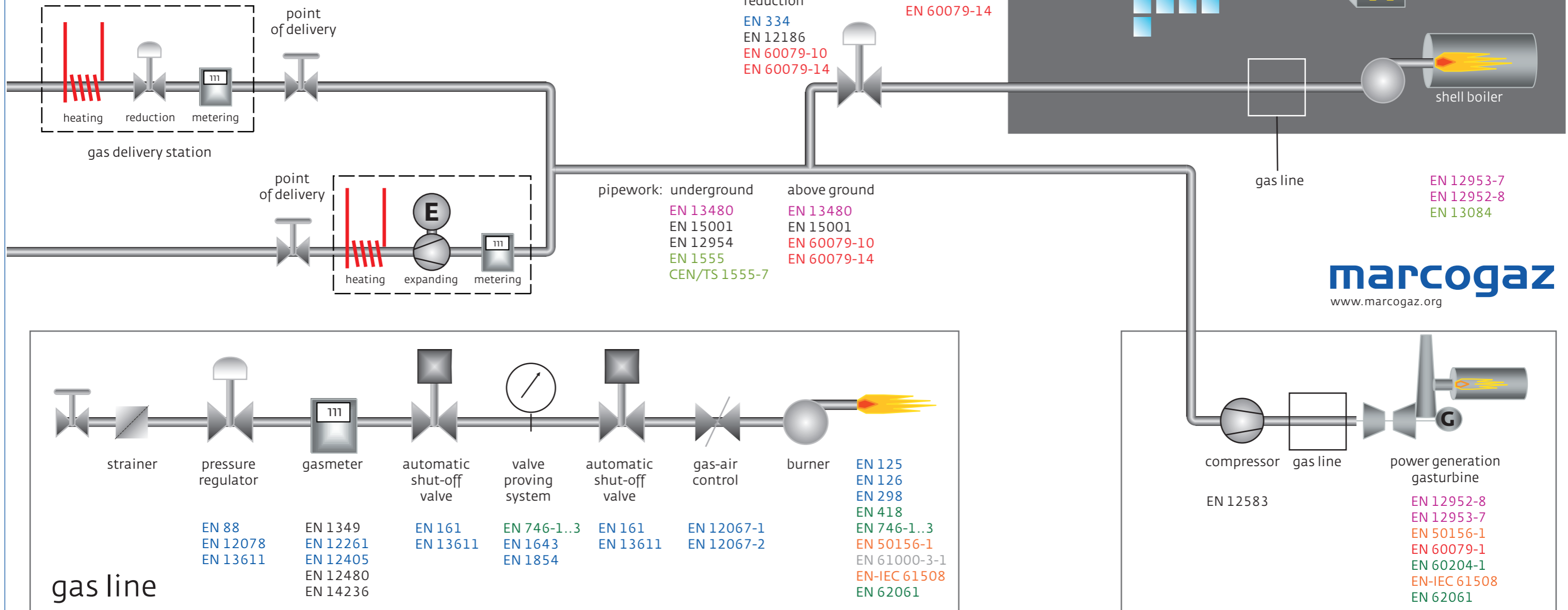
- Virolla on poikkeus (myös Latviassa ja Suomella)
- ITO – AS Eesti Gaas omistajien ehdotus
- ISO – yksi mahdollisuus jota direktiivi tarjoaa
- OU - Hallituksen suosikki

Kiitos !



EN standards for use in industrial gas installations

Composed by Gasunie



marcogaz
www.marcogaz.org

Directive/Standard	Description
98/37/EEC MD EN 418 EN 746-1	Machinery Directive Safety of machinery - Emergency stop equipment, functional aspects - Principles for design
EN 746-2	Industrial thermoprocessing equipment - Part 1: Common safety requirements for industrial thermoprocessing equipment
EN 746-3	Industrial thermoprocessing equipment - Part 2: Safety requirements for combustion and fuel handling systems
EN 60204-1	Industrial thermoprocessing equipment - Part 3: Safety requirements for the generation and use of atmosphere gases
EN 62061	Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:1997)
89/336/EEC EMC EN 61000-3-1 2004/108/EC	Electromagnetic compatibility (EMC) Electromagnetic compatibility (EMC)
94/9/EC ATEX EN 60079-10 EN 60079-14	Equipment explosive atmospheres (ATEX) Electrical apparatus for explosive gas atmospheres - Classification of hazardous areas Electrical apparatus for explosive gas atmospheres - Electrical installations in hazardous areas
97/23/EEC PED EN 12952-8 EN 12953-7	Pressure Equipment Directive Water-tube boilers and auxiliary installations - Part 8: requirements for firing systems for liquid and gaseous fuels for the boiler Shell boilers - Part 7: Requirement for firing systems for liquid and gaseous fuels for the boiler

Directive/Standard	Description
90/396/EEC GAD EN 88 EN 125	Gas Appliances Directive Pressure governors for gas appliances for inlet pressures up to 200 mbar Flame supervision devices for gas burning appliances - Thermo-electric flame supervision devices
EN 126 EN 161 EN 298	Multifunctional controls for gas burning appliances Automatic shut-off valves for gas burners and gas appliances Automatic gas burner control systems for gas burners and gas burning appliances with or without fans
EN 676 EN 1643 EN 1854 EN 12067-1 EN 12067-2 EN 12078 EN 12261 EN 12405 EN 13611	Automatic forced draught burners for gaseous fuels Valve proving systems for automatic shut-off valves for gas burners and gas appliances Pressure sensing devices for gas burners and gas burning appliances Gas/air ratio controls for gas burners and gas burning appliances - Part 1: Pneumatic types Gas/air ratio controls for gas burners and gas burning appliances - Part 2: Electronic types Zero governors for gas burners and gas burning appliances Gas meters - Turbine gas meters Gas meters - Conversion devices. Volume conversion Safety and control devices for gas burners and gas-burning appliances - General requirements

Directive/Standard	Description
93/38/EEC PPD EN 1775 EN 12186	Public Procurement Directive Gas pipe work for buildings - Maximum operating pressure < 5 bar Gas supply - Gas pressure regulating stations for transmission and distribution - Functional requirements
EN 12583 EN 12954	Gas supply systems - Compressor stations. Functional requirements Cathodic protection of buried or immersed metal structures. General principles and application for pipelines
EN 15001-1 EN 15001-2	pipework MOP 0,5 upto 60 bar for industrial gas installations, design and construction pipework MOP 0,5 upto 60 bar for industrial gas installations, commissioning and maintenance
73/23/EEC LVD EN IEC 61508	Low Voltage Directive Functional safety of electrical/electronic/programmable electronic safety related systems - Part 5: Examples of methods for the determination of Safety Integrity Levels
EN IEC 61511 EN 50156-1	Functional safety - Safety instrumented systems for the process industry sector Electrical equipment for furnaces and ancillary equipment Part 1: Requirements for application design and installation
92/42/EEC BED	Boiler Efficiency Directive Efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels
89/106/EEC CPD EN 13084 EN 1555 1-5 CEN/TS 1555-7	Construction Products Directive Free-standing chimneys Plastic piping systems for the supply of gaseous fuels Polyethylene (PE) Plastic piping systems for the supply of gaseous fuels Polyethylene (PE) Guidance for assessments of conformity