



FEDERCHIMICA

ASSOGASLIQUIDI

Associazione nazionale imprese gas liquefatti

Safety in the Italian LPG and LNG industry

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Who's Assogasliquidi

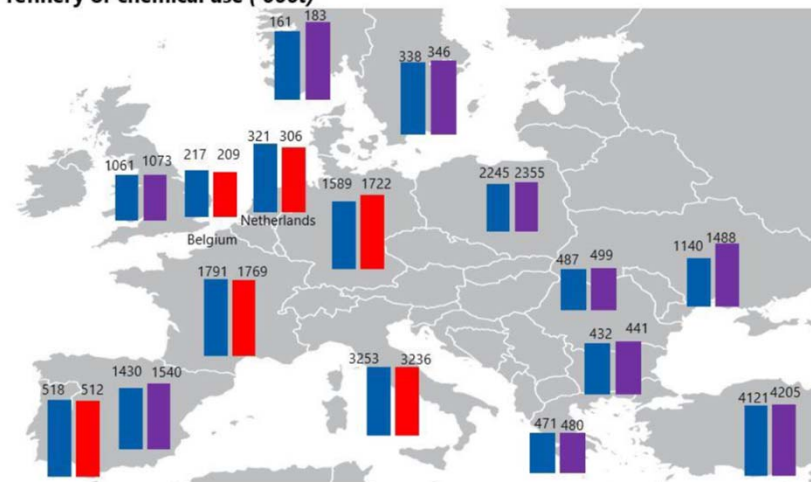
- The Italian liquefied gas association
- We represent LPG and LNG distributing companies
- We have more than 100 members
- We are member of the European LPG Association (AEGPL) and of the World LPG Association (WLPGA)

The Italian Market

Italian LPG market is one of the largest in Europe

- More than 3 million tons/year
- More than 7 Million domestic customers
- More than 28 million cylinders
- More than 2,2 million cars running with LPG
- More than 3900 LPG stations

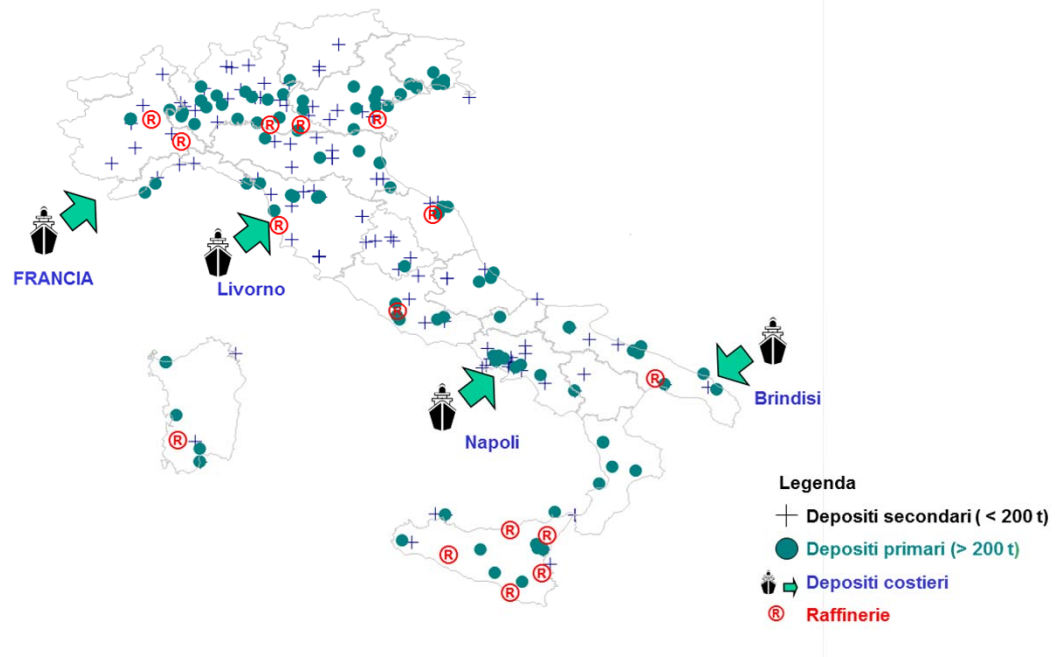
Total LPG consumption in selected European countries 2015 and 2016 without refinery or chemical use ('000t)



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The Italian logistic

- More than 530 distributing companies
- About 440 storage facilities
- 222 Seveso sites
 - ✓ 104 upper tier
 - ✓ 118 lower tier





The national framework

- SEVESO
- Fire prevention regulation
- LPG national distribution regulation



Fire Prevention - DM 13/10/1994

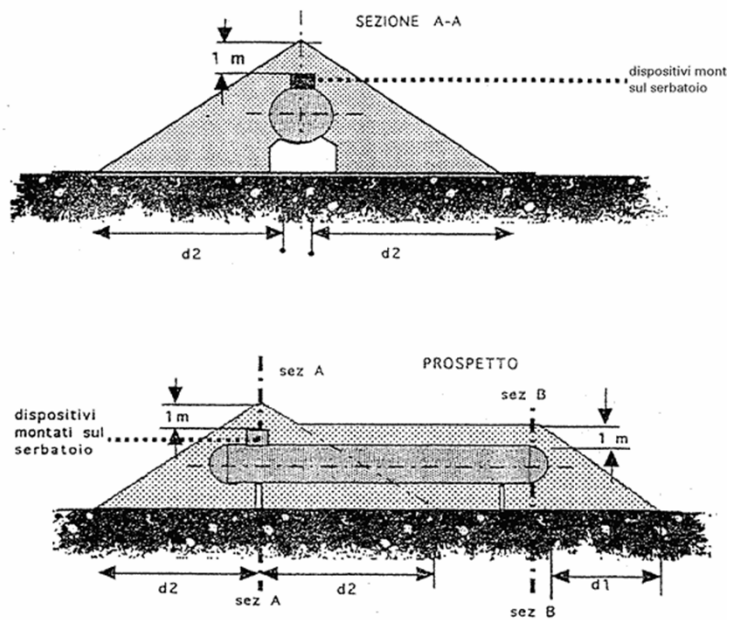
“Technical regulation of fire prevention for the design, construction, installation and operation of LPG deposits in fixed tanks with a total capacity exceeding 5 m³ and/or in mobile containers of a total capacity exceeding 5000 kg”

Defined hazardous elements of the plant:

- Loading arms
- Tanks
- Areas of storage (empty or filled cylinders)
- Pumps, compressors, liquid meters
- Bottling equipment
- Vaporizers
- Tankers and railcars

These elements are used to define different safety distances to be respected in design and operation phases

Tank installation and distances



Tank installation



Water reserve



Operational measures

Strong commitment on training of the personal with specific training programs for the key figures.

- Mandatory requirements for main loading/unloading activity
- Mandatory requirements for bottling activities

LPG national distribution regulation

- The regulation aims at increasing the level of safety of the LPG sector introducing precise requirements for the distribution companies
- The regulation covers the administrative aspects of the installation and the exercise of LPG depots and of the product distribution

LPG national distribution regulation

- Administrative burdens are a good lever to increase the safety level of the distributing companies:
- From 2006 on, the minimum size for new storages is 100 m³
- Each company shall «have» a storage depot to access to the final market
- The minimum storage volume available is related to the total volume of cylinders (10%) or bulks (3%)



LPG national distribution regulation

- The regulation imposes the enlargement of some Seveso requirements (SGS) to exempted storage depots (below 50 t) and enlarge to those depots Seveso inspections' regime too.

SEVESO

Upper-tier establishment: inspection planned at national level by Ministry of Interior. If not else specified, frequency between two subsequent inspections ≤ 1 year

Lower-tier establishment: inspection plan evaluated at regional level. If not else specified, frequency between two subsequent inspections ≤ 3 years

Criteria for inspection planning (Appendix 1):

- substances and processes
- previous inspection results
- near-miss, incidents analysis
- geographical contour conditions
- presence of other relevant risk establishments
- potential environmental impact



SEVESO

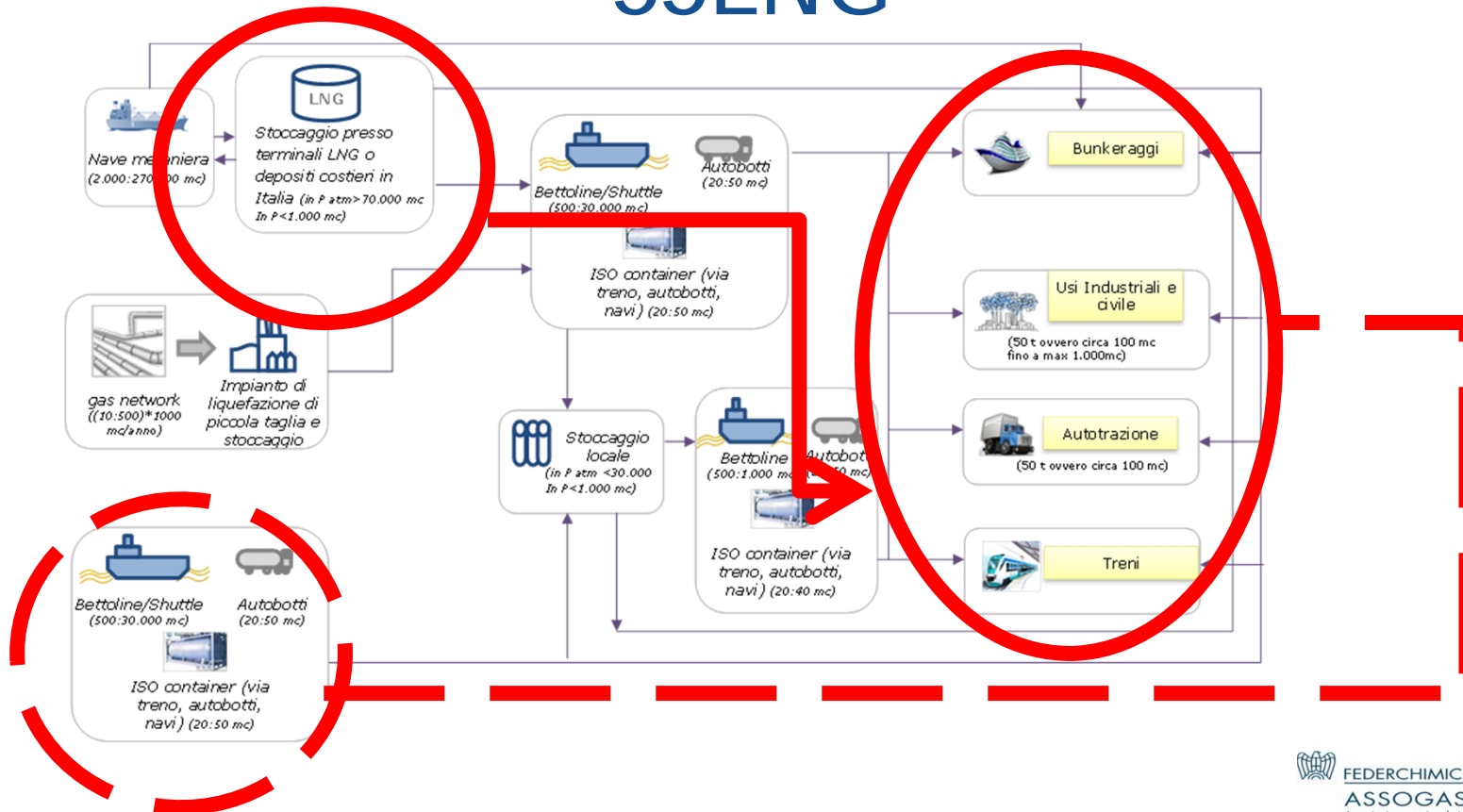
The establishment operator shall fill in a checklist related to safety management system inspection and send it to technical authority (CTR) for preliminary evaluation. There are two kinds of checklist, for:

- complex establishments
- simple, highly standardized establishments (i.e. LPG) → no chemical or physical transformation processes

The checklist is analyzed through:

- individuation of critical elements and operational experience analysis
- collection of evidences (feedback): interviews to employees, documents examination, *in situ* operation analysis
- findings (observations)
- definition of non compliances

SSLNG



In conclusion

Safety is a combination of elements

- Hardware
- Knowledge
- Skills
- Organization

Close collaboration of Competent Authorities and Industry is the key factor for a continuous growth of safety levels in the SEVESO sites.

Many Thanks
for Your Attention

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