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# NEW NUCLEAR PROJECTS IN THE CONTEXT OF EURATOM REQUIREMENTS

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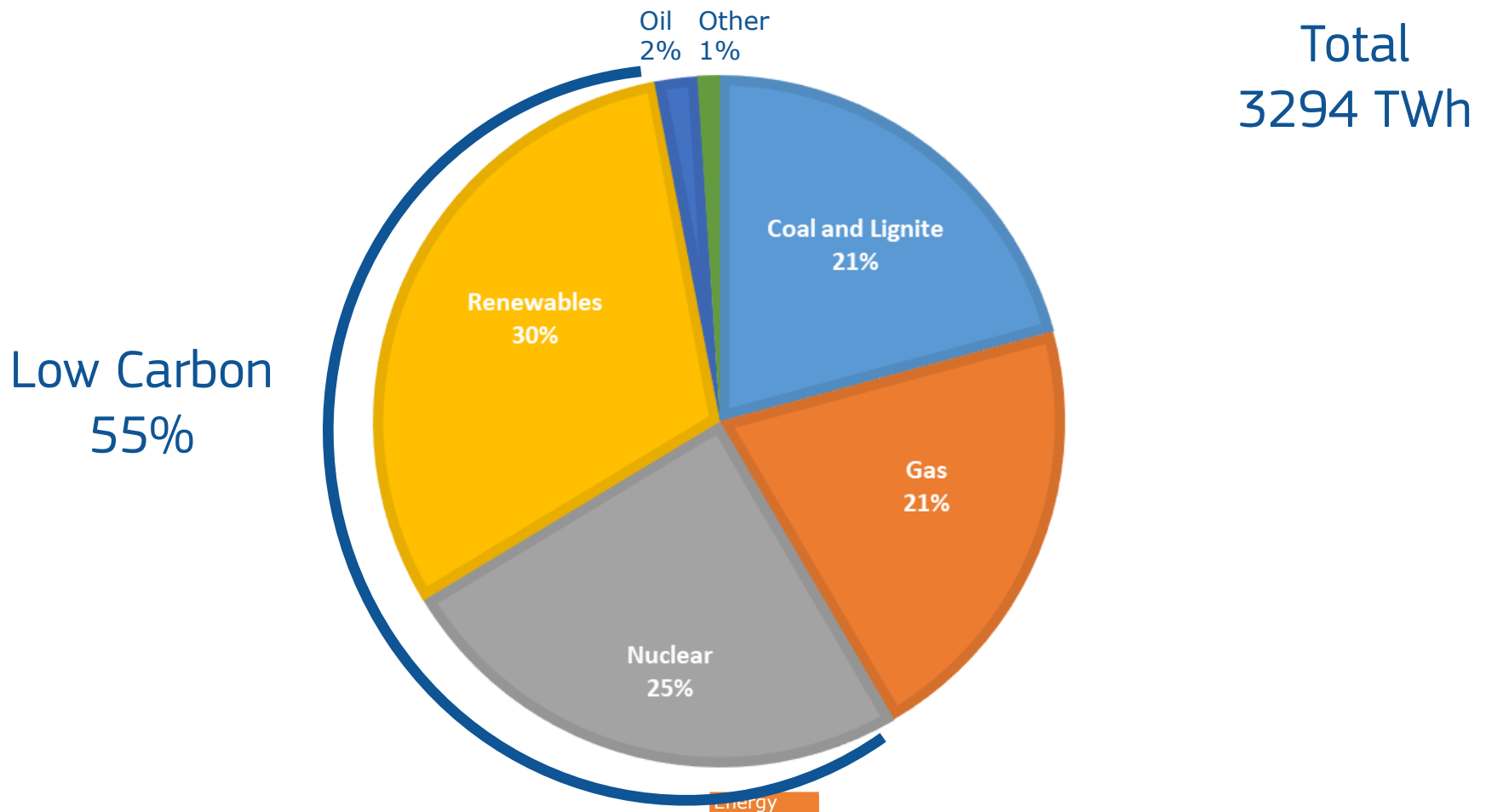
**NE•RS  
2019**



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# Nuclear Power in the electricity mix

## EU-28 gross electricity generation in 2017



# Climate and energy targets 2020–2050

2020

20%  
greenhouse  
gas reduction

20%  
renewable  
energy

20%  
energy  
savings

**Contribution  
of nuclear:**

2030

>40%  
greenhouse  
gas reduction

32%  
renewable  
energy

32.5%  
energy  
savings

**Low carbon  
source**

2050

COM's  
long-term  
strategic  
vision

80 - 100%  
greenhouse  
gas reduction

estimated 85%  
renewable  
energy  
15% nuclear

**Security of  
energy supply**

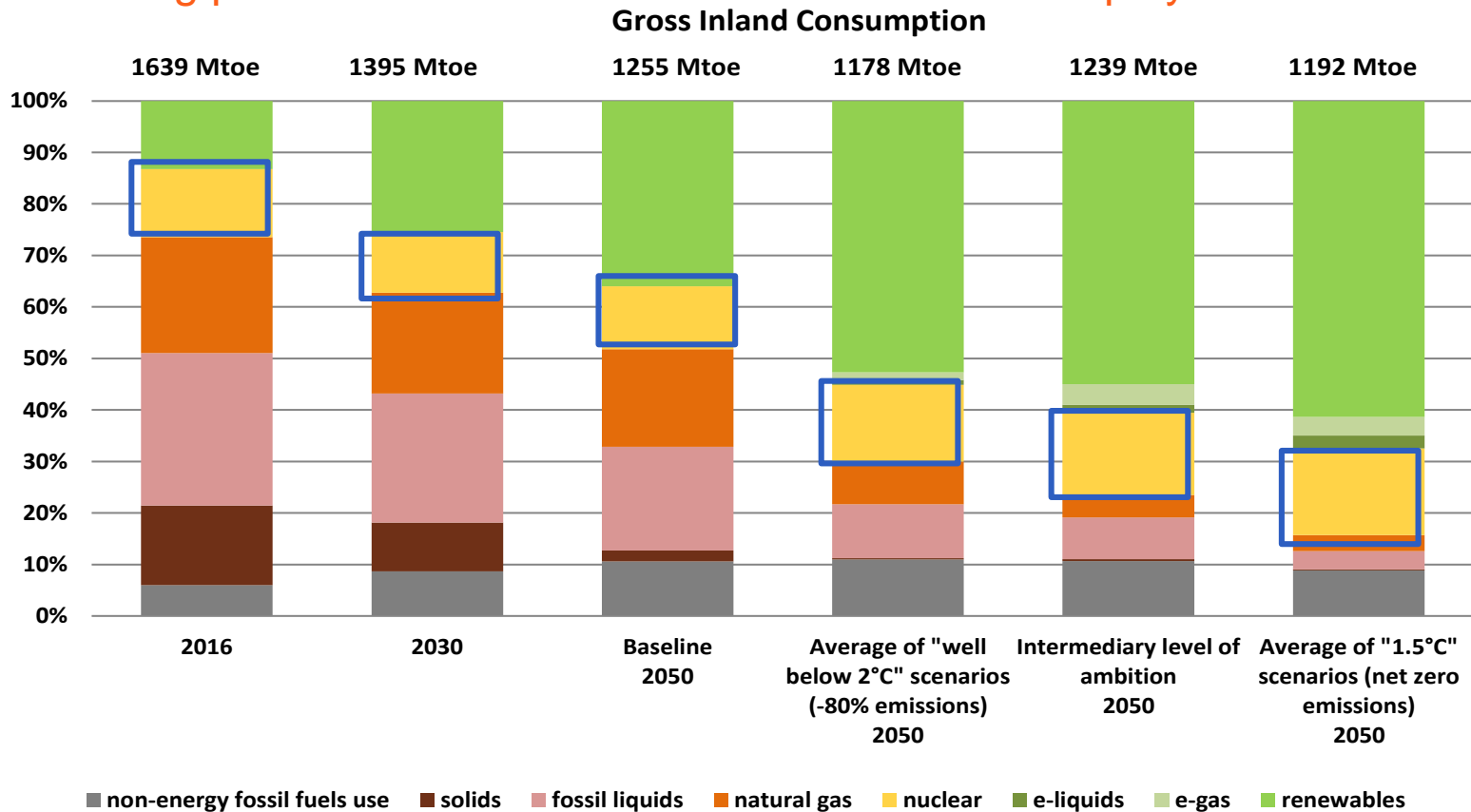
**Network stability:  
reliable baseload  
supply**



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# Our vision for the Power Sector

Power is nearly decarbonised by 2050 in scenarios provided.  
Strong penetration of Renewables and Nuclear still plays a role





# The initial 3 Communities

Three founding treaties, establishing:

**European Coal and Steel Community  
(1951–2002)**

**European Economic Community  
(1957)**

**European Atomic Energy Community  
(1957)**

# EU/EA relationship

Separate legal  
personalities

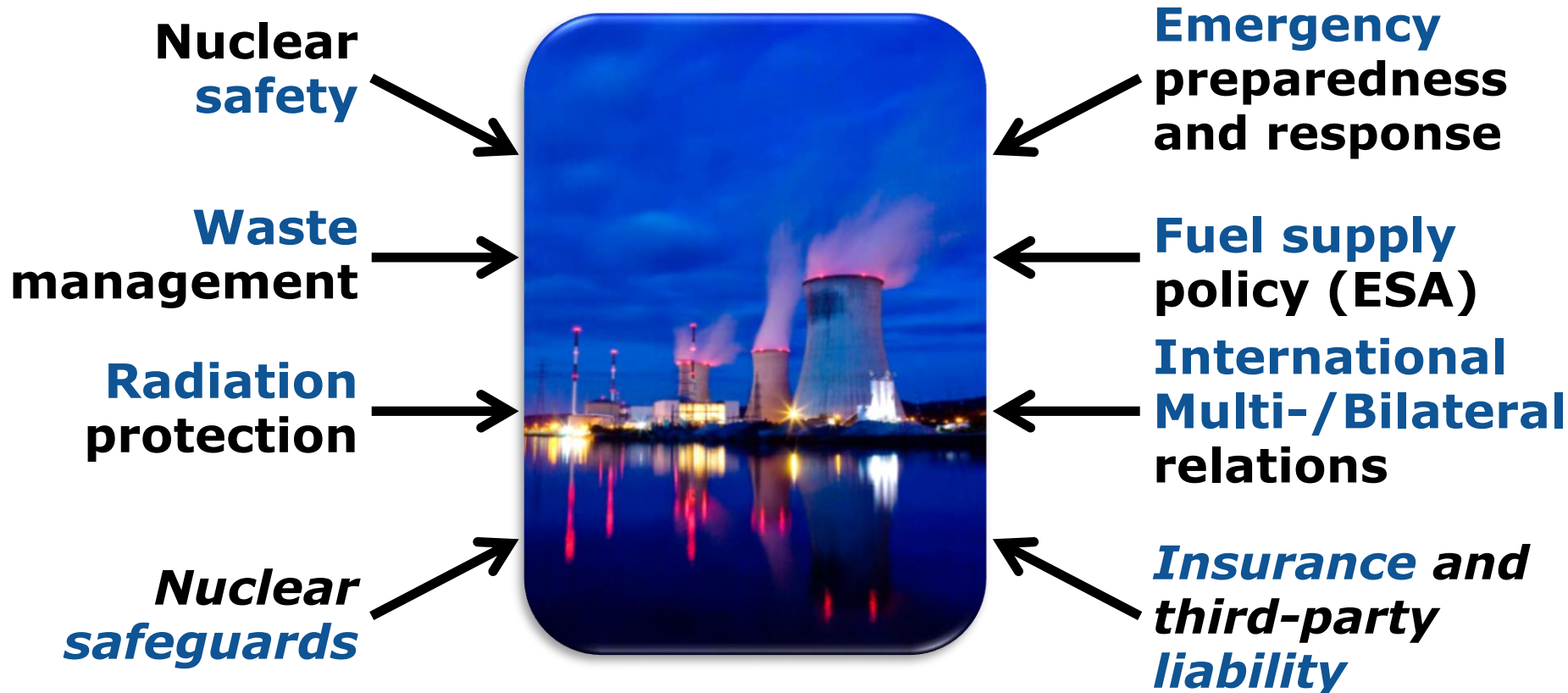


**European Union  
(TEU, TFEU)**

**Euratom  
(EA)**

Common institutions

## Euratom Treaty competences



# Main requirements of the Euratom Treaty & TFEU applicable to new nuclear projects

## Euratom Treaty

NSD  
RWD  
BSSD

Art.  
**37**

Art.  
**41**

Art.  
**78**

## TFEU

**COMP**  
Art. 107-109

**GROW**  
Directives:  
2014/0024/EC  
2014/0025/EC

**ENV**  
Directive  
2011/92/EU



# Main Euratom **secondary law requirements** applicable to new projects

## **Nuclear Safety Directive**

(2009/71/Euratom as amended by 2014/87/Euratom)

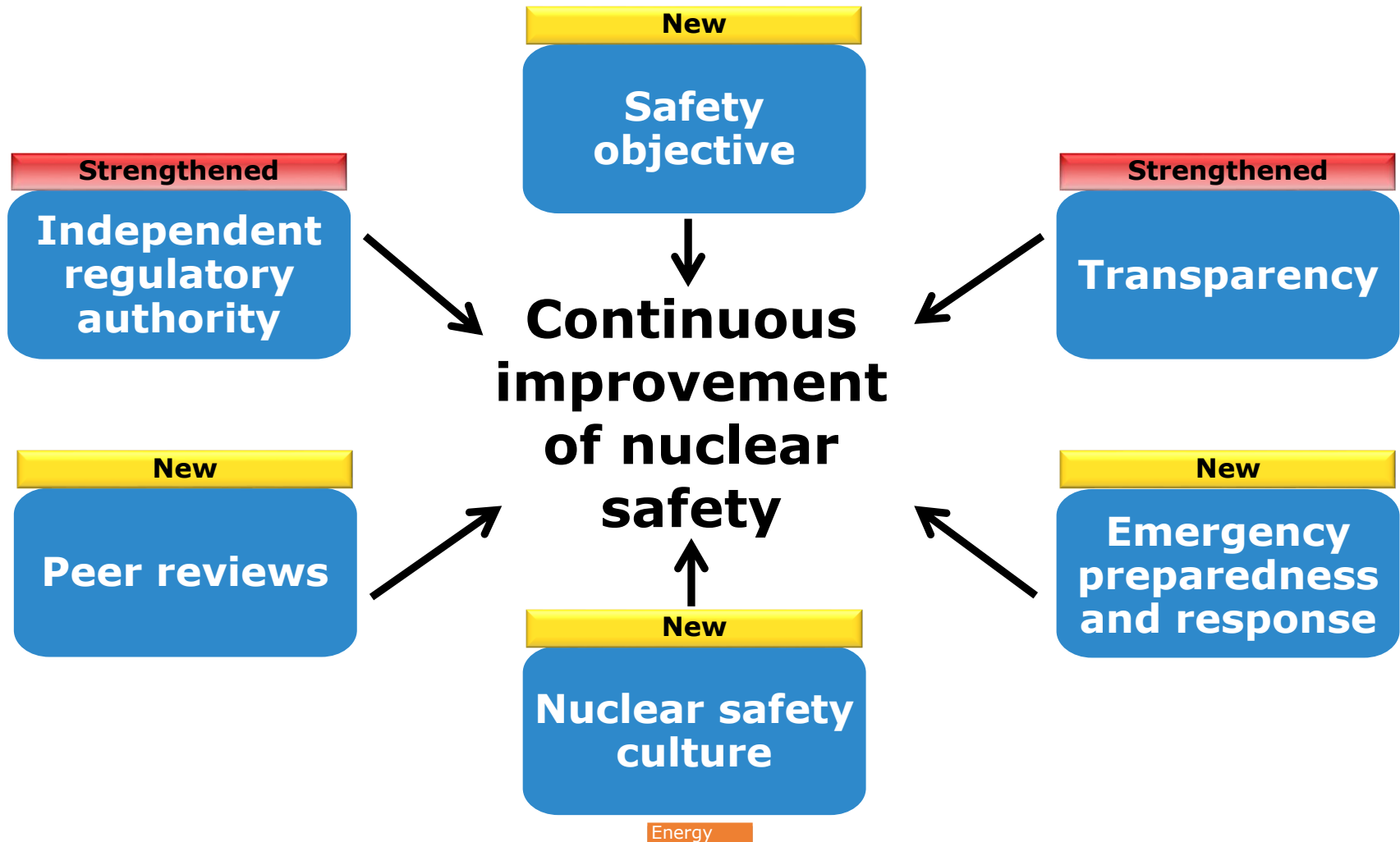
## **Basic Safety Standards Directive**

(2013/59/Euratom)

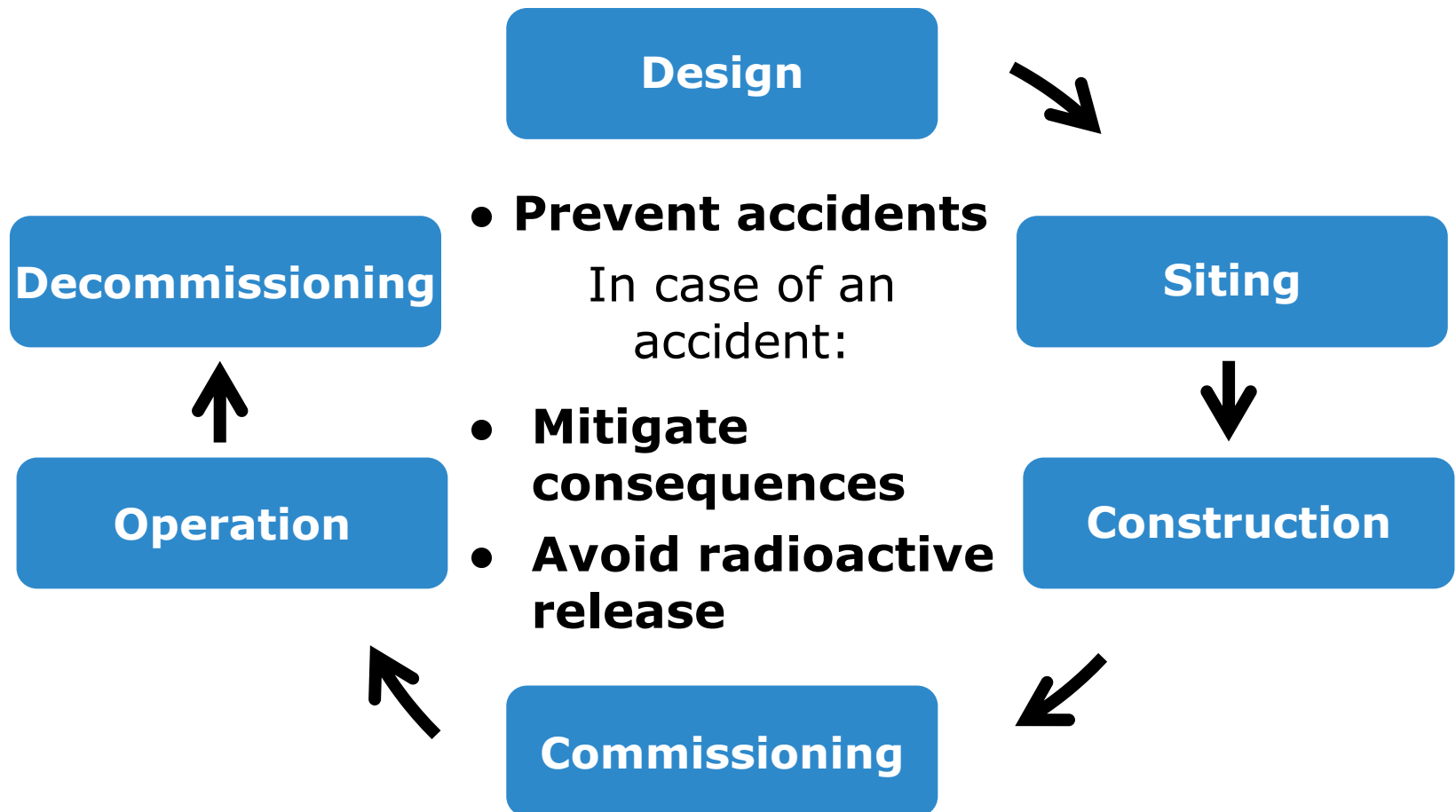
## **Radioactive Waste Directive**

(2011/70/Euratom)

# 2014 Amended Nuclear Safety Directive



## NSD : Safety objective for new NPPs

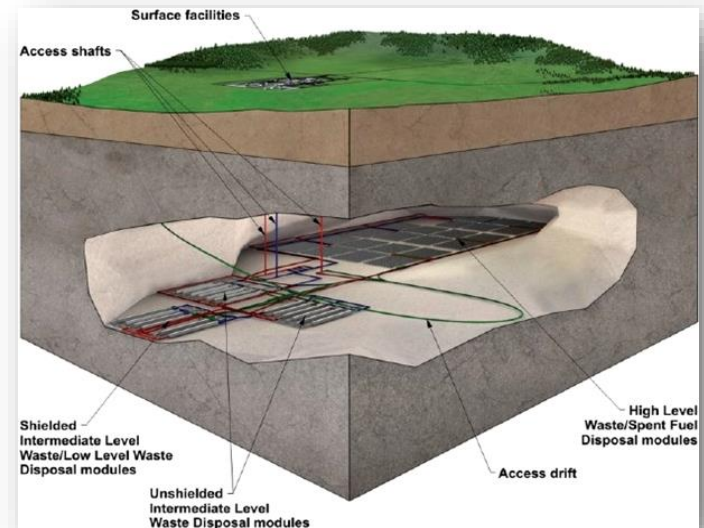


## ***NSD on the nuclear safety objective***

*"In particular, this objective calls for **significant safety enhancements** in the design of new reactors for which the **state of the art knowledge and technology** should be used, taking into account the **latest international safety requirements.**"*

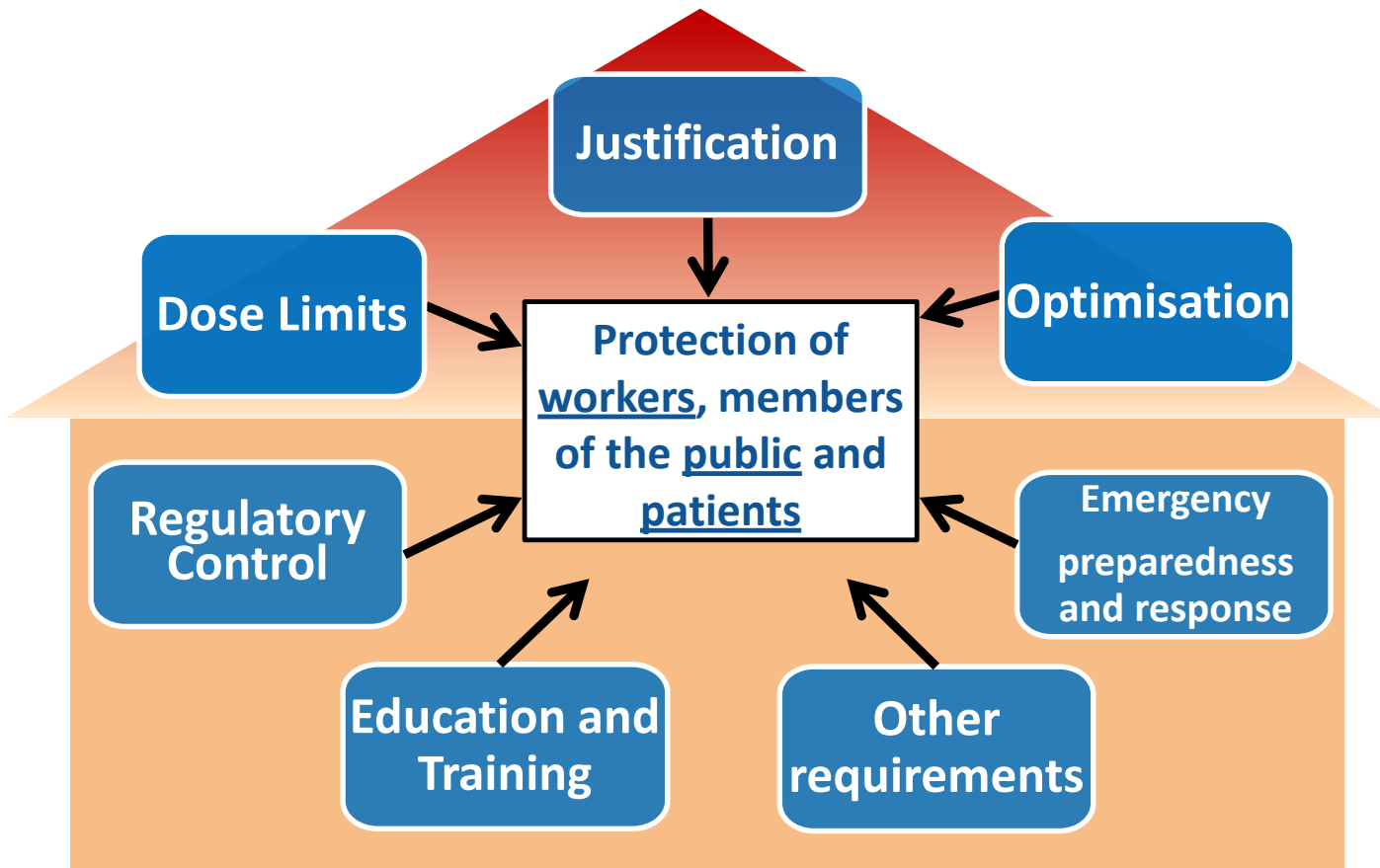
# Radioactive Waste Directive (2011)

- **Legally binding and enforceable standards for managing radioactive waste and spent fuel**
- **By August 2015: National programmes**
- **Strict control of exports of spent fuel and radioactive waste (outside EU)**



# Radiation Protection

## Basic Safety Standards Directive (2013)



## **3 notification obligations applicable to new nuclear projects under Euratom Treaty**

- **Member States:** provide the Commission with data relating to plans for the **disposal of radioactive waste (Article 37)**
- **Investors:** communicate to the Commission **investment projects (Articles 41-44)**
- **Operators: safeguards obligations:** **declaration of technical characteristics, accounting for ores... (Article 78 and foll.)**



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## Article 37 EA: disposal of radioactive waste – transboundary contamination

Each Member State **shall** provide the Commission with such general data relating to any **plan** for the **disposal of radioactive waste in whatever form** as will make it possible to determine whether the implementation of such plan is liable to result in the radioactive **contamination** of the water, soil or airspace of **another** Member State.

The Commission **shall** deliver its opinion within six months, after consulting the group of experts referred to in Article 31.

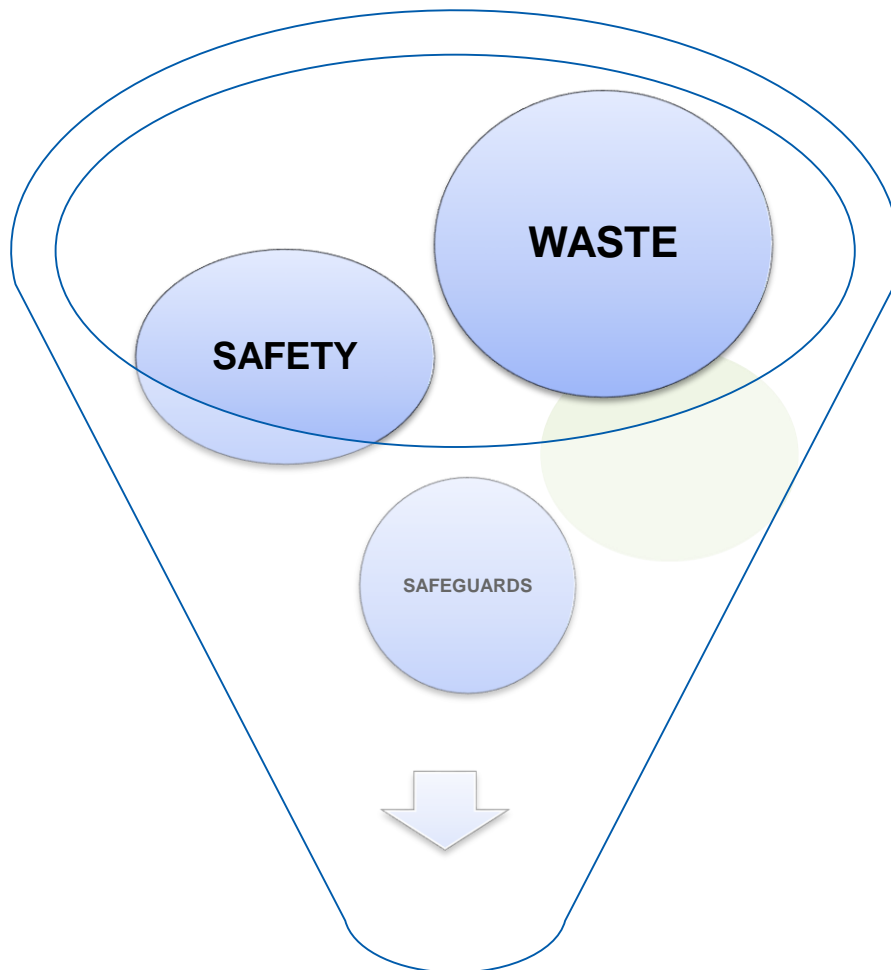
- **Responsibility on the Member State**
- **Plan: prospective** in nature (the article does not apply retroactively, it is an *ex ante* assessment).
- **Disposal of radioactive waste in whatever form: planned discharges and accidental releases of radioactive substances, in gaseous, liquid or solid form into the environment.**
- Article 37 is part of Chapter 3 of the Treaty, titled "Health and Safety." Hence, the word contamination covers the notion of **radiological impact from the point of view of health.**

Application of Art. 37: Commission Recommendation 2010/635/Euratom



## **Article 41 EA: Investment notification**

**"Persons and undertakings engaged in the industrial activities listed in Annex II to this Treaty shall communicate to the Commission investment projects relating to new installations and also to replacements or conversions which fulfil the criteria as to type and size laid down by the Council on a proposal from the Commission."**



**Commission  
ARTICLE 41  
Point of View**

- Council Regulation (Euratom) No 2587/1999
  - ❑ *Types of projects*
  - ❑ *Thresholds*
- Commission Regulation (EC) No 1209/2000
  - ❑ *Contents*

# Investments under Article 41 Euratom Treaty (Annex II), and related thresholds (Million €)

	New	Replacement and conversion
1. Mining of uranium and thorium ore	40	20
2. Concentration of such ores	40	20
3. Chemical processing and refining of uranium and thorium concentrates	40	20
4. Preparation of nuclear fuels, in any form	20	10
5. Fabrication of nuclear fuel elements	20	10
6. Production of uranium hexafluoride	20	10
7. Production of enriched uranium	140	70
8. Processing of irradiated fuels for the purpose of separating some or all of the elements contained therein	140	70
9. Production of reactor moderators	40	20
10. Production of hafnium-free zirconium or components thereof	20	10
<b>11. Nuclear reactors</b> of all types and for all purposes	<b>100</b>	<b>40</b>
12. Facilities for the industrial processing of radioactive waste, set up in conjunction with one or more of the facilities specified in this list; and <b>facilities for treatment, storage or disposal of radioactive waste</b>	50	20
13. Semi-industrial installations intended to prepare the way for the construction of plants involved in any of activities in sectors 3 to 10	20	10

Article 41 EA procedure



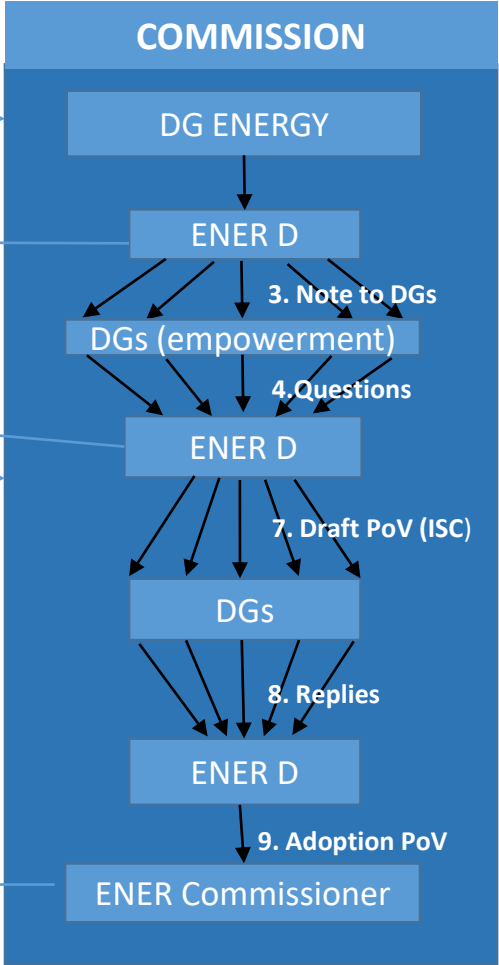
1. Notification

2. Acknowledgement

5. Questions

6. Answers/meeting

10. Point of View



# Article 41 PoV

Project aims

Project financing

Spent fuel, waste &  
decommissioning

Security of supply

Safeguards

Radiation protection  
& EP&R



# EURATOM Safeguards

**NOT:** reactor **safety!**

**NOT:** nuclear **security!**

**Euratom Safeguards** are the EU-wide controls of **civil nuclear materials**.

**150 inspectors** are verifying **590.000 tons** of nuclear material in the EU every year, ...

- ✓ ... **reassuring European citizens** that nuclear materials are not diverted.
- ✓ ... **providing trust at international suppliers** in the peaceful use of their materials.
- ✓ ... **contributing to the global efforts** under the UN nuclear Non-proliferation Treaty.



Articles 77 EA and foll.  
Article 78 (notification)  
Commission Regulation (Euratom) No 302/2005  
on the application of Euratom safeguards

## **Article 77:**

The Euratom Community shall make certain that **nuclear materials are not diverted** from their intended uses.



## **Article 78:**

“Anyone **setting up or operating an installation** for the production, separation or other use of source materials or special fissile materials or for the processing of irradiated nuclear fuels **shall declare to the Commission the basic technical characteristics of the installations**, to the extent that knowledge of these characteristics is necessary for the attainment of the objectives set out in Article 77.”

“The **Commission must approve** the techniques to be used for the chemical processing of irradiated materials [...]”



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***Thank you!***