

Distributing the Costs of Nuclear Core Melts

-Japan's Experience after 7 Years-

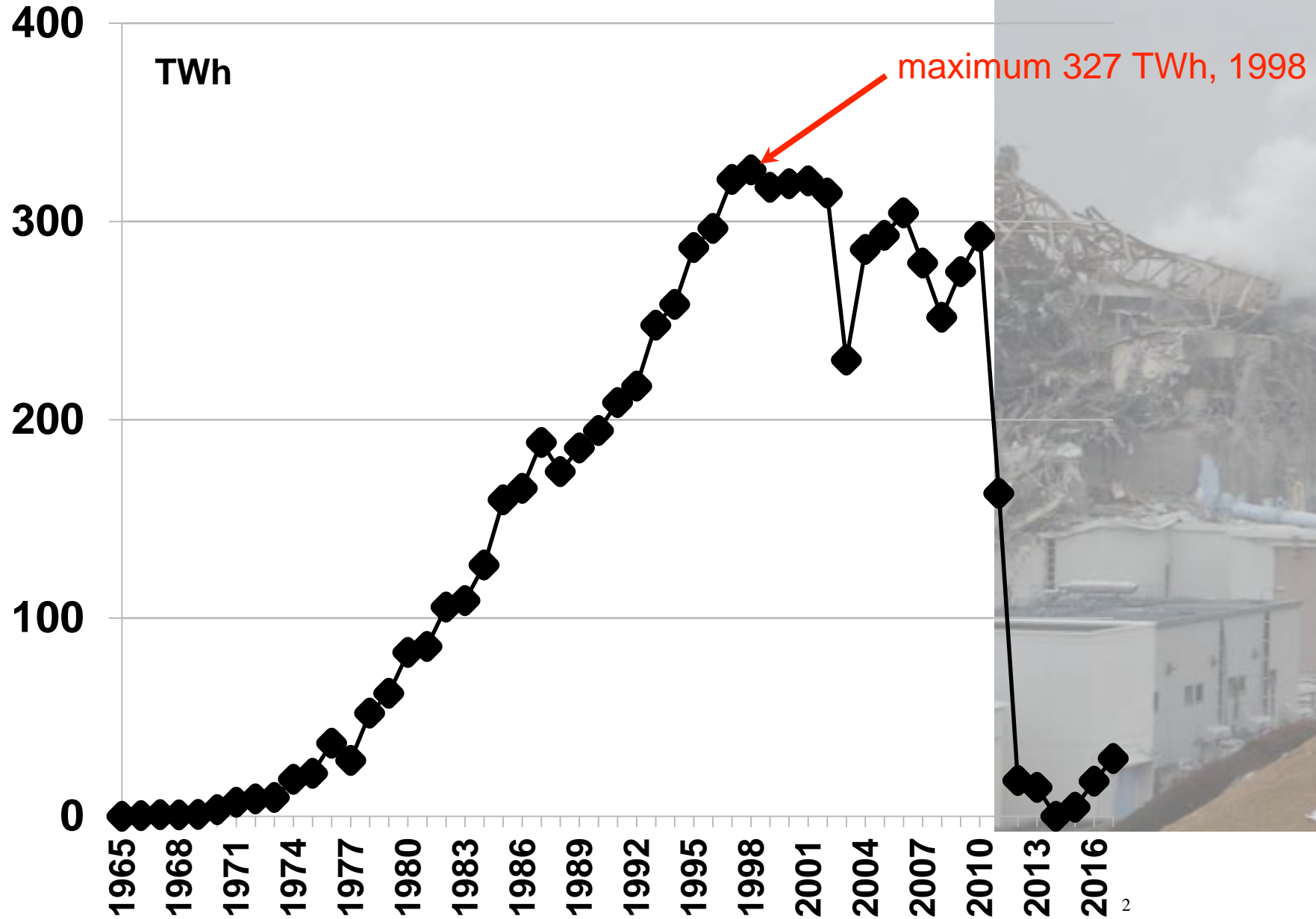
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Tomas.kaberger@chamers.se

Electricity generation by nuclear reactors in Japan 1965-2017



Aim of July 2018 Strategic Energy Plan:

Re-establishment of the nuclear energy policy

While:

Fukushima accident cost are increasing

Our topic:

How are Fukushima costs managed?

The source: TEPCO's business plans

- Fukushima dai-ichi is officially not a cost to the government.
- Instead, included in TEPCO's business plans. "Act on Compensation for Nuclear Damage".
- Business plans provided in 2012, 2014, and 2017

The Estimated Costs of Fukushima Accidents

250

200

150

100

50

0

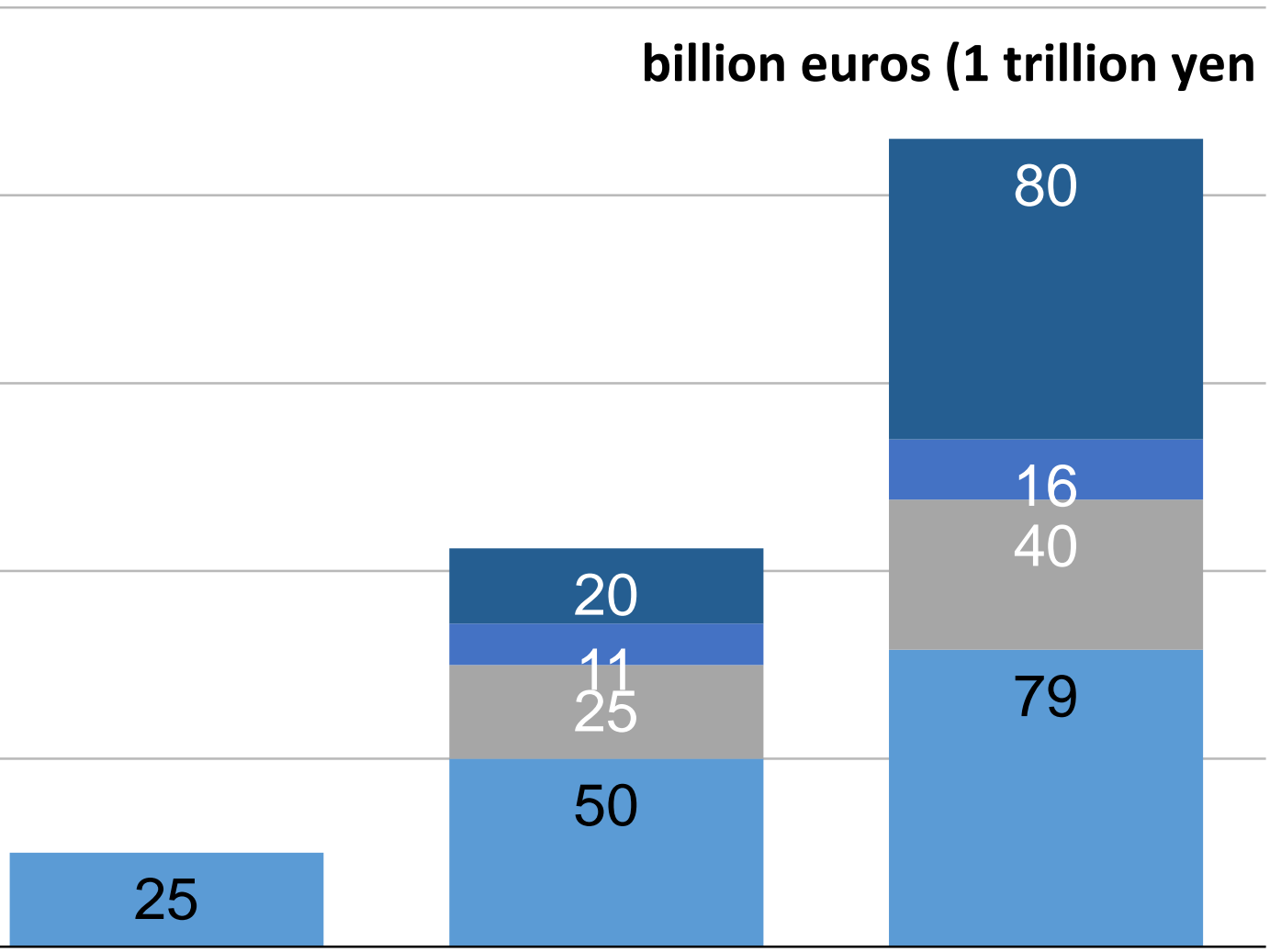
billion euros (1 trillion yen = 10 billion euros)

- Decommissioning
- Interim Storage
- Decontamination
- Compensation

2012

2014

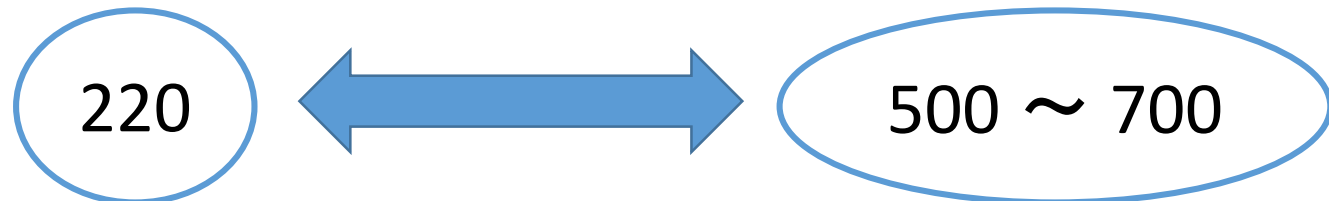
2017



Japan Center for Economic Research (JCER)

billion euros (1 trillion yen = 10 billion euros)

	GoJ	JCER (1)	JCER (2)
Decommissioning	80	320	110
Compensation	80	80	83
Decontamination & Interim Storage	60	300	300
Total	220	700	493



Health effects

- Economics measures of health costs are not included in the official cost estimates.

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25

20

11

25

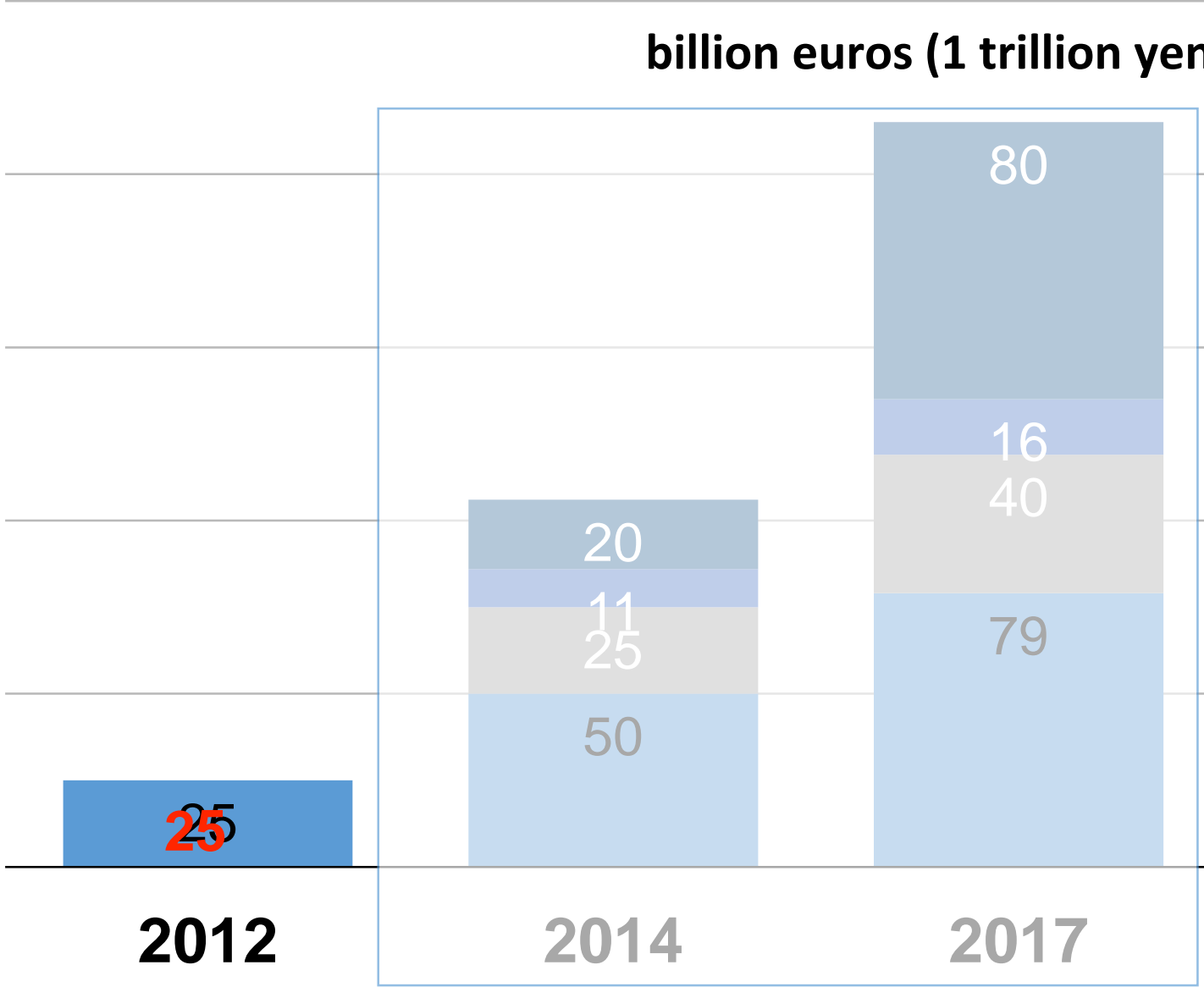
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80

16

40

79



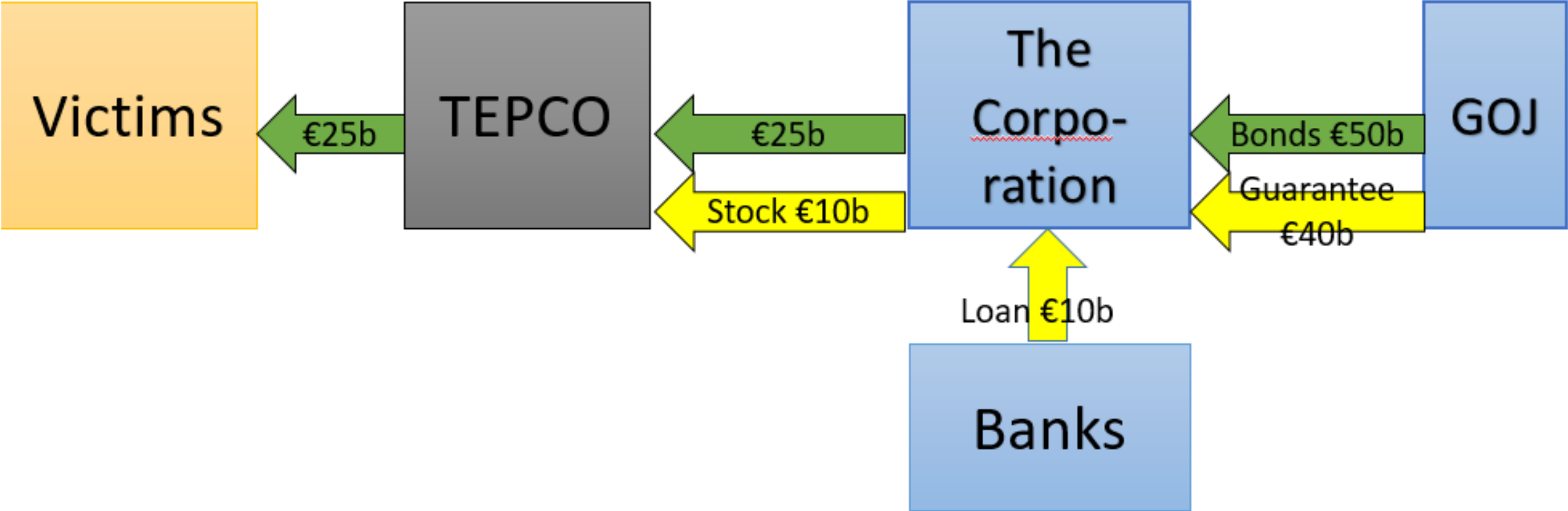
Moreover, in order to make TEPCO able to pay for its **ongoing business activity**, such as buying additional fuels and paying interests to banks,

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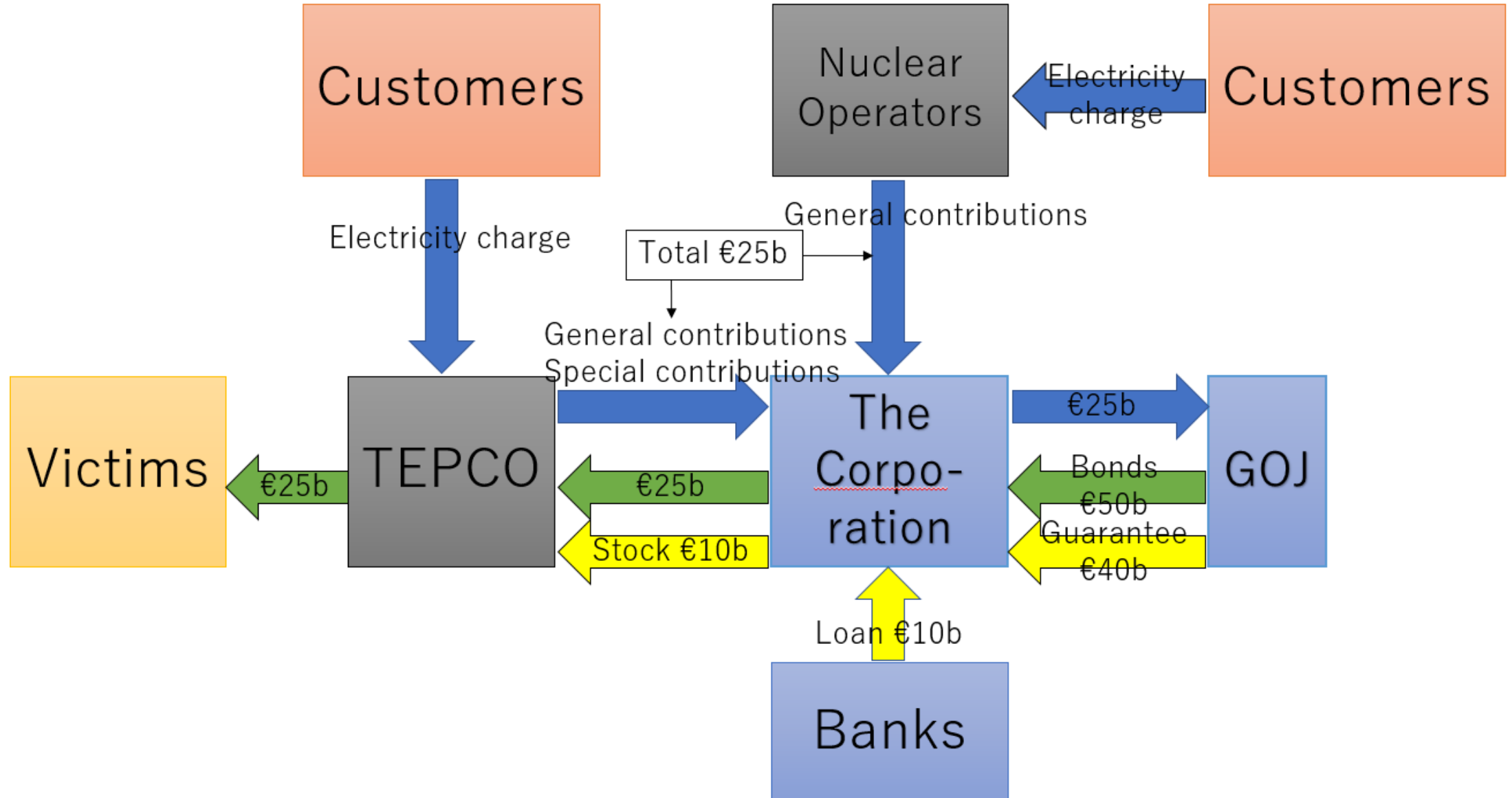
€10 billion

*This amount is not included in the nuclear accident cost today.

Who is paying/going to pay the €25 billion?



How to ensure the pay back?



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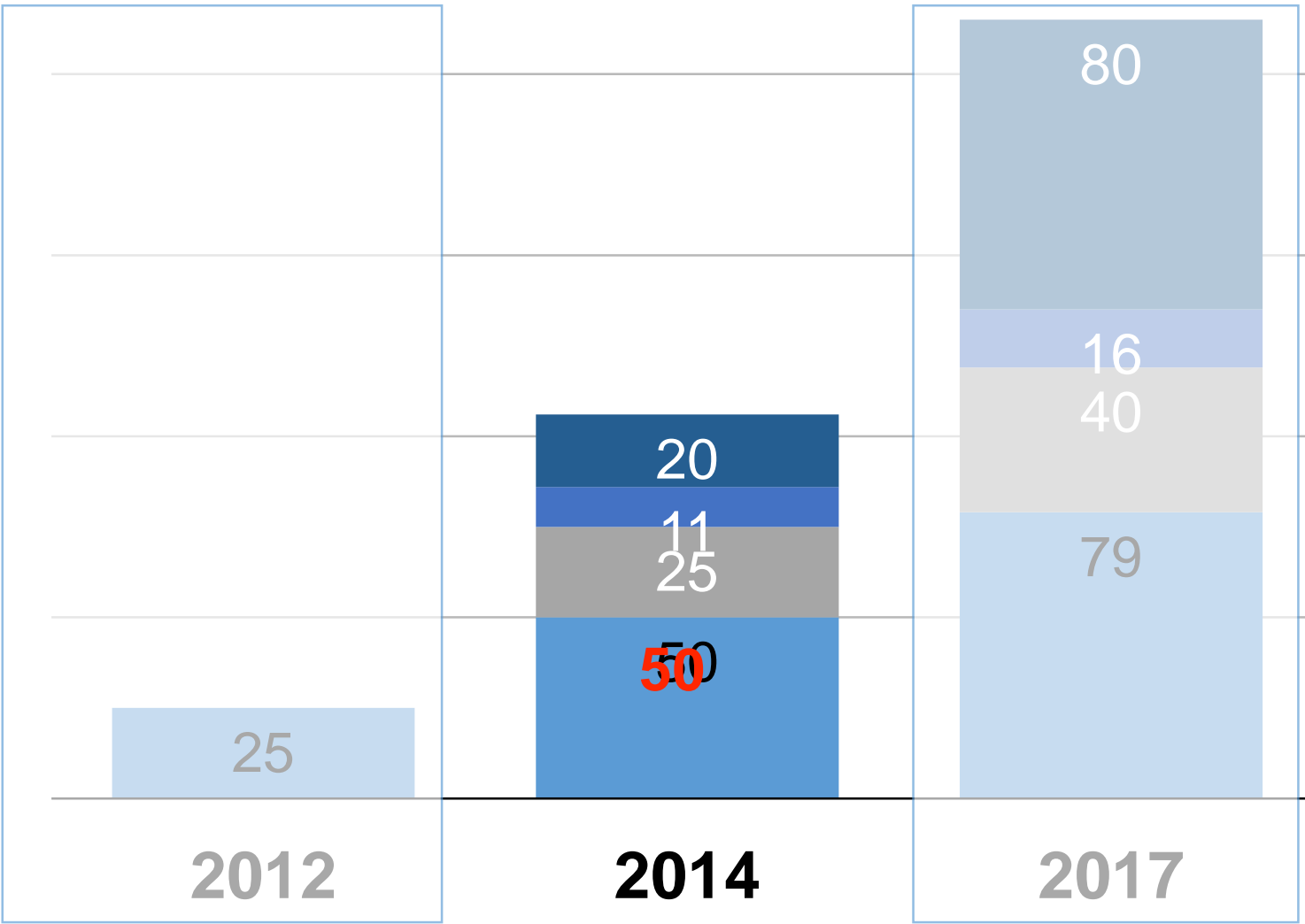
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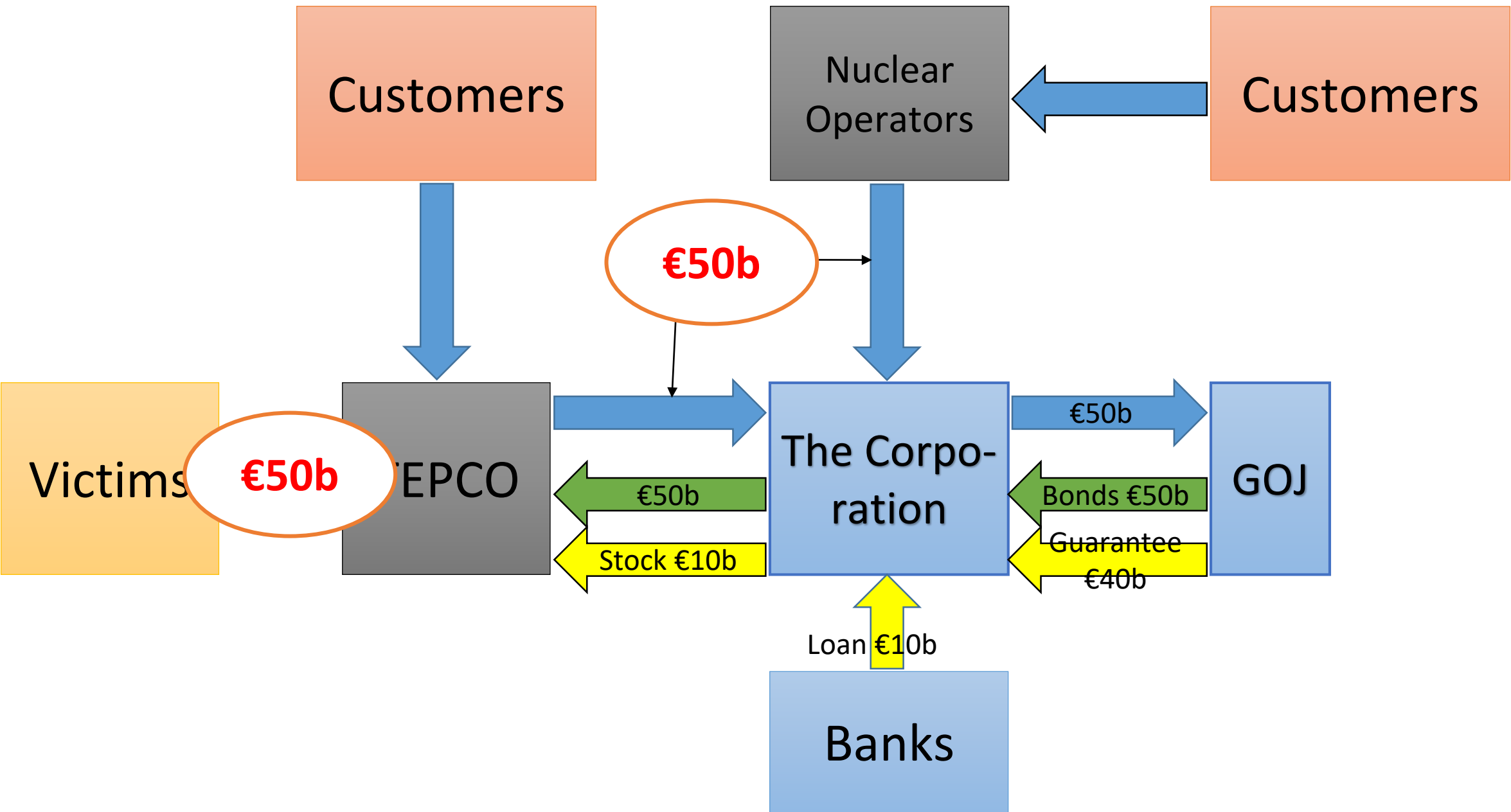
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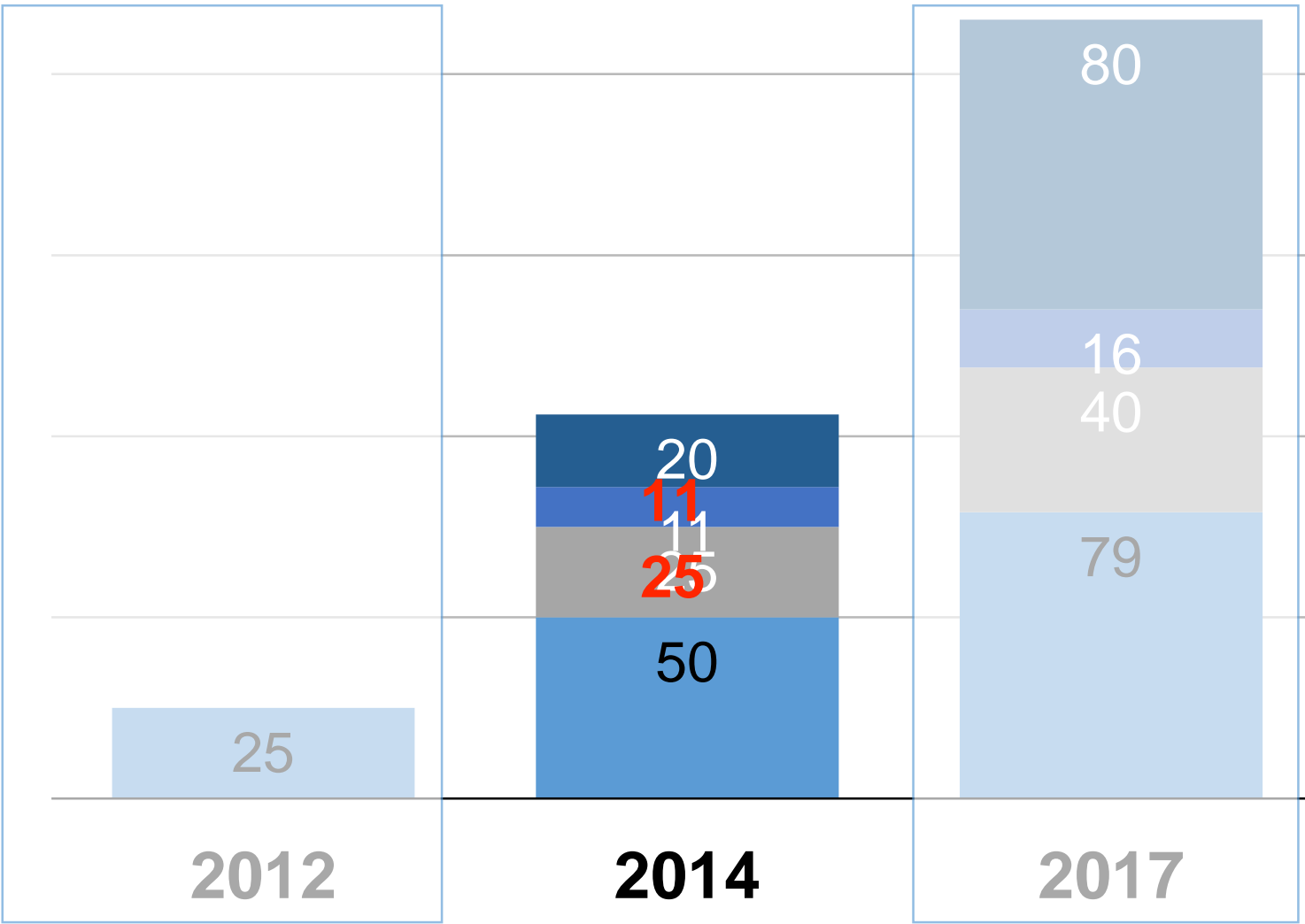
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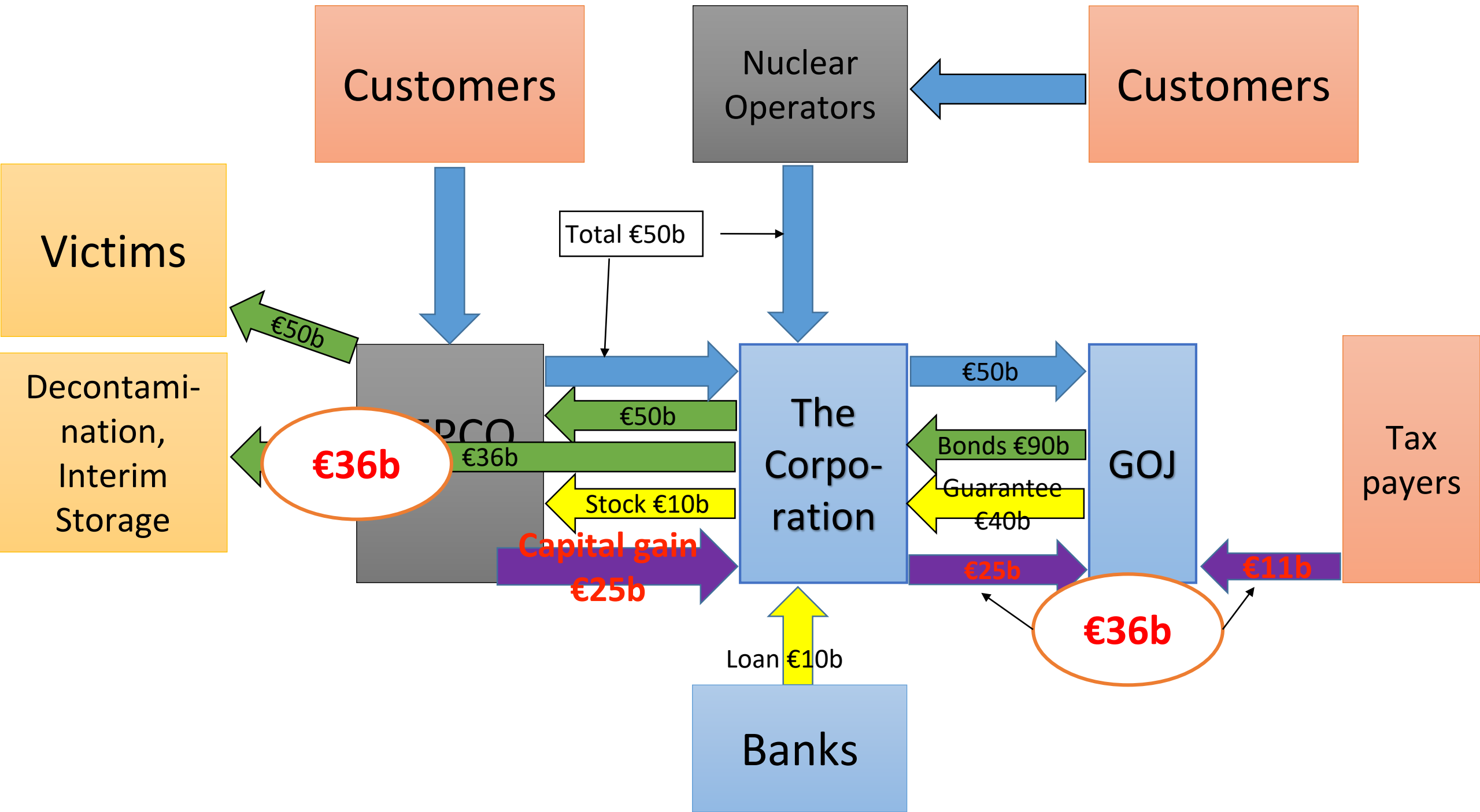
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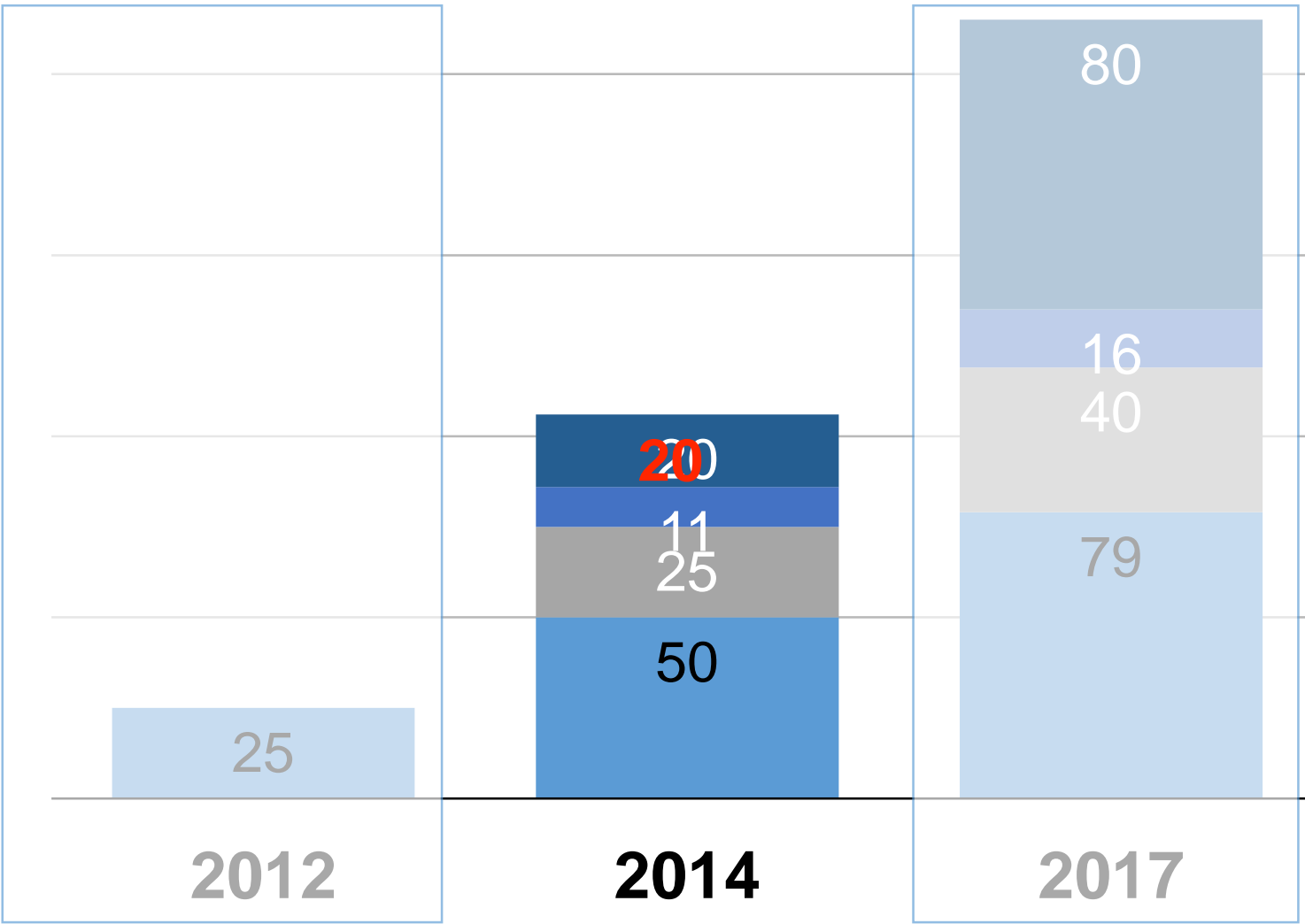
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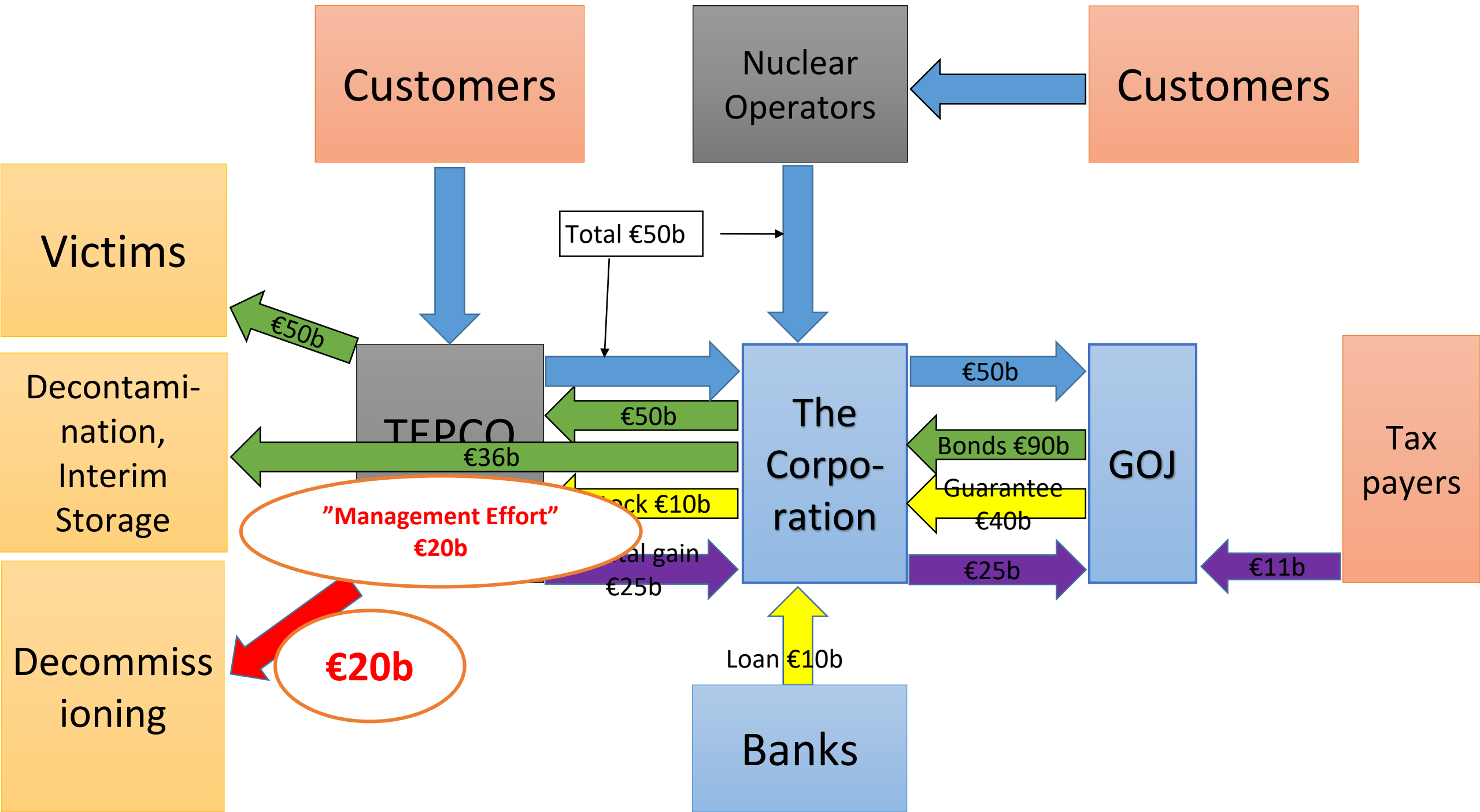
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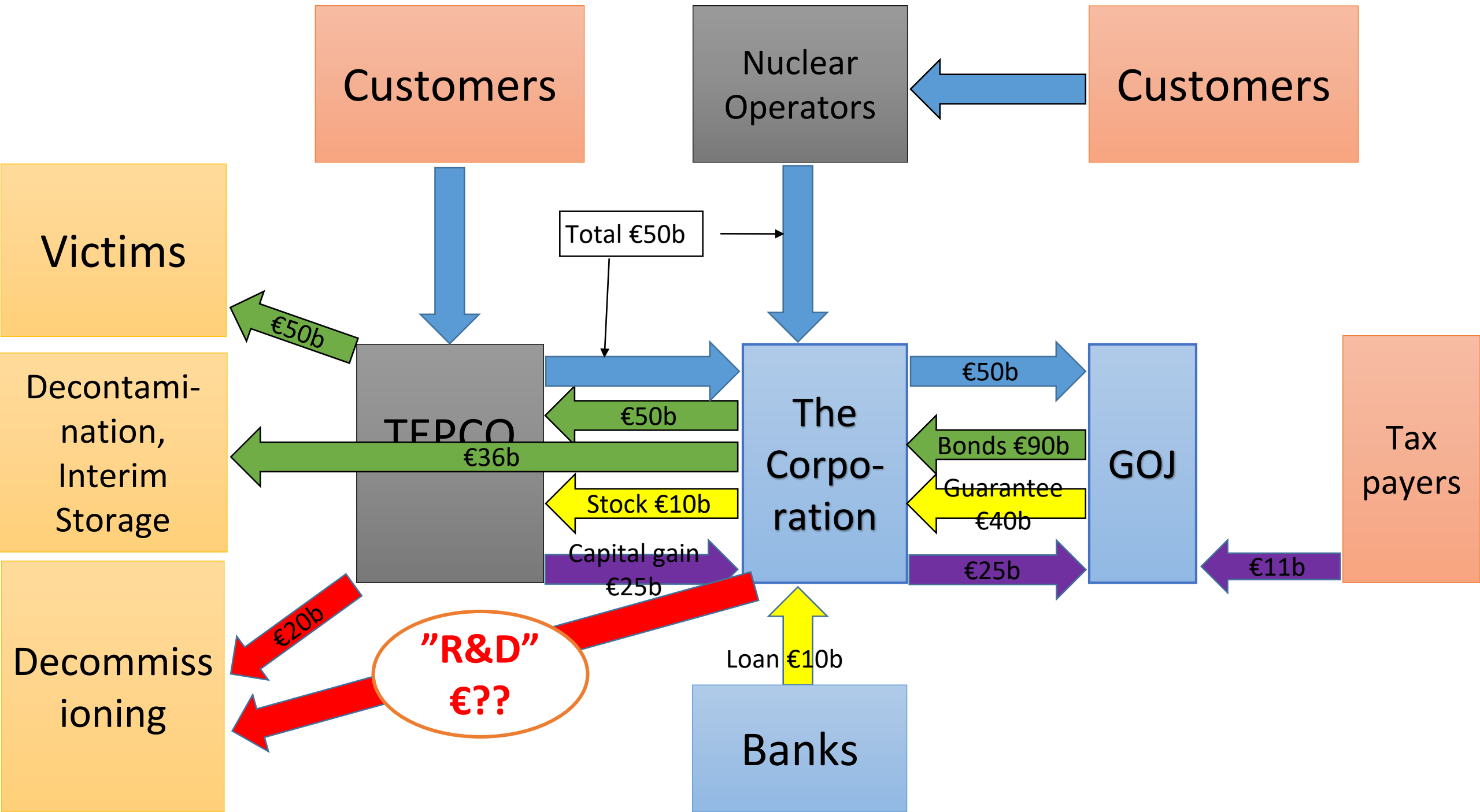
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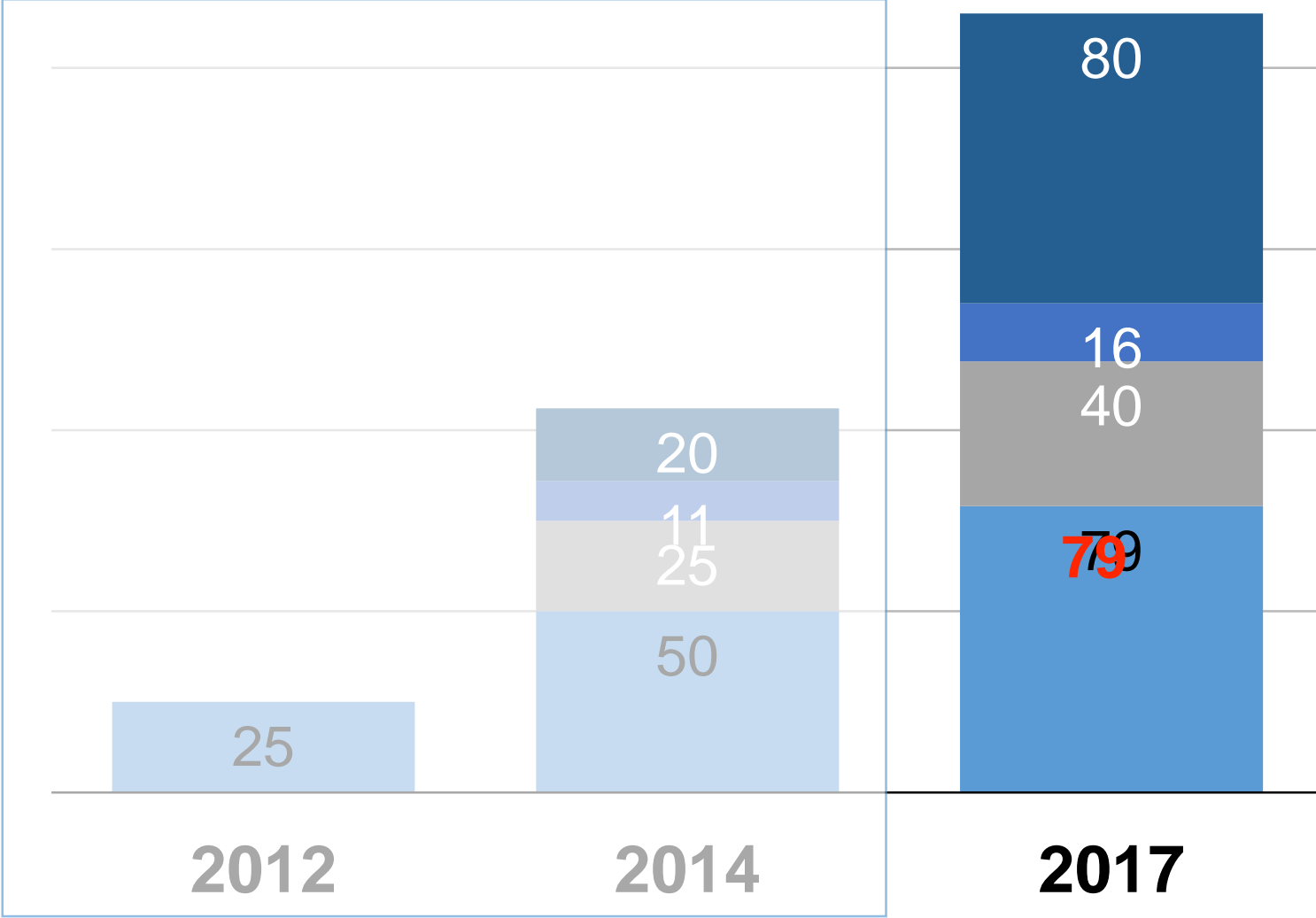
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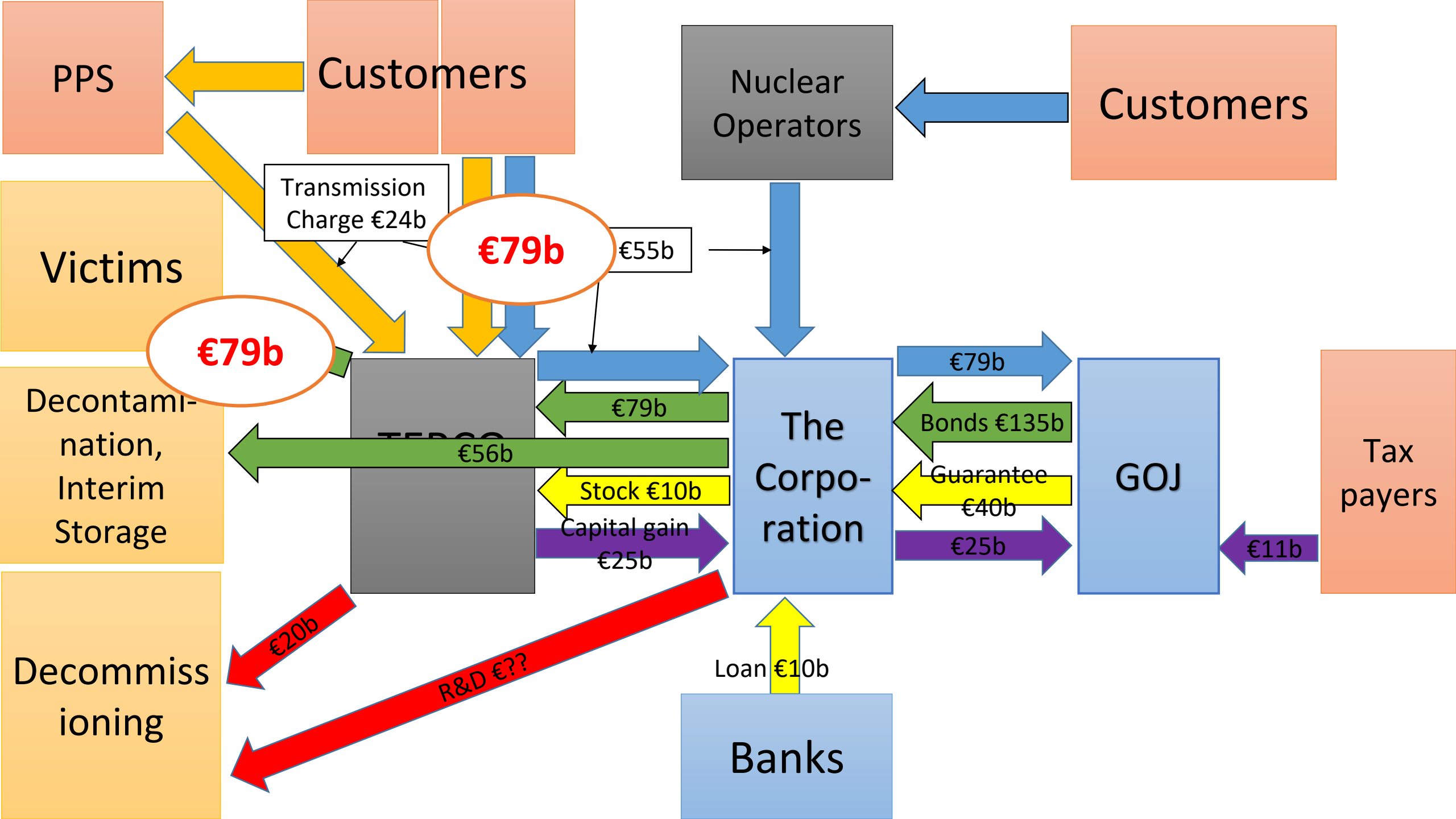
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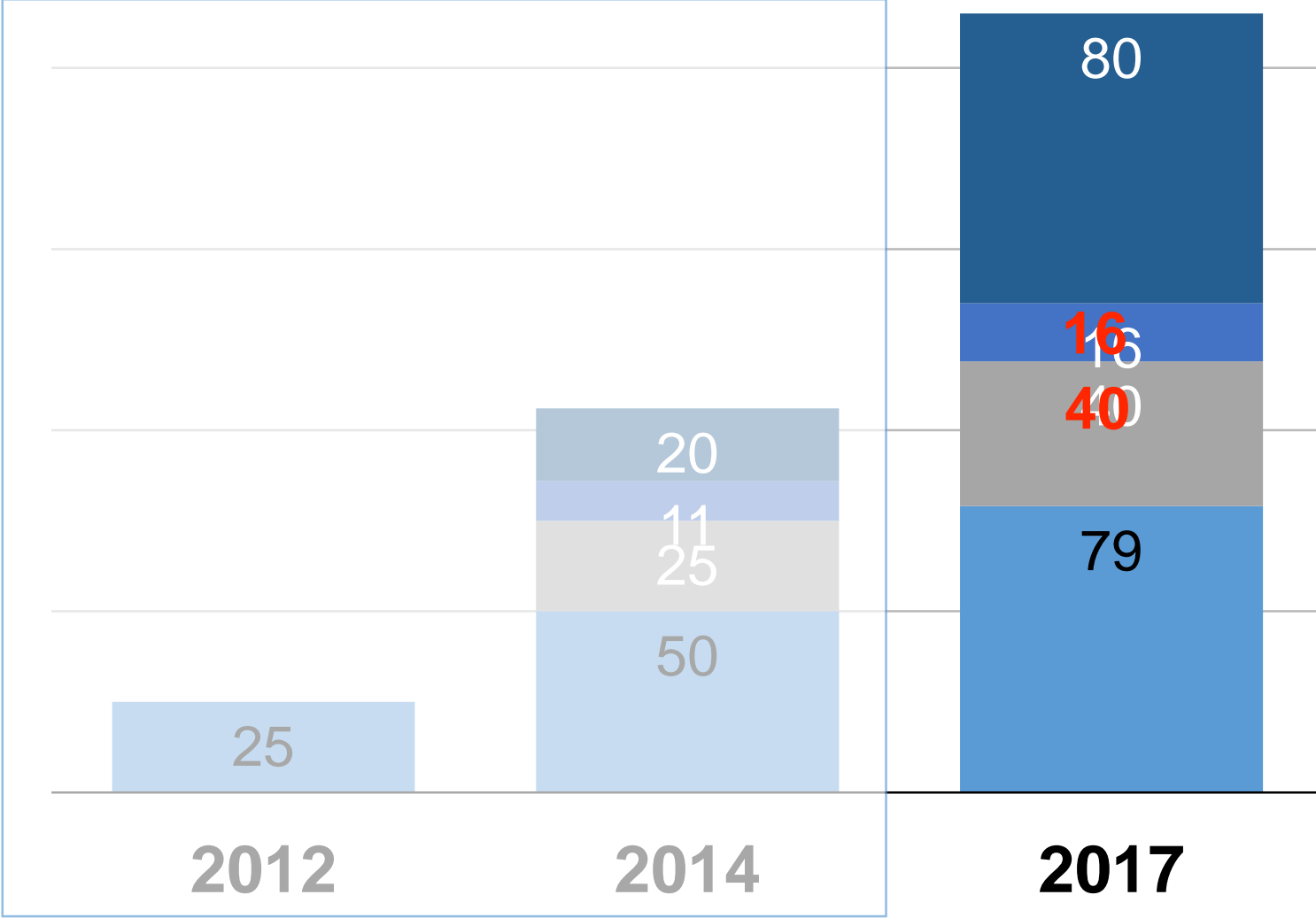
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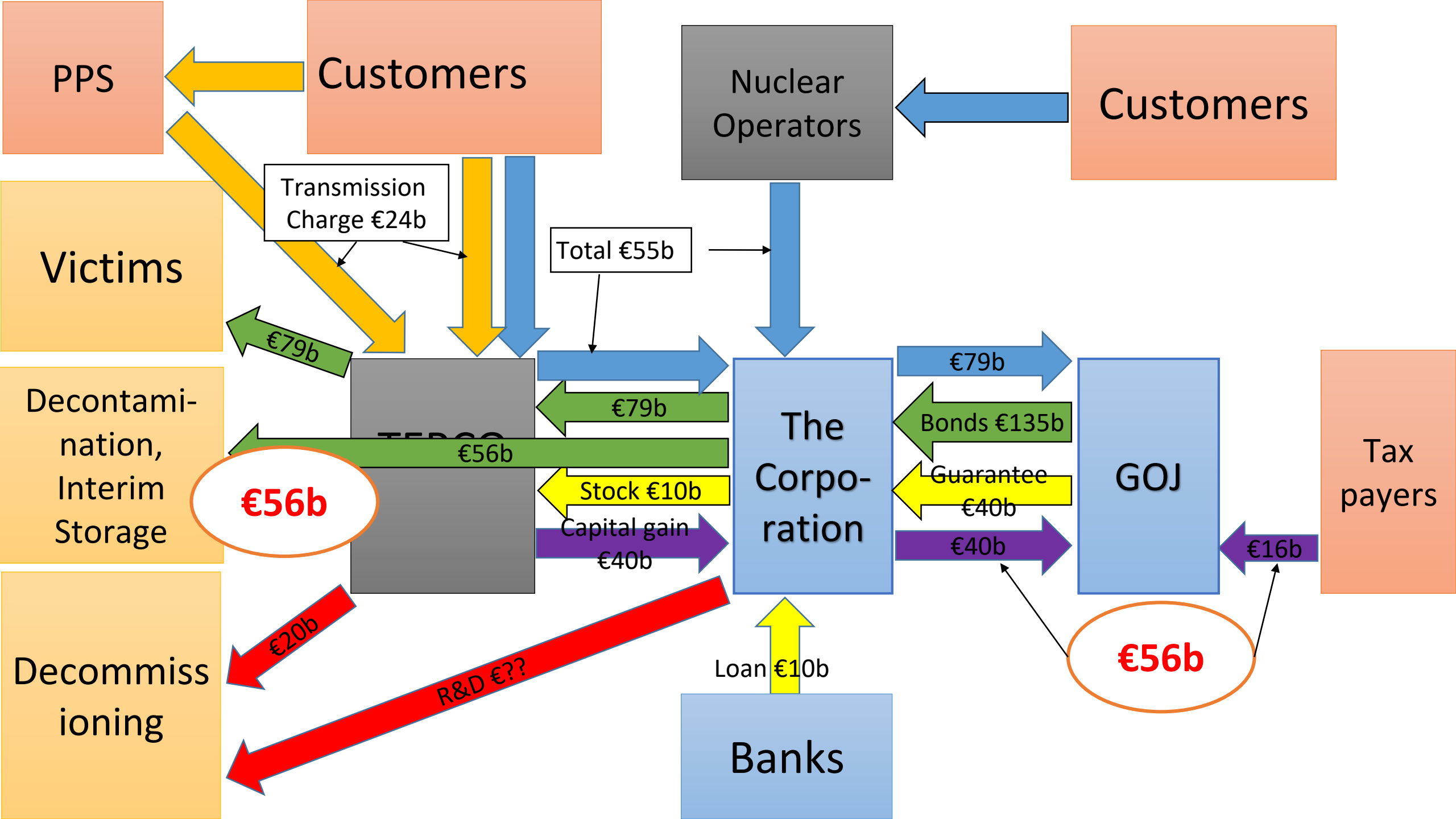
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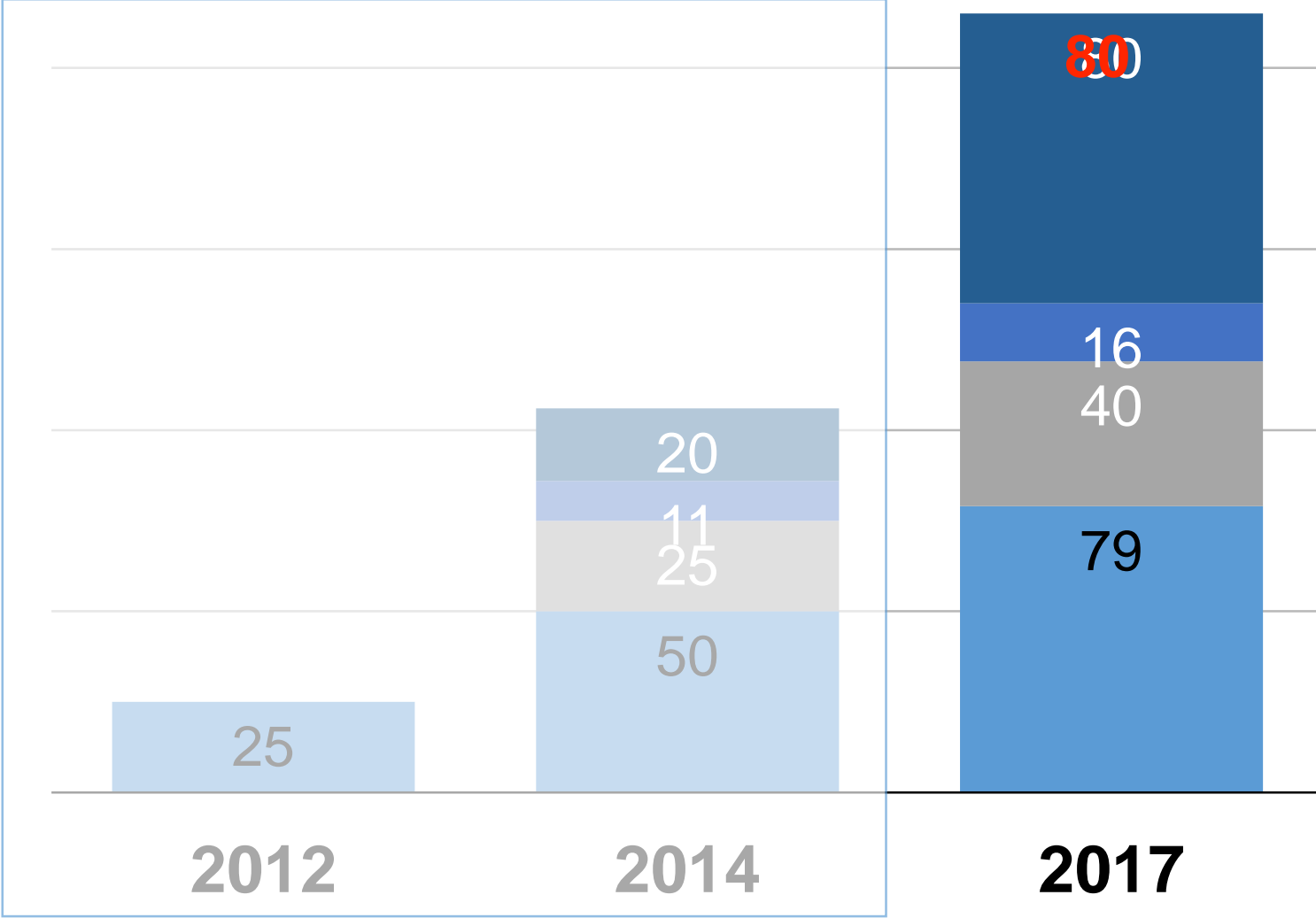
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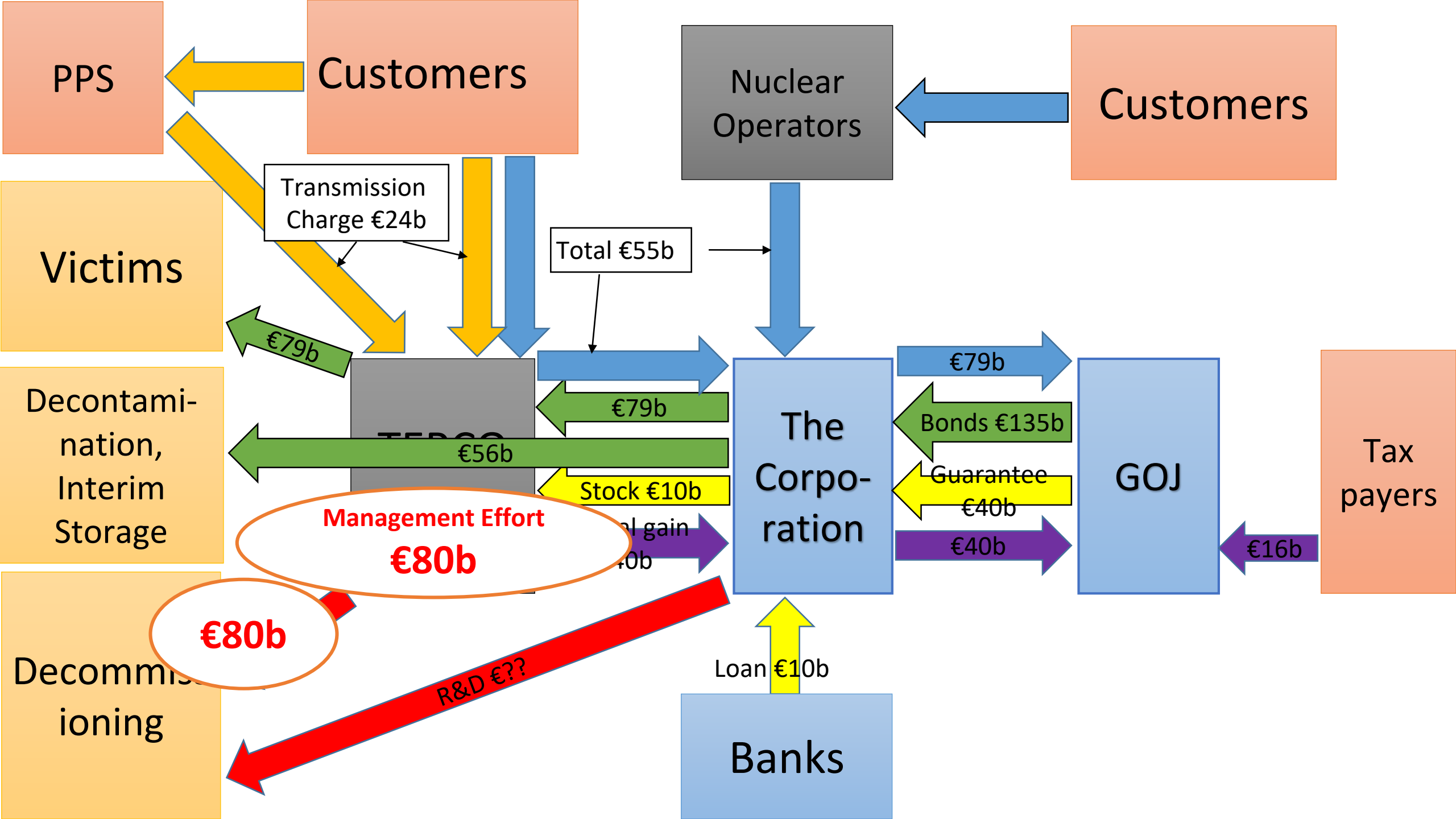
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Conclusions

- Moral hazard introduced by rescuing TEPCO's owners from bankruptcy
- Official numbers likely to increase again
- Maybe acceptable "retractive insurance" idea behind making all nuclear operators contribute
- Against the idea of competition to have non-nuclear customers pay
- Unrealistic that "Capital Gains" and "Management Efforts" resulting in TEPCO being able to pay back some 120 billion €.

- *What may other countries learn?*
- Liability regulation should ensure nuclear industry paying capacity.

Time to discuss!