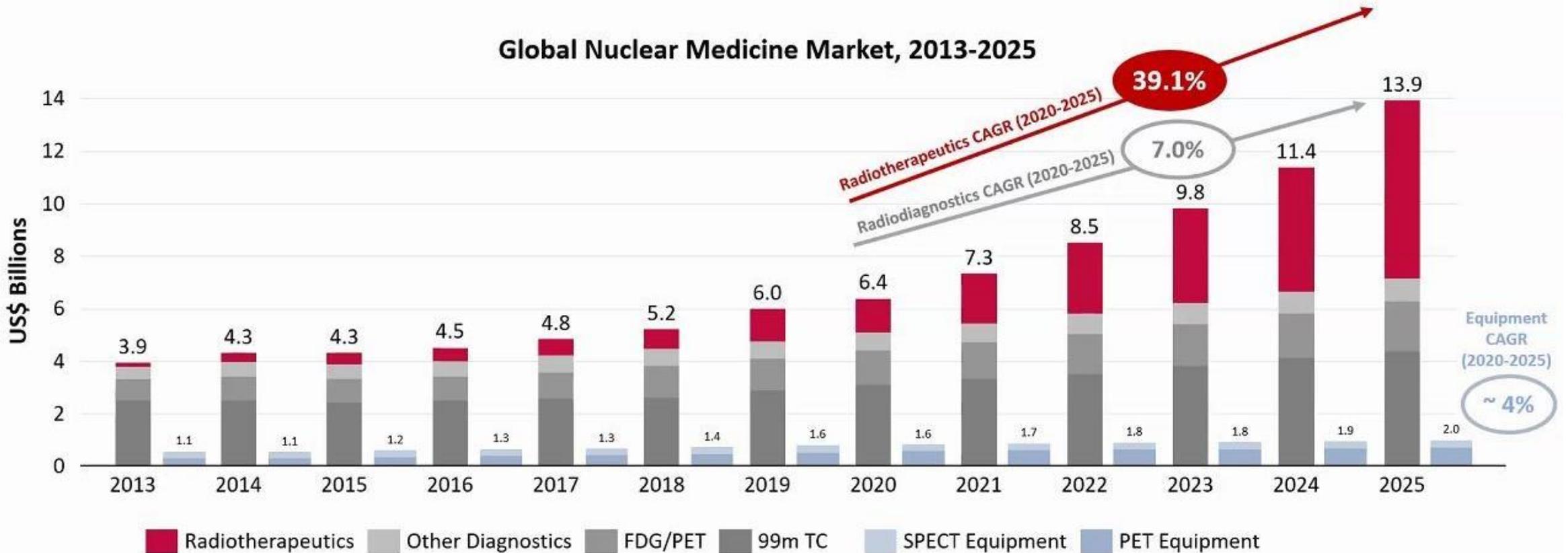


PANTERA

- # From Full Cost Recovery to Social Value Compensation

Workshop Medical Radioisotopes Supply – OECD  
Paris, October 30-31, 2023

# Radiotherapeutics will drive radioisotope demand



A unique opportunity to go beyond “full-cost recovery” to a “social value compensation”  
 Offset <sup>99</sup>Mo pricing deficiency with therapeutic isotope production → protect today’s <sup>99</sup>Mo producers  
 Social value of radiopharmaceutical determined by reimbursement and use → 10% to Radioisotope producers  
 Radioisotope price remains market driven, but base retribution in function of social value created



# Production capacity: $^{177}\text{Lu}$



## Operating Reactors

2022  
 BR2 – Belgium  
 HFR – Netherlands  
 FRM2 – Germany  
 OPAL – Australia  
 SAFARI – South Africa  
 ILL – France  
 MURR – USA  
 Up to 2032  
 Smaller reactors  
 SHINE  
 Pallas replacing HFR  
 JHR – France

## Targets per reactors

Values likely different for new production methods (CANDU, accelerator, ...)  
 ?? Reliability, sustainability,  $^{99}\text{Mo}$  combination, ... ??

## Irradiation frequency

Irradiation is performed during 1 or 2 weeks but 1 week seems to become standard

## Extraction yields

Yield/g: 25  
 Loading: 1.5g

## Needs by 2032

200 mCi /dose  
 400 mCi EOI

2-6 doses per patient  
 3 in average

For 1 large indication (e.g. prostate)  
 100,000 patients (100K)

6 to 9 equivalent units

5 to 10 capsules with 6 1g ampoules

Average operating weeks: 30

120 kCi/drug

2022  
 2032

6  
 9

X

5x6  
 10x6

X

30

X

1.5x25

203 kCi (2022)  
 608 kCi (2032)



Only *nca*  $^{177}\text{Lu}$  will be used in the future

Access to  $^{176}\text{Yb}$  to be solved by 2025

Reactor production capacity is limited to about 500K patients before reactor capacity saturation

