

# Environment Agency

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Sea level SpaceWatch – Challenge statement

22/03/2016

# National risk assessment

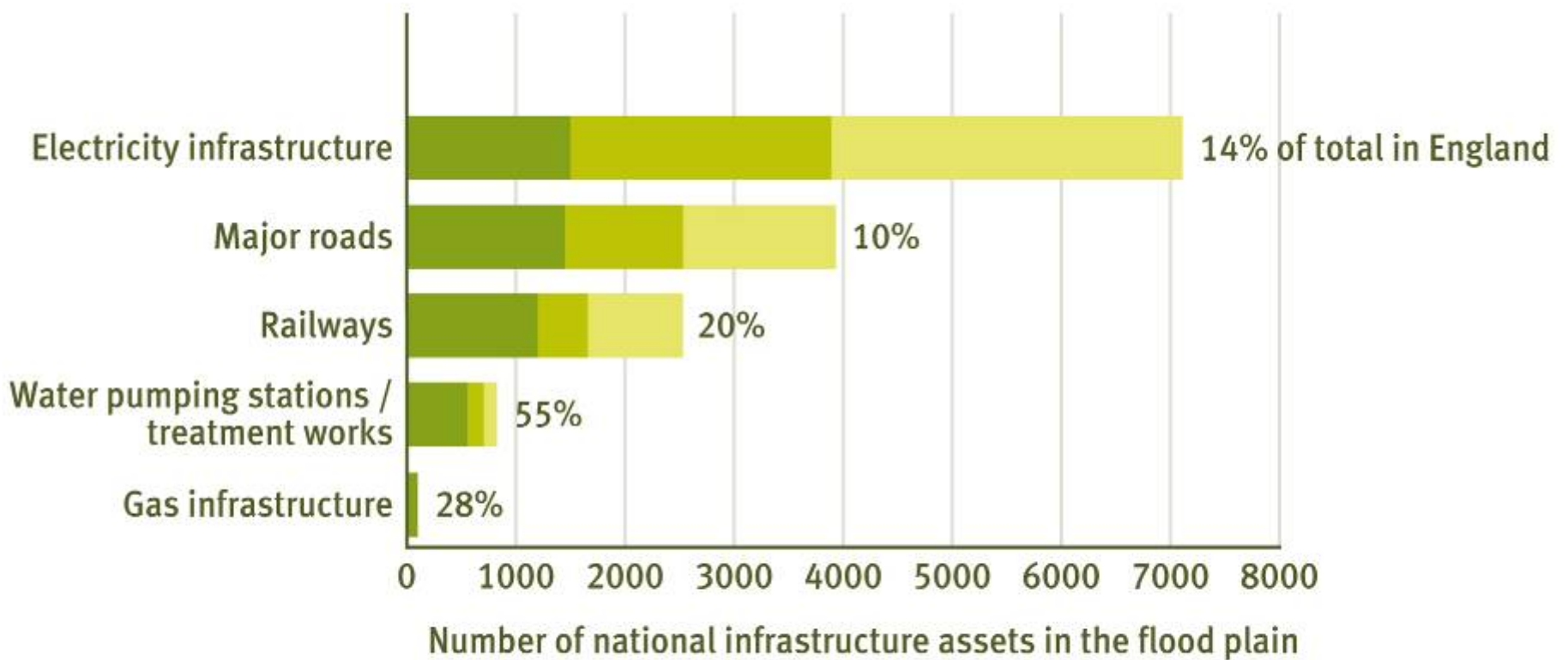


# 1:5 properties at risk



*Environment Agency. (2014), Long-term Investment Scenarios*

# Infrastructure at risk of flooding



Significant chance ■

Moderate chance ■

Low chance ■

# Our assets

In England there are more than £30bn of FCRM assets (EA and 3<sup>rd</sup> party maintained)

- ➔ 36,426 km main river
- ➔ 5890 km fluvial defences
- ➔ 1537 km tidal defences
- ➔ 1013 km coastal defences
- ➔ 19430 fluvial structures
- ➔ 1778 tidal structures
- ➔ 1193 coastal structures .
- ➔ Thames Barrier and associated defences protects £200 billion of assets in London and the surrounding areas.

# Flood and coastal erosion risk management in England

## Investment programme 2015 to 2021

**£2.3 billion** capital investment to reduce risk of flooding and coastal erosion

Attracting over **£345 million** in additional funding through partnership contributions



Over **£235 million** planned savings through new, more efficient working, to be re-invested in managing flood risk

**45%** spent on coastal flood and erosion risk management and

**55%** on inland flood risk management



# Investment need will increase



10% decrease in cost of building and maintaining defences



Risk caused by further development on floodplain mitigated at developer's cost

£750 to £800 million

£850 to £900 million

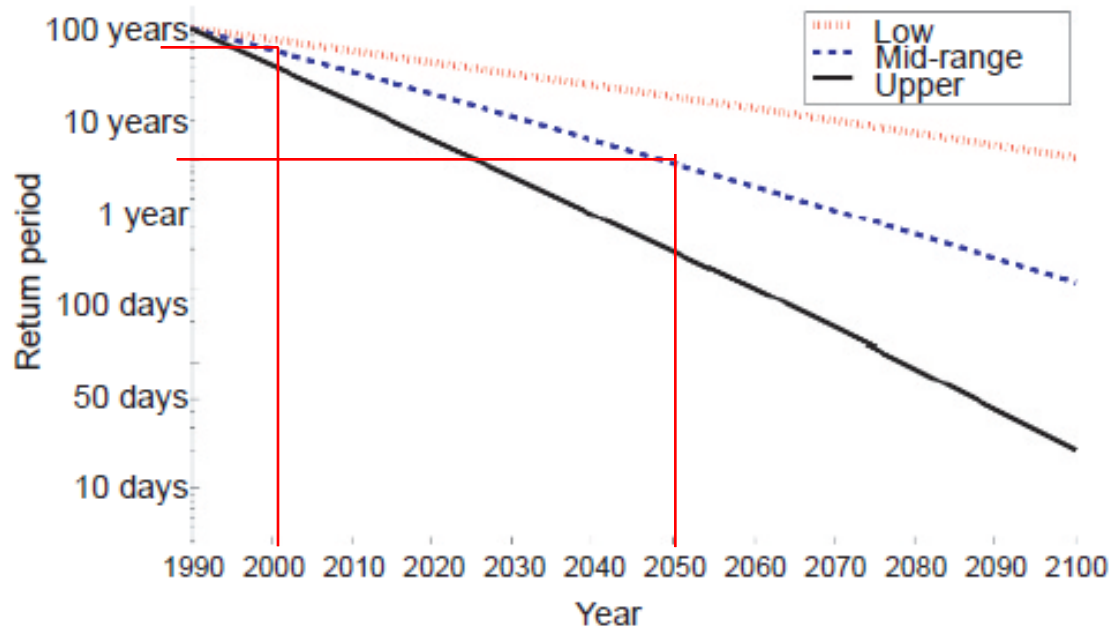
£900 to £950 million

2015 2020 2030 2040 2050 2060 2065

£750 million

*Environment Agency. (2014), Long-term Investment Scenarios*

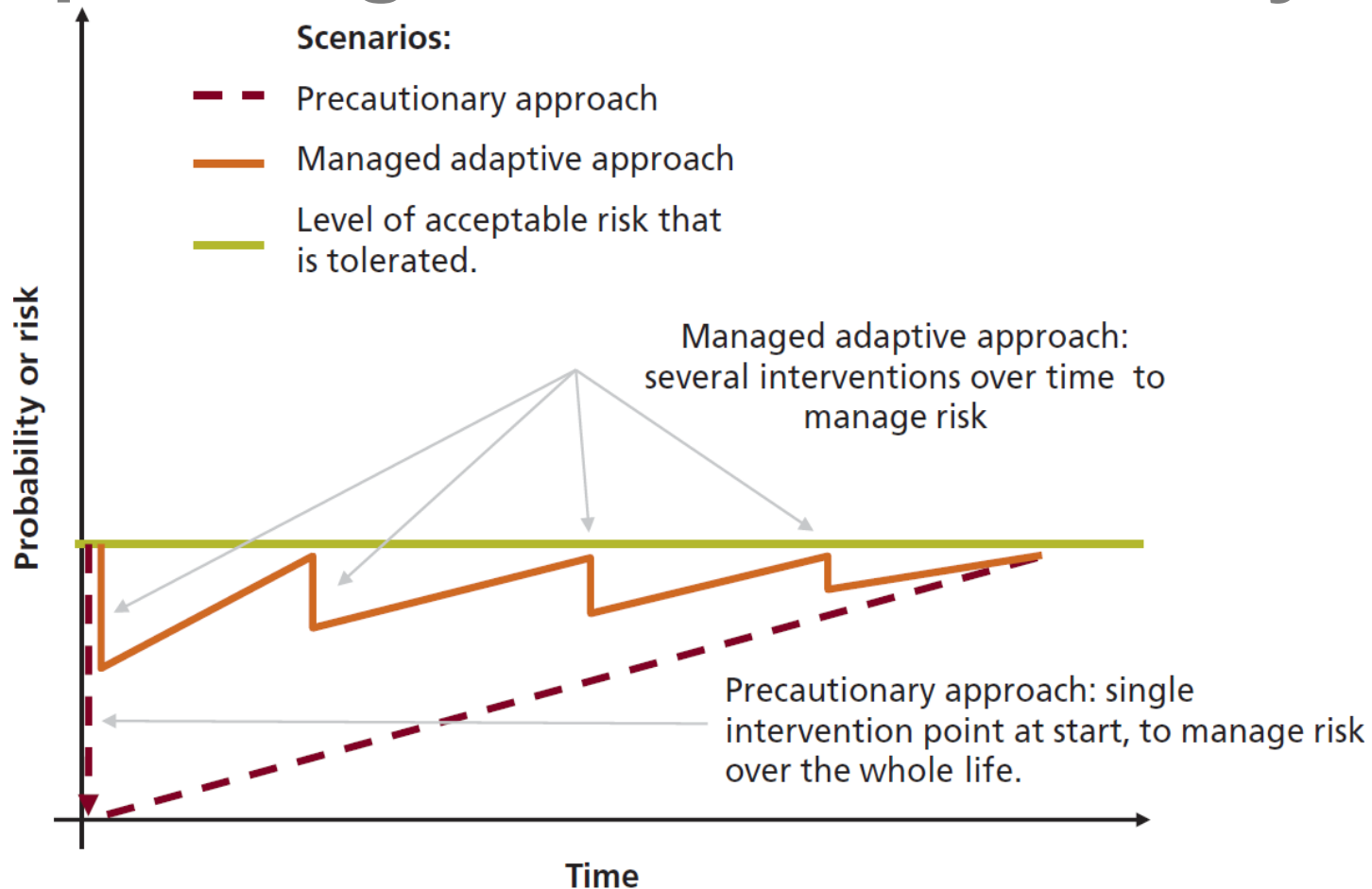
# Flood probabilities



Haigh, I.D., et al. 2011. Rising sea levels in the English Channel 1900 to 2100. Proceedings of ICE Maritime Engineering, 164(2), 81-92

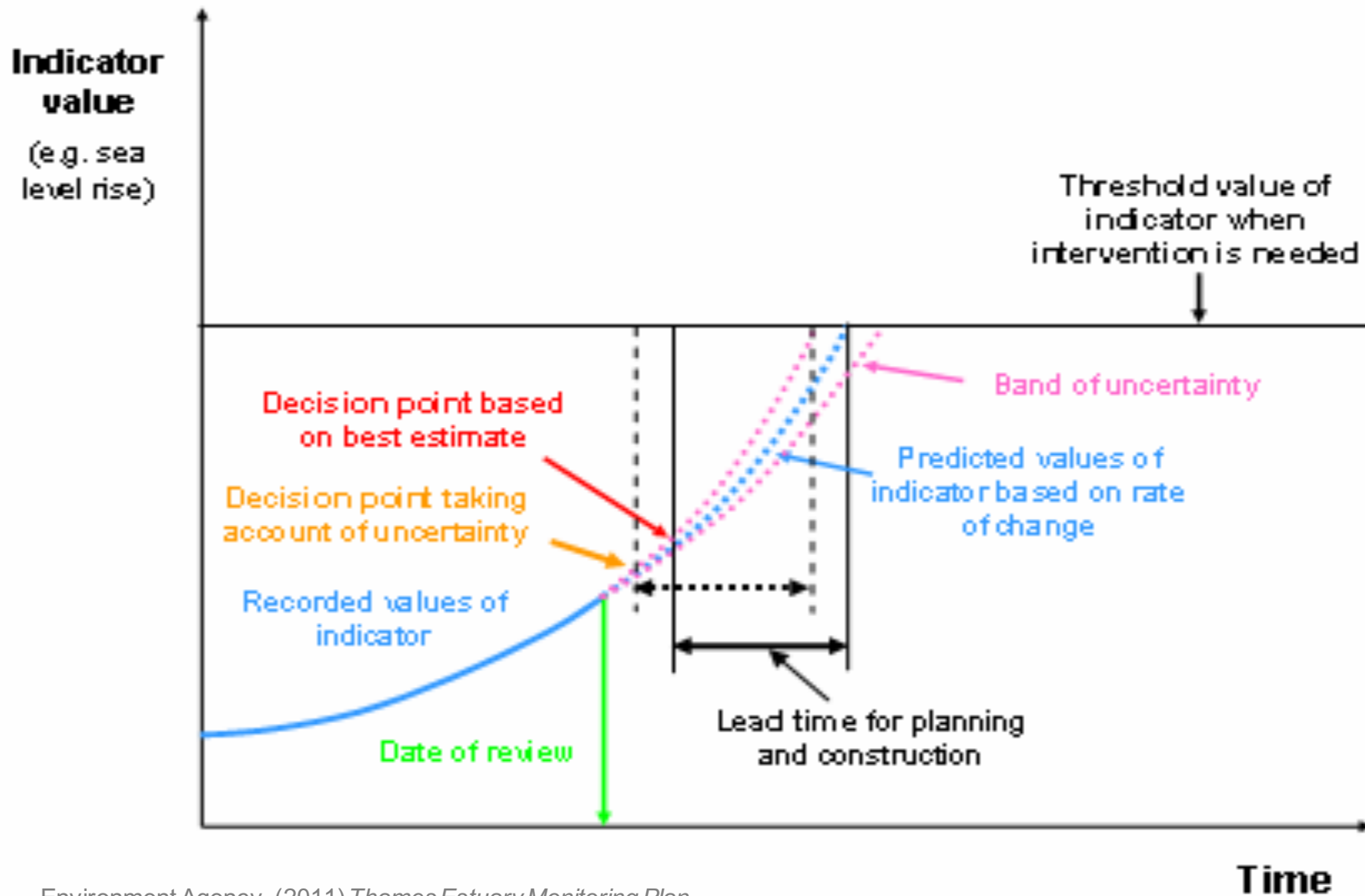


# Responding to future uncertainty



Defra(2009) *The Appraisal of Adaptation Options in Flood and Coastal Erosion Risk Management* – FD2617

# Lead-times for decisions



# Why does we need sea level trends?

- MSL change will strongly govern future flood probabilities
- This will affect all assets (walls and embankments as well as “active” structures)
- To identify adaptable solutions we need a good understanding of sea level trends
- Large investment decisions need long lead times. Its essential that we monitor trend particular to pick up accelerations
- Reducing uncertainty in the future trajectories can allows us to defer “expensive” decisions

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➔ [environment.data.gov.uk](https://environment.data.gov.uk)

