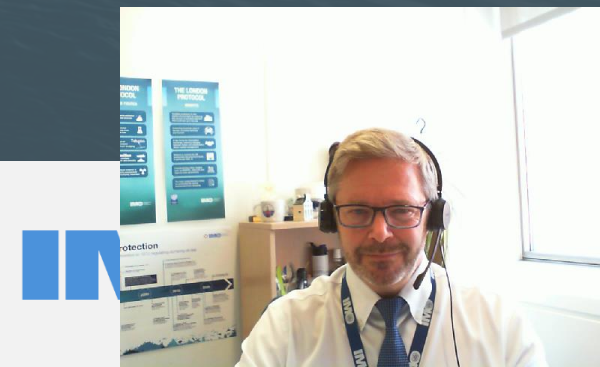




# Marine environmental effects of jettisoned waste from commercial spaceflight activities

COPUOS 67th session (19-28 June 2024)

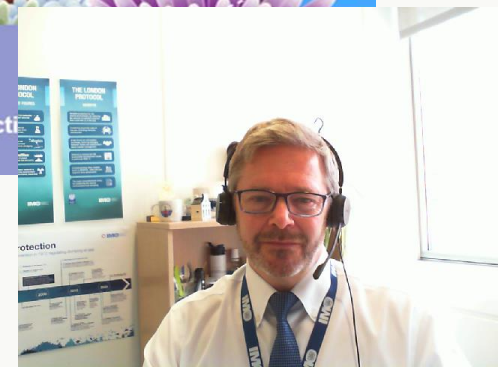
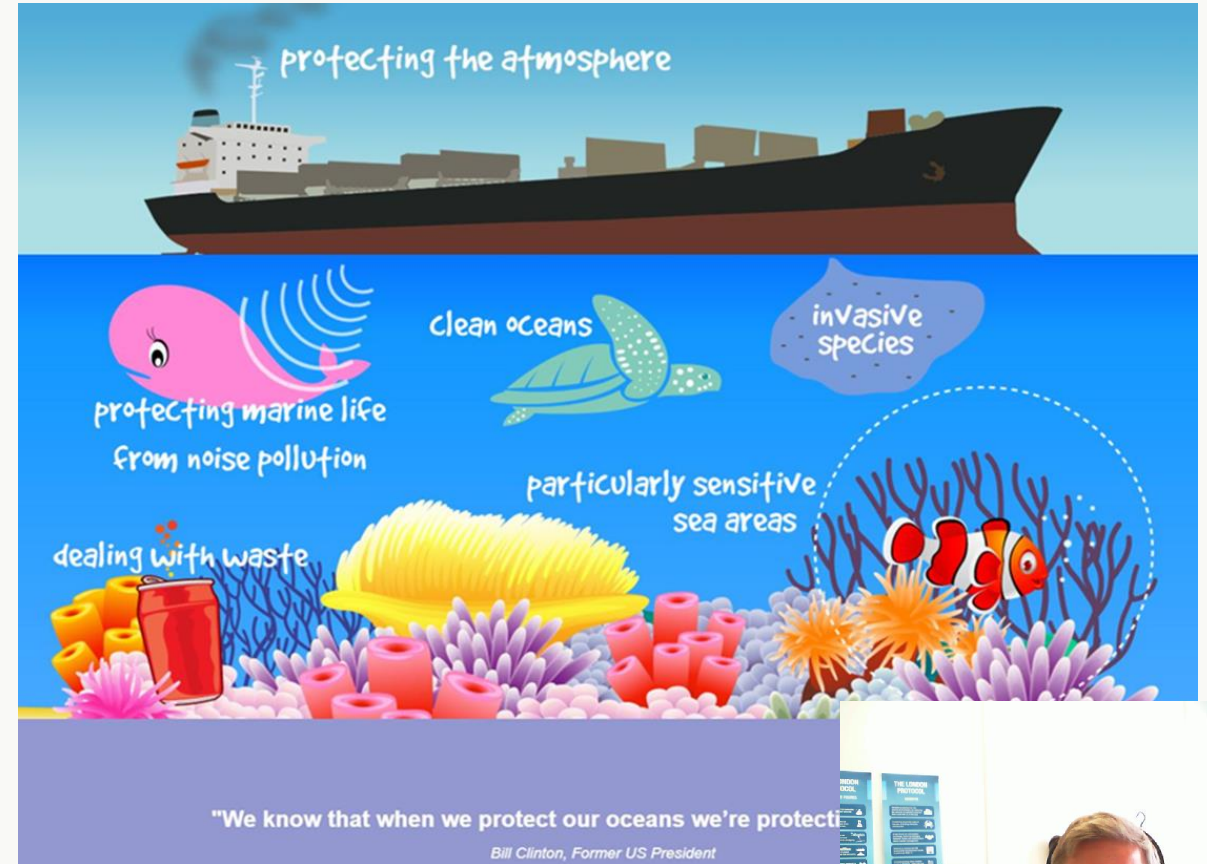
Dr. Andrew Birchenough  
Office for the London Convention/Protocol and Ocean Affairs  
Marine Environment Division



# Talk outline



- IMO
- London Convention and Protocol
- Disposal of wastes at sea
- Space launch debris
- Marine environmental effects
- Way forward



# The International Maritime Organization



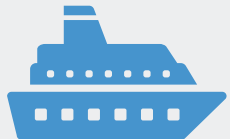
UN Specialized Agency mandated to set a **global regulatory framework** to ensure safe, secure and efficient shipping on cleaner oceans



**More than 50 international instruments regulating safety and environmental performance adopted**



**176** Member States & 3 associate members  
**143** observer organizations (IGOs and NGOs)



IMO regulates the over 50,000 merchant ships trading worldwide

*“Safe, secure and efficient shipping on cleaner oceans”*



# London Convention and London Protocol

## Global treaties that regulate the prevention of pollution from dumping of wastes at sea

### The London Convention 1972 (LC) - **Permissive**

- One of the first global conventions to protect the ocean from human activities
- In force since 1975
- Currently **87** Contracting Parties

### The London Protocol 1996 (LP) - **Precautionary**

- More modern and comprehensive global treaty
- Will eventually replace LC
- In force since 2006
- Currently **54** Contracting Parties

Total: **101** LC/LP Parties



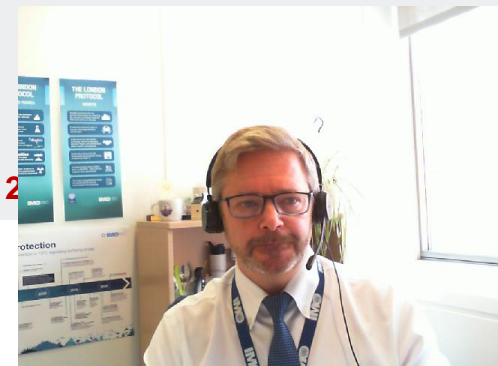
# What is dumping & which wastes can may be considered for dumping

Dumping is “any deliberate disposal into the sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures.”

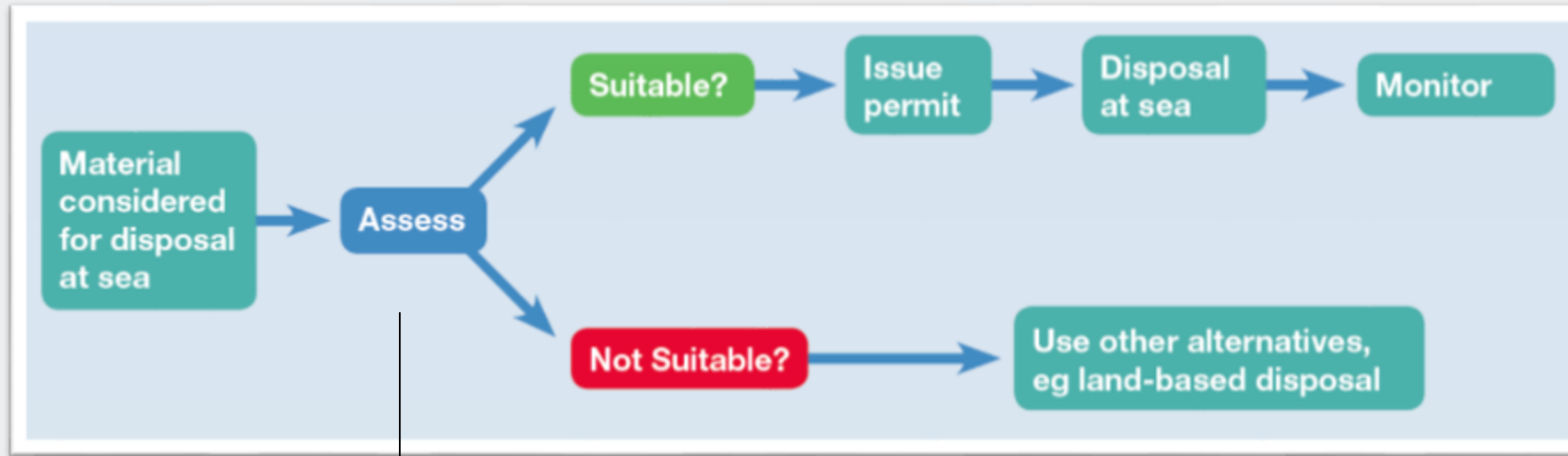
- Includes storage of wastes in the seabed.
- Includes abandonment or toppling at a site.

Dumping is not:

- Operational discharges from vessels or offshore installations.
- Pipeline discharges from coasts or cities.
- Wastes discharged into rivers and out to sea.
- Placement of matter for a purpose other than disposal.

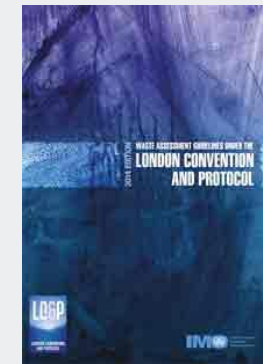


# How does it work at the national level?



To support this assessment, a series of **waste assessment guidelines** have been developed, both **generic guidance** and **specific guidance** for each type of waste

*Waste prevention and waste management options*



# Marine environmental effects of jettisoned waste from commercial spaceflight activities

- In 2018 concerns raised by Parties
- Potential impacts on the marine environment arising from such debris:
  - Physical disturbance of seabed/organisms
  - Input of toxic substances
  - Input of litter
  - Input of anthropogenic underwater noise
  - Collision risk
- Therefore an intersessional Correspondence Group on the issue was established



# Marine environmental effects of jettisoned waste from commercial spaceflight activities

- LC/LP Secretariat/UNOOSA Secretariat
- Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), held in Vienna in 1999
  - 33 recommendations were adopted (A/CONF.184/6) including recommendation 1.a, which states:

*“Protecting the Earth’s environment and managing its resources: action should be taken:*

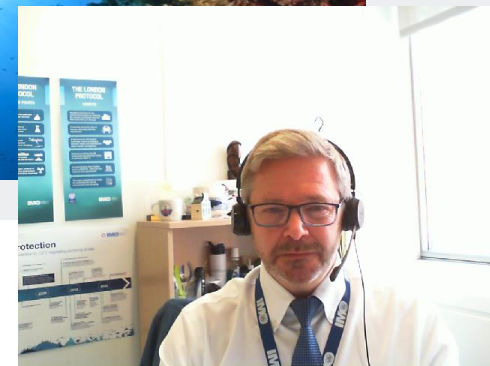
*(v) To ensure, to the extent possible, that all space activities, in particular those which may have harmful effects on the local and global environment, are carried out in a manner that limits such effects and to take appropriate measures to achieve that objective.”*



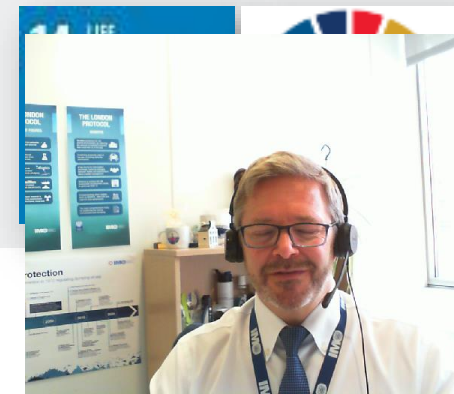
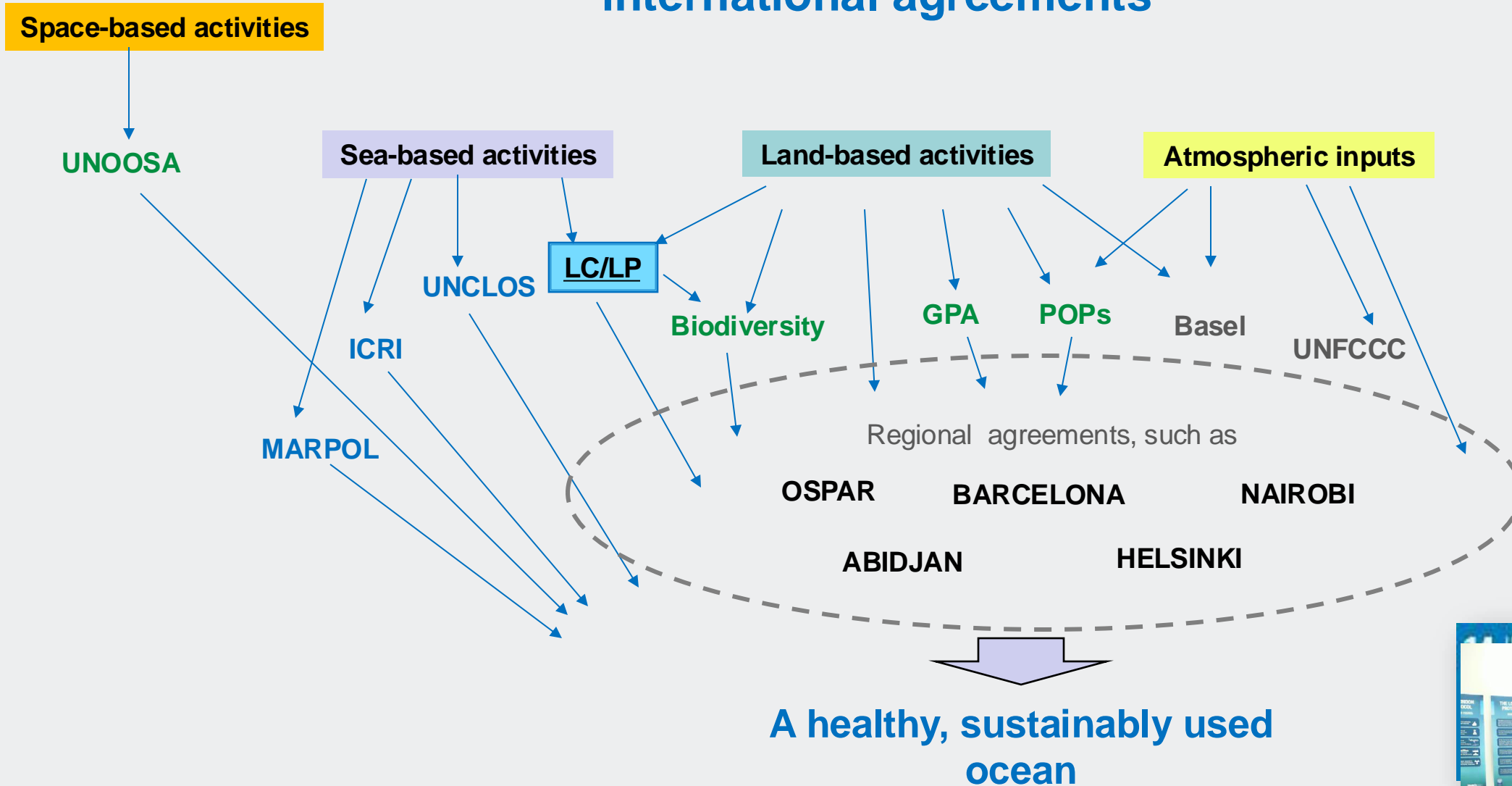


# Way forward

- Regulatory gap identified
- Lack of information therefore difficult to provide a more comprehensive overview of the nature and scale of the deposition of space launch vehicle components into the marine environment, and therefore its likely cumulative impacts
- LC/LP Parties invited to report on such activities and the assessment of their impacts on the marine environment
- Engagement with UNOOSA, COPUOS and its Member States
- Ensure any impacts from these activities can be considered and reduced – *joint guidelines?*



# Relationship between global and regional international agreements



# Thank you for listening

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