1. POTENTIAL VERY LARGE SLR TO COME

Sea Level Rise (SLR) of over 2m cannot be discarded. Scientist highlight four elements as the major contributors to sea level rise (Katsman et al., 2011):

a) global mean thermal expansion of the ocean,

b) mass changes of small continental glaciers and ice caps,

c) mass changes of the Antarctic Ice Sheet and

d) mass changes of the Greenland Ice Sheet.

The IPCC Annual Report 4 (AR4), published in 2007 (IPCC, 2007), was criticised by its limited understanding of the rate of melting and the influence over global climatic processes of Greenland and Arctic ice sheets. As science has progressed in its understanding of these processes, revised sea level rise projections have been emerging in recent years, whose values are much higher than previously forecast.

Current projections of SLR for the end of the 21st century are in the region of 0.8 to 1m. However, SLR projections for 2100 are dramatically larger than those by the end of the current century.

2. REGIONAL SLR

SLR of over 1m is projected by 2100 in different parts of the planet.

Northern Europe

3. THE MEAN IS NOT THE WHOLE STORY

The SLR rise uncertainties are characterised by skewed and long tailed distributions, showing that much higher SLR is possible. For instance, the long tail of the probability density function of global sea level rise by Jevrejeva et al. (2014) includes values over 2m for 2100; and Grinsted et al. (2015) shows that the 95th percentile being 0.9m higher than the median sea level. SLR uncertainty distributions show that.