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Press release

50th anniversary of storm surge in Hamburg: Subsequent flood controls prevent billions in losses

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Following the severe storm surge 50 years ago, massive investment in flood controls have saved the city of Hamburg and its inhabitants losses in the two-digit billion range. This is the result obtained from calculations undertaken by Munich Re on the anniversary of the natural catastrophe.

For hours on end on the night of 16 and 17 February 1962, a severe winter storm drove the waters of the North Sea against the German coast and into the mouth of the River Elbe. When this storm surge was combined with the normal high tide during the night, the waters rose to up to 5.7 metres above sea level in Hamburg. This proved too much for the still insufficiently upgraded dykes, which were breached in over 60 places. In Hamburg alone, 318 people died in the storm surge, which caused losses equivalent to €1.6bn at today's values.

Former German Chancellor Helmut Schmidt, then Minister of the Interior in the Hamburg senate, recalls: "I flew over the flooded area in a helicopter to gain a first-hand impression of the situation. Thousands had sought refuge on roofs and would have drowned or frozen to death if we had not acted immediately. About one fifth of the city was under water. We knew that nothing like this must ever happen again. And so Hamburg invested huge amounts in flood controls in the years and decades that followed."

The storm surge prompted a complete restructuring of the coastal defences. The flood protection line was rectified in places and dykes were entirely rebuilt or reinforced using the latest civil engineering technology and raised to a height of at least eight metres above sea level in the Hamburg area. In the decades following the storm surge, Hamburg invested some €2.2bn at today's values in flood controls.

According to a scenario simulation performed by Munich Re, these measures have saved Hamburg losses in the region of €17.5bn. This figure is arrived at, given certain assumptions, by applying the losses incurred in 1962, taking account of inflation and the increase in values, to the years 1976, 1994, 1995 and 1999. In those four years, Hamburg was hit by storm surges where the water levels were much higher than in 1962, so that floods would have been expected had the protective measures taken since not been implemented. In the event, however, the metropolitan area sustained no significant losses in any of the four storm surges, although losses were incurred in the port area in 1976. After deducting the construction costs, for Hamburg this amounts to a net positive effect from the flood control measures of some €15bn since 1962.

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Prof. Peter Höppe, Head of Munich Re's Geo Risks Research unit, noted: "Hamburg is a good illustration of the importance of natural disaster prevention." He added, however, that effective prevention was only possible in countries that could afford such measures, and were situated in temperate regions, whereas measures like those taken in Hamburg were regrettably unrealistic for most developing countries." Höppe: "In order at least to prevent the worst in such cases, there will be a continued need for concerted action involving those affected and the industrialised countries." He commented that the insurance industry would also play its part, for instance, through the efforts of the Munich Climate Insurance Initiative, launched by Munich Re.

Note for journalists: Munich Re has compiled a press dossier, which can be accessed at www.munichre.com and gives a wealth of information on storm surges and prevention.

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