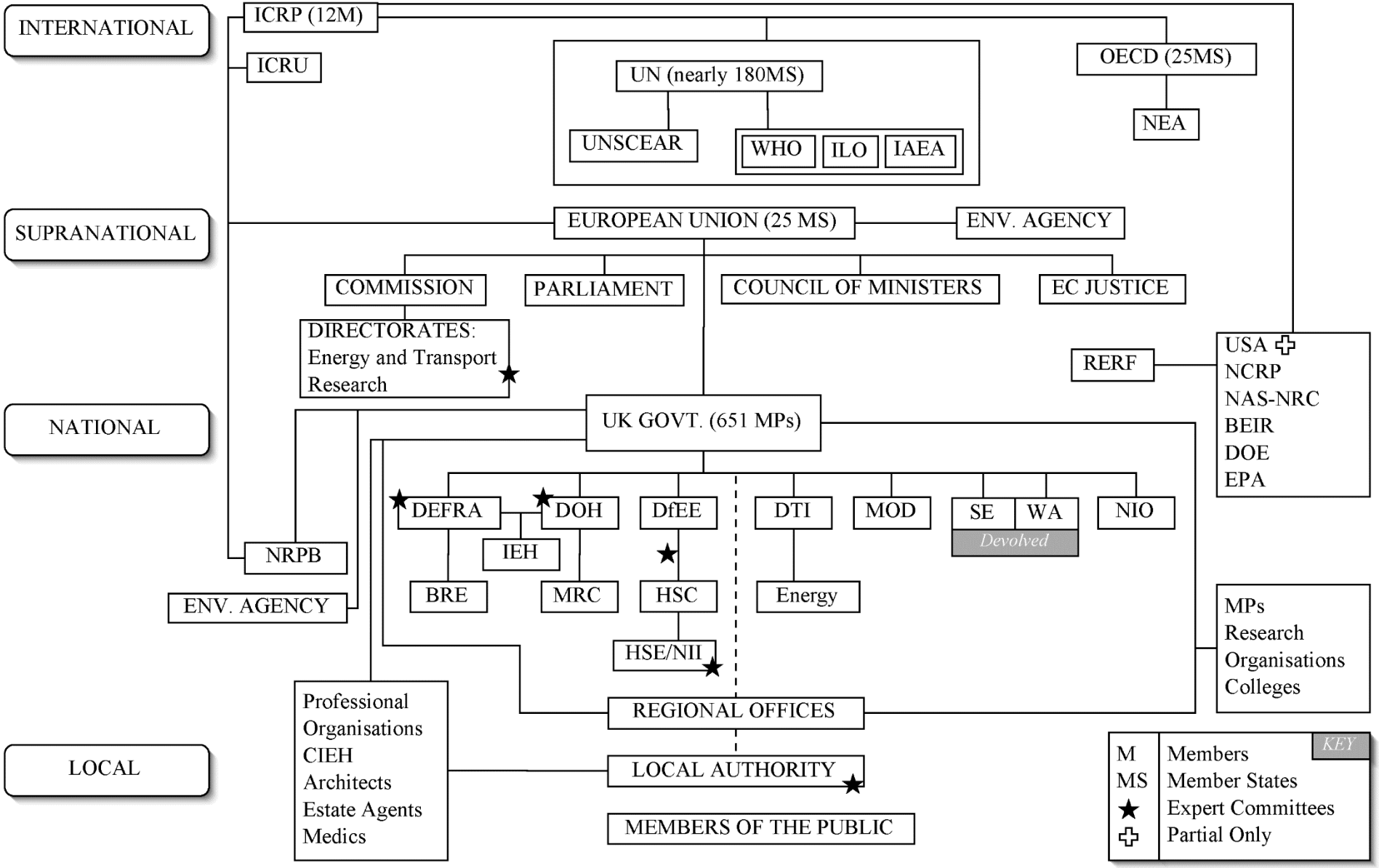
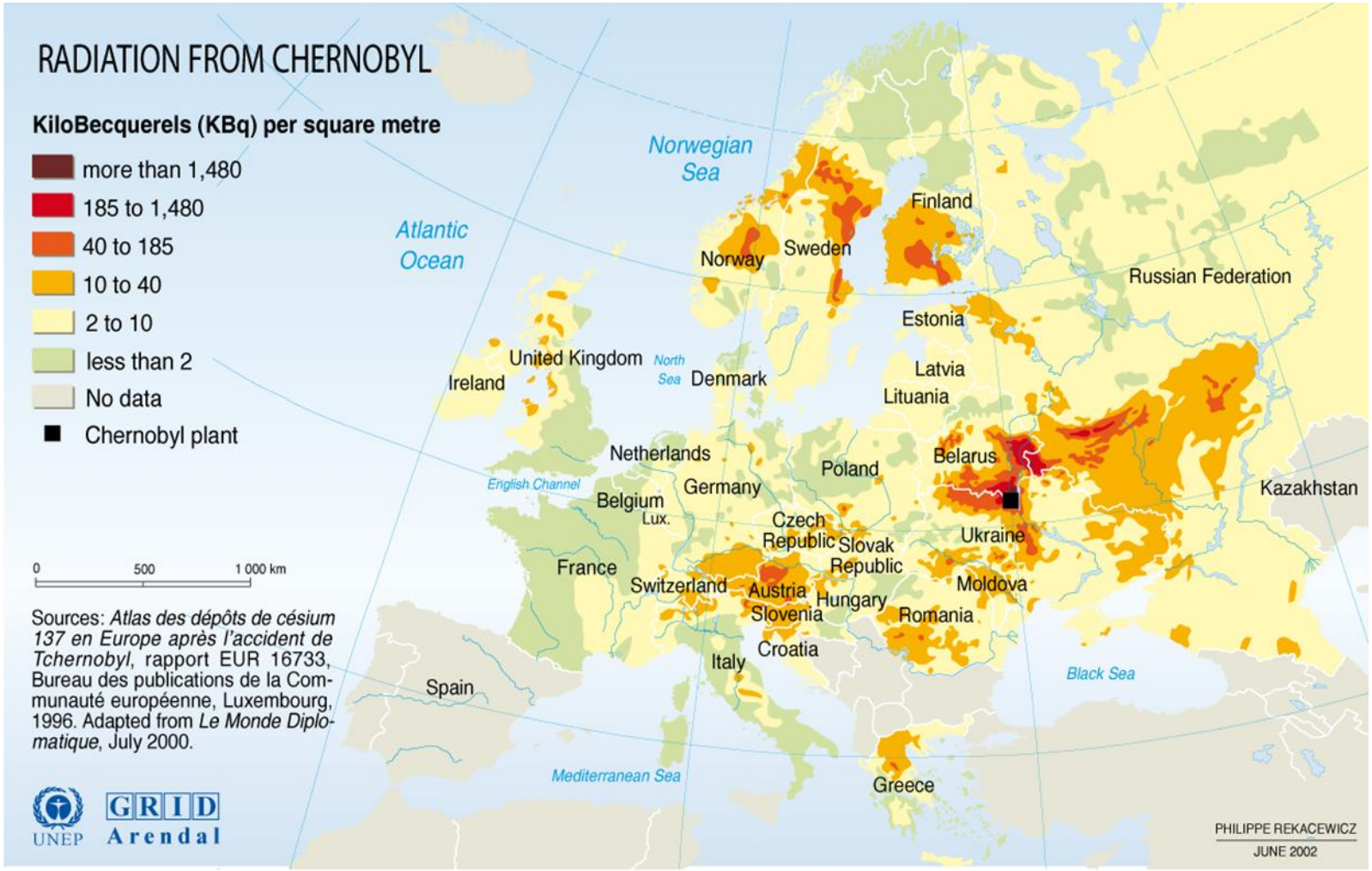
COMET workshop

KIEV, August 30-31

An NGO perspective

UK Radiation Protection Infrastructure





Sources: UNEP/GRID-Arendal, European Environment Agency; *AMAP Assessment Report : Arctic Pollution Issues*, Arctic Monitoring and Assessment Programme (AMAP), 1998, Oslo; European Monitoring and Evaluation Programme (EMEP); Co-operative programme for monitoring and evaluation of the long range transmission of air pollutants in Europe, 1999. Adapted from *Le Monde Diplomatique, July 2000*.

Chernobyl health impacts:

Rise of **cancer,** not only thyroid, but also leukemia, breast cancer and other cancers

Rise of **non-cancer diseases** (exceeds the cancer cases) - blood system, stroke and heart attack, thyroid – endocrinological diseases, (Basedow, Hashimoto, Diabetes), lens diseases

Genetic effects: congenital malformations, rise in perinatal mortality, rise of stillbirth

Chernobyl-related cancers:

Clean-up workers: increase in cancer by 20 % (Okeanov,2004)
increase in acute and of chronic lymphatic leukemia (Zablotska et al, 2012), increase in thyroid cancer (Kesmiene et al, 2012)
Gomel region, Belarus: increase in cancer rate by 55.9 %
Belarus overall: 40% (Okeanov et al. 2004)
Increase in **breast cancer** in contaminated areas Gomel + Mogilov (Belarus) and Chernigov, Kiev, Zhytomir (Ukraine), (Pukkala et al. 2006)
Increase in **leukaemia** (children) in contaminated areas of Ukraine: Significant if the contamination is higher than 10 mSv (Noshenko, 2010) and Belarus (A. Körblein 2013) for babies in the first year after Chernobyl
Increase in number of **brain tumours** for children under 6 years (Ukraine) 5,8 fold (Orlov, Sharevsky, 2002)

Recommendations

- Estimation of health effects on humans and wildlife can only be as accurate as the **baseline data**
- Need to have set up CHERF (and/or extend RERF in Japan) and be ready for the next accident
- Funding is needed for scientific effort to document range of biological consequences
- Need to appreciate "**inconvenient truths**"

Acknowledgements

- *Greenpeace* - reports
- *IPPNW* reports and conversations (Angelika Claussen)
- *Low Level Radiation and Health Conferences* (1st workshop on Radioactivity and wildlife led by Dr Janet Rowe, Bristol University, 1991) and

  Beyond Nuclear events held in London and Manchester March 2016 to mark the anniversaries of the nuclear accidents, 30th at Chernobyl and 5th at Fukushima
- *Prof. Tim Mousseau*, South Carolina University
- TORCH Report 2006 and 2016, *Dr Ian Fairlie*

- And particular thanks to *Professor Nick Beresford* for the invitation and support, NERC-CEH

Chernobyl

- Reinstate monitoring programmes
- Involve affected population
- Close off highly contaminated areas and clearly mark them
- Decontaminate areas near highly populated areas

Fukushima

- Systematic health check ups for all
- Clean up workers
- All evacuees
- Population staying in contaminated zones
- Impacts on marine life of radioactivity around Japan and US (Buessler)

Need summary of effects on wildlife as currently known and understood