



Clifford Holt Senior Editor Pan European Networks

AT both the European and global level, 2017 has seen much progress in several important areas in which science and policy have integral roles to play. Climate is perhaps the best example of this, with the EU making progress towards the 2016 Paris Agreement via its 2030 Climate and Energy Framework and the fact that its nationally determined contribution (NDC) includes an economy-wide GHG emissions reduction target of at least 40% below 1990 levels by 2030.

However, Europe, and indeed the wider world, is increasingly experiencing challenges which require urgent attention – without which, the consequences could be significant. One such issue is antimicrobial resistance (AMR), which stands to threaten modern medicine as we know it – without effective antibiotics, basic operations and common infections could become deadly. Work is now being kick-started to develop new antimicrobials through, for instance, the Innovative Medicines Initiative – but the drug development process is long and arduous, and with little-to-no new antibiotics in the pipeline, there is a real danger that the number of deaths caused by antibiotic-resistant bacteria will continue to rise.

Additionally, a One Health approach to the problem of AMR also stands to make headway – the agriculture sector is a significant contributor to the issue, with animals (sometimes needlessly) being prescribed antibiotics which go on to find their way into the food chain – by bringing together human and animal health professionals to achieve better public health outcomes (One Health also hopes to tackle diseases transferred from animals to humans – zoonoses).

It is with these challenges in mind that I welcome you to this edition of *Pan European Networks: Science & Technology*, within which I have dedicated pages to these issues, as well as numerous others.

Following a foreword from the European Climate Research Alliance's Professor Peter Braesicke, who uses this and his later article to discuss how climate-related challenges differ across countries and the increasing importance of interdisciplinary teams and approaches, as well as the need for more flexibility in the research landscape, the Research & Development section includes editorial contributions on topics such as materials, and transport (which includes an interview with Michiel van Ratingen, secretary general of Euro NCAP on automotive safety challenges in Europe).

The health section begins with coverage of the recent European Public Health Alliance's conference in Brussels, as well as with an insightful article from Paul de Raeye, secretary general of the European Federation

of Nurses, who makes the case for investing in and supporting the frontline nursing workforce, and empowering the health and social care sector as an investment for wellbeing, productivity and growth.

The ageing & neurodegeneration subsection features editorial contributions from the Global Alzheimer's & Dementia Action Alliance's Amy Little (who asks whether dementia is a feminist issue), and Alzheimer's Europe's policy officer, Vanessa Challinor (who outlines the findings of Alzheimer Europe's latest publication, which highlights inequalities in access to dementia care and treatment across Europe).

A further subsection on oncology includes an article from the president of the European Association for Cancer Research, Professor Anton Berns, who explains why it is so important to protect independent academic research, and another from the president-elect of the European Society of Medical Oncology, Professor Josep Tabernero, on why collaboration and education are key to sustainable cancer care.

A special feature on One Health and AMR then boasts content from the One Health Initiative on the importance of a worldwide One Health approach, while the closing subsection on maternal health sees the Alliance for Maternal Health Equality's Danielle Barron argue that equal access to maternal healthcare is still not a reality in Europe.

The environment & sustainability section begins with a substantial feature on climate research. Alongside Professor Braesicke's article, Dr Martin Porter, executive director for industry innovation and competitiveness at the European Climate Foundation, provides his thoughts on the EU's new Industrial Policy Strategy and how it ties in with issues central to the climate change challenge.

Then, a special feature on water innovation sees Guido Schmidt, head of the EIP Water secretariat, outline some of the topics tackled at the EIP Water 2017 conference, while Durk Krol, director of the Water Supply and Sanitation Technology Platform (WssTP), discusses some of the challenges facing the water sector in Europe, and EurEau's Bertrand Vallet outlines the need for more investment in infrastructure.

Following several other sections on topics as various as volcanology and food and agriculture, this edition closes on a special feature on archaeology.

As ever, I hope you find these pages as interesting and informative a read as I have found in their creation, and I welcome any comments you may have.