

# **Chair and Speaker Notes**

## **Summary of presentations**

### **Severn Estuary Partnership Activities (Paul Parker)**

Set up in 1995, the Severn Estuary Partnership is an independent, estuary-wide initiative led by local authorities and statutory agencies. The Partnership works with all those involved in the management of the estuary; from planners to port authorities, fishermen to farmers and many more. This presentation will briefly outline the work of the Partnership and its development and achievements over the past 12 months.

### ***The Port Sector***

### **The Tidal Elbe concept – sustaining the tidal river seaport of Hamburg (Boris Hochfeld)**

Within the last decade, dredging necessities in Hamburg have increased considerably and tightened ecological requirements resulting from European directives have created greater pressure on both port and fairway managers. The Hamburg Port Authority (HPA), together with the Waterways and Shipping Administration of the Federal Government (WSV) faced these challenges and, after looking into the causes, created a future orientated concept for the sustainable development of the Tidal Elbe River as an artery for the metropolitan Region of Hamburg and beyond.

The proposed action plan of this concept, published in 2006, is based on three milestones: 1. dissipation of the incoming tidal energy by hydraulic engineering constructions especially in the mouth of the estuary, 2. establishing new flooding areas in and around Hamburg, and 3. optimising the sediment management considering the system as a whole. Soon it became clear that implementing these challenging tasks would not only benefit navigation, but also nature and other matters.

Five years later, consecutive planning and the first steps of implementation have already achieved positive results. However, efforts will be continued. Together with current and future partners, the concept needs further development and implementation. A joint societal endorsement is needed to prepare the Elbe for the next century. The Port of Hamburg is willing to take a lead.

### **The Bristol Port Company (John Chaplin)**

John will remind the audience of the importance of Ports and the role of Bristol Port within the region and the UK. He will briefly describe the Port's operations and give an update of the works associated with the Bristol Deep Sea Container Terminal.

Given the primary focus of this year's Forum, John will discuss how the Port is addressing Climate Change as well as considering the relationship between the Port and the Energy Sector.

### ***Flood Risk & Adaptation***

### **Coastal Flooding, 1607 Floods, recent Storm Surges and Weather Events in the Severn Estuary (Kevin Horsburgh)**

The presentation will outline the events of the 1607 floods in the Severn Estuary, including possible causes. Specific focus will also be given to recent storm surge and weather events in the Estuary.

### **Severn Estuary Flood Risk Management Strategy and SMPII (Graham Quarrier)**

The Shoreline Management Plan (SMP) and the Environment Agency's strategy are the key documents to guide management of tidal flood risk in the estuary, south of Gloucester. The strategy adds detail to policies in the SMP that are agreed by the Coastal Group.

The presentation will report on the consultation undertaken earlier this year for the strategy, the principle issues arising from it and the responses and actions that the EA is undertaking as a result.

### **IMCORE adaptation to climate change (Rhoda Ballinger)**

The Interreg IVB IMCORE project ([www.imcore.eu](http://www.imcore.eu)) is bringing together local government and academic partners from nine study sites across North West Europe to enhance local capacity for coastal climate change adaptation. As part of this, Cardiff University and the Severn Estuary Partnership are working together to increase awareness of climate change impacts and adaptation options for the Severn Estuary. This presentation will provide an outline of the IMCORE project including an overview of the overall project outputs, including the IMCORE Distance Learning Tool and associated website. With respect to the Severn, the presentation will focus on the development of the IMCORE Severn Estuary climate change exploratory scenarios, easy-to-read climate change report cards, education materials and the final output, the Severn Estuary climate change adaptation guidelines.

### ***BBC Coast***

### **Reflection on BBC Coast programme and its impact (Miranda Krestovnikoff)**

Miranda Krestovnikoff will offer behind the scenes insights into the BBC Coast TV series and her opinions and experiences on coastal matters with specific reference to the Severn Estuary and Bristol Channel.

### ***Energy in the Estuary***

### **Aberthaw coal-fired coal station (Mark Picton)**

Aberthaw Power Station is a key operation in the RWE npower power generation portfolio, located in the Vale of Glamorgan on the north bank of the Bristol Channel.

The station began full operation in 1971 maximising local, natural resources such as the rich supply of coal from the Rhondda valleys and an abundant supply of cooling water from the Channel. The station can generate in excess of 1,500 megawatts of electricity for the National Grid system, which is enough power to meet the needs of some 1.5 million people – equivalent to the total population of five cities the size of Cardiff.

Ever changing market conditions and environmental drivers have encouraged the station to expand its traditional means of power generation to now include activities such as biomass firing, flue gas de-sulphurisation and ash re-cycling.

RWE are regarded as the largest investor in Wales with the Aberthaw station alone providing 300 full time jobs and contributing approximately £75 million to the local economy.

Aberthaw face a huge challenge with the advent of the Industrial Emissions Directive and are currently undertaking feasibility studies of the appropriate abatement equipment that would secure continued operation into the mid 2020's.

### **Proposed Nuclear Power Development – Hinkley Point C, An Update (Nigel knee)**

This presentation will offer a short update on the progress of the proposed Nuclear power development, Hinkley Point C.

### **Potential new development: Oldbury Nuclear Power Station (Chris Pearce)**

Horizon Nuclear Power is a UK 50:50 joint venture between EON UK and RWE npower, planning to deliver around 6GW of new nuclear power by 2025 at two sites: Wylfa on Anglesey and Oldbury-on-Severn in South Gloucestershire. This presentation will briefly outline Horizon's development activities at Oldbury, highlighting areas of potential interest to the Severn Estuary Forum in the areas of cooling water, marine transport and flood risk.

### **Marine Renewable Energies (Bettina Bockelmann-Evans)**

The Atlantic Area Interreg EU project MAREN (Marine Renewable Energy – Energy Extraction and Hydro-environmental Aspects) is a transnational multi-disciplinary co-operation project between 5 partner countries bordering the Atlantic corridor including the Republic of Ireland, Wales, France, Spain and Portugal. The main aims of MAREN are to support optimising the energy extraction potential, and minimising the hydro-environmental impact of a wide range of marine renewable energy devices including barrages and tidal impoundments, tidal stream turbines, wave energy devices and off-shore wind turbines. Although all these marine renewable energy devices are producing nearly CO<sub>2</sub>-free renewable energy, they are expected to cause adverse impacts on the water levels, flows, sediment processes, and fate and transport of the water quality constituents as well as ecological conditions of their surroundings. These impacts need to be investigated in detail, so large undesirable impacts would be avoided or necessary actions in mitigation of them would be considered.

The Hydro-environmental Research Centre (HRC) at Cardiff School of Engineering has been undertaking research within the MAREN project on predicting hydro-environmental impacts of marine renewable energy devices with particular focus on the Severn Estuary and the North Wales Coast.

### **Cultural Impacts and Responses to Offshore Renewable Energy: The Offshore Renewable Energy Impact Network (OREIN) (Nigel Nayling)**

This project brings together expertise from a number of Welsh Universities to examine the cultural impacts of offshore renewable energy projects in Welsh waters. This presentation will review progress and highlight research themes that have emerged so far, and consider the particular issues relevant to the Severn Estuary, reviewing our present understanding of cultural heritage in the estuary and the implications for renewable energy development in the region.

**Please note that all presentation (subject to the speakers consent) will be available on the Severn Estuary Partnership website shortly after the Forum event.**

**<http://www.severnestuary.net/sep/forum/2011.html>**

## **Biographical notes**

### **Session Chair: Prof. Terry Marsden:**

Terry Marsden is director of Cardiff University's Sustainable Places Research Institute and Professor of Environmental Policy and Planning in the School of City and Regional Planning. He is Co-Director of the UK Economic and Social Research Council's Research Centre for Business Relationships, Accountability, Sustainability and Society (BRASS). He is also Dean of the University Graduate College.

With more than 25 years experience working in the field of sustainability, Professor Marsden has a broad range of research and policy experience based around the themes of international rural development, sustainability and the rural environment. As Co-Director of BRASS he is involved in funded projects concerning food networks in rural areas, the multi-level governance of the rural environment, and intermediate labour markets in rural Wales.

He is a Member of the Royal Town Planning Institute, Fellow of the Royal Society of Arts, and Academician of Social Sciences.

Professor Marsden's research expertise is in theoretical and empirical studies in rural development, agro-food studies, sustainable development and planning, policy development and rural governance.

### **Cllr Martin Quale, Severn Estuary Partnership Chair:**

Born in Lancashire, Martin moved to Bristol where he went to school and studied Architecture at Bristol University. His architectural career took him to West Africa, New Zealand, Vanuatu in the South Pacific and Hong Kong; and after 30 years he returned to the UK to take life at a more leisurely pace in the Forest of Dean.

Martin's interests in the environment started in Nigeria where the orientation of buildings, ventilation and the control of sunlight, all affected the human comfort zone; with these studies proving useful 10 years later in Vanuatu. However, his interests grew to building design and the environment whilst in Hong Kong and on his return to the UK broadened again to an interest in matters such as flooding, contaminated land, foreshore management, waste to energy, climate change impacts and carbon emissions.

### **Paul Parker, Severn Estuary Partnership Officer:**

Paul Parker has over four years working experience with the Severn Estuary Partnership, helping to build a practical working framework in order to aid the effective cross-border communication of coastal estuarine matters in the Severn Estuary. Paul is the Secretary of the National Coastal Partnership Network, which aims to encourage the exchange of information and debate between Coastal Partnership Officers on a regular basis; linking Partnership Officers to the wider field and offering increased opportunities for learning and influence. Paul has a background in Marine Geography and completed a Marine Geography Degree at Cardiff University in the summer of 2008.

## **The Port Sector**

### **Boris Hochfeld, Hamburg Port Authority:**

Boris Hochfeld was born in 1971 in Hamburg where he studied Geography and Soil science and completed with a doctorate on functional soil assessment in regional planning in 2004. Since 2005 he has been working for the Hamburg Port Authority in the department for the sustainable development of the Tidal Elbe; responsible for nature issues and communication

concepts. He is currently involved in the development of an integrated management plan for the Elbe estuary through the implementation of a Natura 2000 site.

**John Chaplin, The Bristol Port Company:**

John is a Chartered Engineer and Fellow of the Institution of Civil Engineers. After working in consultancy and contracting, John joined The Bristol Port Company in 2000. He was promoted to the position of Director of Engineering in 2003.

John is the Project Director responsible for the Deep Sea Container Terminal proposals in Avonmouth and now takes a lead role on all major developments within the Port.

**Flood Risk & Adaptation**

**Session Chair: Cllr Simon Wakefield:**

Councillor Simon Wakefield is Chairman of Cardiff Council's Environment Scrutiny Committee which acts as a "critical friend" to the council on a variety of environmental issues including for example land use, flooding, waste disposal, transport and sustainability. He has held this position for the past 8 years and during that time has chaired many "Task and Finish" group investigations into *inter alia* Cardiff's Local Development Plan and the Council's readiness to deal with emergencies such as flooding or an extreme weather event. Professionally he is a marine geochemist who is currently Director of Teaching in Cardiff University's School of Earth and Ocean Sciences, which plays host to the Severn Estuary Partnership. Simon lectures on a variety of environmental topics such as pollution, water resources and hazards.

**Dr. Kevin Horsburgh, National Oceanography Centre:**

Dr. Kevin Horsburgh is the head of the National Tidal and Sea Level Facility in the Proudman Oceanographic Laboratory (POL), Liverpool, and is leader of the POL Oceans 2025 Wp3.5 "Causes and Impacts of extreme Events" project. He is currently also the manager of POL's contribution to the Storm Tide Forecasting Service (STFS); which is developing operational tide-surge models that provide UK coastal flood warning (in partnership with the Met Office and the Environment Agency).

His research interests lie within numerical modelling of sea level, Global and European sea level change and extremes, and in surge inundation modelling. Other projects include using data assimilation and artificial intelligence techniques in real time forecasting of coastal flooding (with the University of Bristol, funded by EPSRC/NERC), for the Flood Risk Management Research Consortium (FRMRC). In addition to this, he works on the Coastal Flood Forecasting project, which is developing real time ensemble surge forecasts and Monte Carlo simulations of near shore flood severity (with HR Wallingford and the Met Office, funded by DEFRA).

He is also involved in the Thames Estuary 2100 project, which looks at analysing extreme sea levels in the southern North Sea for the year 2100, based on coupled climate-surge models (with the Hadley centre, funded by the EA); as well as participating in the TRANSFER FP6 project on global tsunami monitoring and warning.

**Graham Quarrier, Environment Agency:**

Graham has worked for the Environment Agency for 25 years, mainly in the South West of England. He has worked on both inland and coastal flood defence projects in the capacity of designer, site supervisor and project manager. More recently he has specialised in strategic planning for flood management. This means experiencing firsthand the difficulties in predicting for the long term, whilst balancing the demands of funding criteria, impacts on environmental features, technical risks and public expectations.

**Dr. Rhoda Ballinger, Cardiff University, IMCORE:**

Dr. Rhoda Ballinger gained a degree in Geography and PhD from the University of Wales College of Aberystwyth. She now lectures in Marine Geography and Environmental Geoscience in the School of Earth and Ocean Sciences, Cardiff University. Her teaching and research interests include integrated coastal management, coastal policy and coastal risk management. She has undertaken a wide number of research projects both within the UK and Europe and published many articles in this field. She also takes a practical interest in coastal and environmental management, particularly through her involvement with the Severn Estuary Partnership and Flood Risk Management Wales.

**BBC Coast**

**Session Chair: Alex Midlen:**

Alex Midlen has over 20 years work experience in coastal management, spanning the academic, business, public and charitable sectors.

During 10 years in local government Alex gained experience of local Plan Policy, developing policy for flood risk management and marine leisure, and planning for coastal development sites.

Regarding implementation Alex spent over two years as Regeneration Programme Manager, with a special emphasis on the regeneration of a former port area. Regarding more rural issues, Alex has written, guided and project-managed many coastal management plans, including for Natura 2000 sites, estuary areas, and for specific sectors (e.g. marine leisure, coastal landscape, coastal planning, finfish and shell fisheries), and has particular experience in community engagement.

Alex also has experience in inshore fishery management and in aquaculture. Furthermore, through CoastNet, Alex initiated five years of support work for Coastal Partnerships (including the Wash Estuary Partnership) and coastal governance. Alex worked for over 5 years to support the UK Local Government Association with regard to coastal issues, and represented it on UK Government working groups, in particular the Review of Marine Nature Conservation. He was co-author of the LGA's coastal strategy, 'On the Edge-the coastal strategy'.

Alex has worked extensively in Europe and has particular expertise in the Interreg programme, having devised and managed a number of multinational, multi-partner projects, with budgets of up to €10 million.

**Miranda Krestovnikoff:**

Miranda is currently filming series 6 of Coast alongside regular appearances on The One Show.

As a resident wildlife expert on BBC1's popular The One Show, and co-presenter of the award-winning series Coast, Miranda is a regular feature on our screens, and one of wildlife's busiest presenters.

Miranda has presented *How to Holiday Greener – UK* for the Travel Channel and *Thames Wildlife Superhighway* as well as *Country Lives* for ITV. Other BBC series include *History Mysteries* and *The Nature of Britain*.

As an experienced diver, Miranda presented Channel 4's *Wreck Detectives* and is the UK front-woman of the new broadband channel the *underwater channel.tv*. An accomplished musician and great lover of classical music, Miranda was delighted to present the BBC Proms 2010 having co-presented coverage for BBC4 in 2009. Additional musical credits include hosting weekend Breakfast Shows for Radio 3.

Miranda is a successful public speaker and has presented for the National Geographical Society and UK and Irish Dive shows, amongst others. She writes articles for tourism, lifestyle and leisure and has become one of the country's leading beachcombing experts launching a major top ten campaign last year. Miranda writes regularly for *Diver* magazine and co-wrote *Scuba Diving* for the DK Eyewitness Companions series as well as contributing to BBC's Countryfile magazine. She has written two books *Miranda Krestovnikoff's Best British Beaches* on sale now, and *Beach* to be published next year by Anova Books.

### **Energy in the Estuary**

#### **Session Chair: George Ashworth:**

George Ashworth has chaired the SEP Management Group since 1998. Following a Geography BA (Hons) degree from Southampton University, he undertook an MSc in Urban and Regional Planning from Strathclyde University and became a Member of the Royal Town Planning Institute (RTPI) in 1978. He has been Head of Planning and Regeneration in Monmouthshire County Council since its formation in 1996 and has always recognised the significance of the Estuary to planning interests around its shore; not least because of climate change and renewable energy concerns. He has promoted such interests in relation to the Wales Spatial Plan and South East Wales Strategic Planning Group, of which he is a past chair.

#### **Dr. Mark Picton, RWE npower:**

Mark has 20 years of "heavy industry" experience including refinery operation, steel manufacture and the electricity generation business as well as experience with the regulatory authority, the Environment Agency (EA).

He currently is the Commercial Operations Manager for the npower Aberthaw Power Station; part of the RWE Group and leading European utilities companies.

He began his career in pharmaceutical R&D but industry challenges prompted a move to Senior Environmental Engineer at a major integrated steel plant. He then joined the EA as a Process Industry Regulation Inspector helping legislate COMAH across a range of industries including aluminium processing, bulk chemical manufacture and oil refining.

He has held a number of positions throughout his power sector career involving process chemistry, environmental performance, health and safety performance and "sharp end" operation of a large, traditional thermal power plant. He has also worked at npower corporate head office as a business support manager to the COO, focusing on the electricity generation business throughout Europe.

He gained a Bachelor of Science (Hons) in chemistry and a subsequent doctorate in pharmaceutical related chemistry through part-time study.

#### **Nigel Knee, EDF Energy:**

Nigel Knee is responsible for nuclear policy issues within EDF Energy's nuclear new build team, which is planning the construction of four new nuclear reactors in the UK, capable of supplying the electricity needs of 10 million homes. Previously he was part of British Energy's strategy and business development team, focusing on the opportunity for new nuclear build.

Nigel trained as a metallurgist and is a chartered engineer. He has over 25 years' experience in the electricity industry, starting out in engineering but he has also worked on safety assessment, research programme management and diverse commercial issues including electricity trading strategy, business planning and market regulation.

**Chris Pearce, Lead Mechanical Engineer, Horizon Nuclear Power:**

Chris Pearce is a Mechanical Engineer within Horizon Nuclear Power's Engineering directorate. Chris has worked in the power industry for E.ON (and Powergen before that) for 15 years on a variety of projects. Prior to his current role, he worked for 2 years in the site development team for Oldbury, holding specific responsibility for work relating to flood risk and cooling systems.

**Dr. Bettina Bockelmann-Evans, Cardiff University, MAREN:**

Dr Bettina Bockelmann-Evans is a Senior Lecturer at Cardiff University, a member of the Hydro-environmental Research Centre at Cardiff School of Engineering and, as a Chartered Engineer, a Member of the Institution of Civil Engineering. She has got 12 years experience in Environmental Water Management. Bettina's main research interest is extending the group's expertise in eco-hydraulic aspects of river restoration, water quality modelling of estuarine and coastal waters and catchment to coast modelling of water quality constituents, using a combination of field, laboratory and computer modelling techniques. She is particularly interested in investigating estuarine waters and the impact of the salinity gradient on nutrient sediment interaction. The aim of her research is to use this understanding to construct predictive water quality and ecology models which may be used to simulate the short and long-term impacts of anthropogenic inputs on receiving water bodies using and refining the HRC's hydrodynamic and water quality models.

**Nigel Nayling, University of Wales Trinity Saint David:**

Nigel Nayling is a lecturer in Archaeology at the University of Wales Trinity Saint David and has worked on the cultural heritage of the Severn Estuary for twenty years; carrying out excavations in the Gwent Levels ranging from the prehistoric forests in the intertidal zone, to boats and ships dating to the Bronze Age, Roman and medieval periods. He runs the university's dendrochronology laboratory and has dated many of the timber structures discovered in the estuary over the last two decades. He is a member of the steering group of the Severn Estuary Levels Research Committee and has represented this umbrella organisation for archaeological interests on the Severn Estuary Partnership.