Generation Accumulation And Production Of Europe Am

#Europe energy production #European energy generation #Energy accumulation Europe #EU energy policy #Sustainable European energy

Delve into the critical processes of energy generation, accumulation, and production across Europe. This comprehensive overview explores the strategic initiatives and challenges faced by the continent in ensuring robust and sustainable energy frameworks, vital for its economic stability and environmental goals. Understand the current state and future outlook for European energy independence and innovation.

Generation, Accumulation and Production of Europe’s Hydrocarbons III

The 30 contributions of this volume cover the main European regions for oil and gas exploration: the North Sea and adjacent areas, the central and eastern Mediterranean including offshore Albania, central and eastern Europe including Poland, Hungary, the Russian platform and offshore Bulgaria. Main topics are investigations to sequence stratigraphy, 3D-quantitative restoration and balanced structural sections, using the LOCACE equipment. Additional studies deal with a Monte Carlo method for generating models of porosity and permeability, with facies characterization using wireline logs or with petrographic applications of image analysis. As further reading this volume is of significant interest for researchers in oil and gas industries but also for scientists at universities.

Generation, Accumulation, and Production of Europe's Hydrocarbons

Here is a landmark volume reviewing the currently known geoscience of 30 European petroleum basins. The broad scope and multidisciplinary approach of the work are reflected in the main themes: petroleum geology of the basins, source rocks and their evolution, the composition of selected oil and gas fields, the resource base, and reservoir description and management. This is a valuable work, particularly for petroleum geologists, that gathers together much information that is not otherwise readily available.

Petroleum Geology of the Southern North Sea

Leading East European petroleum explorationists from Albania, Bulgaria, the Czech Republic, Slovakia, former East Germany, Hungary, Poland and Romania present a systematic view of petroleum geology, exploration history, production, reserves and potential in their countries which, until recently, have been closed to Western observers. Practitioners and scientists working in the field of hydrocarbon exploration will find valuable information for an interesting target area.

Hydrocarbons of Eastern Central Europe

This volume presents an overview of the results of a European Union integrated program in which approximately two hundred earth scientists participated, drawn from all fields related to exploration. Two classes of modeling were addressed - geological modeling - the relationship between the conditions of sedimentation and the resulting reservoir conditions; and wave-propagation modeling - the investigation of wave-propagation through media of various degrees of complexity. Wave-propagation modeling was carried out either mathematically or physically with the most modern tools. An important aspect of the project was the inversion of seismic data, that is the determination of the parameters of the medium from observations. This problem is closely related to modeling since it is based on the inversion of the mathematical steps and often uses modeling for verification and updating. The geological data presents novel concepts with a coverage that is both broad in area and in discipline. The geophysical investigations are at the leading edge of current research. Although detailed results have been published separately by investigators, this volume is the only source of reference which summarises the results; but incorporating sufficient detail to enable the reader to follow the scientific reasoning.

Generation, Accumulation, and Production of Europe's Hydrocarbons II

The subject of the book will be recent advances in the Petroleum Geology of France, including papers on the present exploration and production activity, field descriptions, regional synthesis and thematic papers an sequence stratigraphy and tectonic. A special attention will be given to the illustration (maps, seismic sections, raw data ...). This will be the first attempt to publish one single volume devoted to the petroleum geology of France.

Modeling The Earth For Oil Exploration

Sequence Stratigraphy, presently one of the most rapidly growing areas in geology, is concerned with the documentation and prediction of how sandstones (potential hydrocarbon reservoirs) and shales (potential source rocks) are distributed in time and space within sedimentary basins. The book takes a critical look at some of the sequence stratigraphy concepts, and provides an account of how these have been applied recently in NW Europe (North Sea, mid Norway and E. Greenland, Barents Sea and Svalbard), mainly in connection with the exploration for oil and gas. There is currently no similar book available.

Hydrocarbon and Petroleum Geology of France

Since the search for hydrocarbon resources in the Arctic started in the 1930's the exploration activity has expanded into many of the Arctic regions, and several of the Arctic sedimentary basins have proven to be important sources of hydrocarbon. Nevertheless, the Arctic continental margins and adjacent onshore areas are still largely unexplored in the context of petroleum, and are therefore considered to be one of the few regions in the world where significant undiscovered sources of hydrocarbon may exist. The aim of the book is to give an updated overview of the geology of the Arctic sedimentary basins and their petroleum potential. Although the different basins vary significantly as regards sedimentary fill and tectonic evolution, many of the basins share some of the characteristics needed to become prolific oil and gas provinces. The book contains 45 extensively illustrated articles. It starts with papers on the Mesozoic source rocks, and oceanic natural gas clatrates in the Arctic, respectively. Then follow articles on the regional and petroleum geology of the main regions; Greenland, North American Arctic, Soviet Arctic and the Barents Sea. Particular emphasis is placed on the Barents Sea. The two last chapters comprise articles on salt dynamics and methods. The book closes with a paper on international law in the Arctic. This volume will be of interest to both students and professional earth scientists/petroleum explorationists working in the northern latitudes. It will allow the readers to stay abreast of the development in this climatic region of the world.

Understanding Petroleum Reservoirs

Since the 3rd edition of this publication, emphasis within the petroleum industry has shifted from exploration to appraisal and development of existing hydrocarbon resources. This change is reflected in this new 4th edition, which has been significantly expanded to accomodate additional material. The centrepiece of the book, however, remains a series of descriptions, in stratigraphic order, of the depositional history and hydrocarbon related rock units of the North Sea.

Sequence Stratigraphy on the Northwest European Margin

The Origins of Mountains approaches mountains from facts about mountain landscapes rather than theory. The book illustrates that almost everywhere, mountains arose by vertical uplift of a former plain, and by a mixture of cracking and warping by earth movements, and erosion by rivers and glaciers, the present mountainous landscapes were created. It also gives evidence that this uplift only occured in the last few million years, a time scale which does not fit the plate tectonics theory. Another fascinating part of the evidence, shows that mountain uplift correlates very well with climatic change. Mountain building could have been responsible for the onset of the ice age. It certainly resulted in the creation of new environments. Fossil plants and animals are used in places to work out the time of mountain uplift, which in turn helps to explain biogeographical distributions.

Arctic Geology and Petroleum Potential

This book represents the proceedings of the 9th written by a very active group of physicists at Kongsberg seminar, held at the Norwegian Mining the University of Oslo - physicists interested in Museum located in the city of Kongsberg about complex systems in general and geo-like systems 70 km Southwest of Oslo. The Kongsberg district in particular. is known for numerous Permian vein deposits of The content of the book is organized into three native silver, and mining activity in the area lasted major parts following the introductory chapter. for more than 300 years, finally ceasing in 1957. Chapters 2 to 7 primarily treat the role of fluids The previous eight Kongsberg seminars were in specific geological environments, ranging from focused on ore-forming processes and all of these sedimentary basins (Chapters 2-3) to contact were organized by Professor Arne Bj0rlykke, now metamorphic/hydrothermal scenarios (Chapters director of the Norwegian Geological Survey. 4-5) and regional metamorphic settings (Chapters Since process-orientated research tends to break 6-7). The following four chapters (8-11) focus down the traditional barriers between the different on various properties of fluid-rock systems that geological disciplines, this seminar has always are critical in controlling flow and transport been a meeting point for people with a variety through rocks. These include: mineral solubility of geological backgrounds.

Petroleum Geology of the North Sea

The Mjølnir impact structure was recognized in 1993 and included in the Earth Impact Database in 1996, based on the discoveries of unequivocal meteorite impact indicators such as shocked quartz, Ir-enrichments, possible glass remnants, fragments of nickel-rich iron oxides, in addition to the convincing complex crater shape of the structure. This book presents the geological and geophysical history of the Barents Sea region along with the discovery of the Mjølnir impact crater. We place the Mjølnir event into the geological framework of the region and present elaborative numerical models of its formation and associated tsunami generation. The book represents an update and synthesis as well as the complete compilation of the Mjølnir crater studies.

The Origin of Mountains

The Geological Modelling of Hydrocarbon Reservoirs and Outcrop Analogues is a collection of 15 selected papers taken from the Symposium of the same name which formed part of the IAS Congress of 1990 held in Nottingham, UK. Recent technological advances and the ever increasing demand for maximising recovery from existing oil and gas fields has led to an upsurge of interest, at both academic and industrial levels, in reservoir characterization and quantitative modelling of physical rock properties in 3-D inter-well space. Synthesizing both industrial and academic research and integrating sedimentology, petroleum geology, geostatistic and geomathematics, this volme is a state-of-the-art presentation of approaches to quantifying geology in order to give better input to 3-D numerical reservoir modelling methods. It is the first IAS volume to highlight the necessary interface with academic and oil industry geology by showing how academic research can significantly support the mathematical modelling work of reservoir engineers in industry and contributions to the volume come from an expert, international team comprised of university, government and international oil industry scientists.

Fluid Flow and Transport in Rocks

Contains 21 papers on the petroleum geology of the Netherlands, combining work by the industry, the Geological Survey and universities. The wide range of topics presented includes reservoir characterization through 3D seismic and borehole log evaluation of single oil and gas fields, as well as reviews of the hydrocarbon habitat in the West Netherlands Basin and of the regional Rotliegend facies distribution. Published in association with the Royal Geological and Mining Society of the Netherlands

(KNGMG), which hosted the 1993 International Conference in the Hague of the American Association of Petroleum Geologists. The papers were prepared for this conference. Audience: Staff engaged in hydrocarbon exploration and production in the North Sea area. Others who need to know about the results of this exploration and production in the Netherlands.

Excursion Guidebook

The main intention of this book is to provide geoscientists interested or working in hydrocarbon exploration with a comprehensive understanding of the evolution of hydrocarbon migration systems in sedimentary basins and to give guidelines for its application in basin evaluation. For this purpose, the book fully integrates hydrogeologic and hydrodynamic aspects of the evolution of sedimentary basins with petroleum geologic aspects. It will be of interest to petroleum geologists, hydrogeologists, geochemists and reservoir geologists.

The Mjølnir Impact Event and its Consequences

North Sea and onshore Netherlands and Germany, Paleozoic hydrocarbon plays across parts of NW Europe remain relatively under-explored both onshore and offshore. This volume brings together new and previously unpublished knowledge about the Paleozoic plays of NW Europe to describe significant additional exploration opportunities outside and below existing plays. The volume contains papers on Paleozoic plays in the North Sea, Irish Sea, onshore UK, France and Switzerland. They highlight how improvements in seismic data quality and the availability of previously unpublished well datasets form the basis for improved understanding of local to regional interpretations that move forward from generalized basin development models. The improved structural trap and source rock basin definition feeds to better constrained, locally variable burial, uplift, maturation and migration models. Particularly notable are the significant mapped extents and thickness of Paleozoic source, reservoir and seal rocks in areas previously dismissed as regional highs and platforms.

The Geological Modelling of Hydrocarbon Reservoirs and Outcrop Analogues

Petroleum Geoscience is a comprehensive introduction to the application of geology and geophysics to the search for and production of oil and gas. Uniquely, this book is structured to reflect the sequential and cyclical processes of exploration, appraisal, development and production. Chapters dedicated to each of these aspects are further illustrated by case histories drawn from the authors' experiences. Petroleum Geoscience has a global and 'geo-temporal' backdrop, drawing examples and case histories from around the world and from petroleum systems ranging in age from late-Pre-Cambrian to Pliocene. In order to show how geoscience is integrated at all levels within the industry, the authors stress throughout the links between geology and geophysics on the one hand, and drilling, reservoir engineering, petrophysics, petroleum engineering, facilities design, and health, safety and the environment on the other. Petroleum Geoscience is designed as a practical guide, with the basic theory augmented by case studies from a wide spread of geographical locations. Covers all the key aspects of the origin of petroleum, exploration, and production. It takes account of the modern emphasis on the efficient utilisation of reserves, on new methods in exploration (such as 3-D seismics). Book takes 'value-chain' approach to Petroleum Geoscience. First new text on petroleum geology for geology undergraduates to be published in the last ten years. Packed full of real-life case studies from Petroleum industry.

Extensional Tectonics: Faulting and related processes

The science of organic Geochemistry bridges the gap between living and fossil organisms. It is concerned with the processes by which organic material changes after death, during sediment burial, diagenesis and maturation, to produce gas, liquid petroleum and coal. It is equally concerned with the way in which organic matter of geological origin enters the biosphere and interacts with living organisms. Applications of organic geochemistry to the petroleum industry include exploration (developing the ability to predict the occurrence of petroleum within a sedimentary basin) and production (predicting the response of reservoir rocks to interaction with organic-rich pore fluids) as well as in fingerprinting oil spills.

Geology of Gas and Oil under the Netherlands

In the current cost-constrained environment for hydrocarbon exploitation, increasing emphasis is being placed on robust subsurface description and a clear understanding of the range of uncertainty

associated with reservoir models. Structural heterogeneity, particularly at the subseismic scale, forms an integral part of these refined descriptions as it allows greater prediction of subsurface flow characteristics. This volume examines the best current practice and new challenges in hydrocarbon reservoir characterization and modelling of small to subseismic deformation features through case studies, experimental results and modelling. The papers follow four themes: characterization of deformation in porous sandstones, novel characterization techniques, quantifying and characterizing deformation in carbonates, and modelling small-scale features. It includes a collection of papers from a two-day international conference that brought academic and industry geoscientists and engineers together to discuss best current practice and new challenges in reservoir characterization and modelling of small to subseismic deformation features. The volume should be of interest to geoscientists, petrophysicists, reservoir engineers and modellers.

Hydrocarbon Migration Systems Analysis

A review of the extensive advances made in the understanding the petroleum geology of the Atlantic margin of northwest Europe, of the North Sea and of adjacent areas since the;ast conference in 1992. In particular, the volume focuses on: the development of and application of 3D seismic, time-lapse ('4D') and other innovative seismic tools; the ongoing refinement of sequence and other stratigraphic approaches, including the integration of detailed biostratigraphic data; the development of modelling at both the reservoir and basin scale which can respond to new data acquisition and be used to assess uncertainties at the reservoir scale and scenarios at the basin scale.

Paleozoic Plays of NW Europe

Volume 2 provides an overview of the Mesozoic and Cenozoic evolution of Central Europe. This period commenced with the destruction of Pangaea and ended with the formation of the Alps and Carpathians and the subsequent Ice Ages. Separate summary chapters on the Permian to Cretaceous tectonics and the Alpine evolution are also included. The final chapter provides an overview of the fossils fuels, ore and industrial minerals in the region.

Geodynamic Evolution of ...

The study of sediments and sedimentary basins in terms of their tectonic environment requires a multidisciplinary approach and has increasingly drawn both techniques and objectives from fields outside sedimentology. Studies presented in this volume range across a wide spectrum from the analysis of sedimentary sequence architecture at basin scale down to the chemical properties of individual grains, and include studies from a range of tectonic settings.

Petroleum Geoscience

"The coexistence in space and time of growing mountain belts and actively extending basins poses a number of yet unsolved questions in terms of mechanics. This problem is particularly crucial in the Mediterranean regions, where all Cenozoic basins opened in the internal zones of mountain belts." "This volume brings together contributions from geologists and geophysicists in the quest to solve the complex dynamic problem posed by the Mediterranean region. It presents a wealth of new data on various topics centred on the Mediterranean region from the deep mantle structure to the detailed geometry of sedimentary basins."--BOOK JACKET.Title Summary field provided by Blackwell North America, Inc. All Rights Reserved

Organic Geochemistry

This conference was arranged by the Norwegian Petroleum Society in order to commemorate the first 25 years of exploration on the Norwegian Continental Shelf. Sixty papers and posters were presented of which 25 have been selected for this volume. Since the start of exploration activities during the mid 1960's the North Sea has not only proved to be one of the main petroleum provinces in the world, but has also established itself as an excellent laboratory for geoscientific research and application. This development has been stimulated greatly by the openess towards exchange of technical data encouragement by the Norwegian authorities. The objective of this book is to assess the results of 25 years of exploration in Norway. It focuses on lessons learned from past experiences as well as considering future challenges facing geoscientists in the industry (relating to both exploration and exploitation activities). Included, are papers which assess the status and future trends of exploration

in the main geological provinces on the Norwegian Continental Shelf from the Central Graben in the south to Svalbard and the Russian Artic in the north.

Subseismic-Scale Reservoir Deformation

Ocean closure involves a variety of converging tectonic processes that reshape shrinking basins, their adjacent margins and the entire earth underneath. Following continental breakup, margin formation and sediment accumulation, tectonics normally relaxes and the margins become passive for millions of years. However, when final convergence is at the gate, the passive days of any ocean and its margins are over or soon will be. The fate of the Mediterranean and Persian Gulf is seemingly known beforehand, as they are nestled in the midst of Africa-Arabia plate convergence with Eurasia. Over millions of years through the Cenozoic era they progressively shriveled, leaving only a glimpse of the Tethys Ocean. Eventually, the basins will adhere to the Alpine-Himalaya orogen and dissipate. This book focuses on a unique stage in the ocean closure process, when significant convergence already induced major deformations, yet the inter-plate basins and margins still record the geological history.

Petroleum Geology of Northwest Europe

The NAG-TEC project was a collaborative effort by the British Geological Survey, the Geological Survey of Denmark and Greenland, the Geological Survey of Ireland, the Geological Survey of the Netherlands, the Geological Survey of Northern Ireland, the Geological Survey of Norway, Iceland GeoSurvey and the Faroese Geological Survey (Jarðfeingi), along with a number of academic partners and significant support from industry. The main focus was to investigate the tectonic evolution of the region with a particular emphasis on basin evolution along conjugate margins. A key outcome was the development of a new tectonostratigraphic atlas and database that includes comprehensive geological and geophysical information relevant for understanding the Devonian to present evolution of the NE Atlantic margins. These provide the foundation upon which ongoing research and exploration of the area can build. This Special Publication provides some of the first scientific results and analysis based on the project, including regional stratigraphic analysis and correlations, crustal structure and interpretation of geophysical data sets, plate kinematics and the evolution of igneous provinces.

The Geology of Central Europe

Geological Society Memoir 52 records the extraordinary 50+ year journey that has led to the development of some 458 oil and gas fields on the UKCS. It contains papers on almost 150 onshore and offshore fields in all of the UK’s main petroliferous basins. These papers range from look-backs on some of the first-developed gas fields in the Southern North Sea, to papers on fields that have only just been brought into production or may still remain undeveloped, and includes two candidate CO2 sequestration projects. These papers are intended to provide a consistent summary of the exploration, appraisal, development and production history of each field, leading to the current subsurface understanding which is described in greater detail. As such the Memoir will be an enduring reference source for those exploring for, developing, producing hydrocarbons and sequestering CO2 on the UKCS in the coming decades. It encapsulates the petroleum industry’s deep subsurface knowledge accrued over more than 50 years of exploration and production.

Tracing Tectonic Deformation Using the Sedimentary Record

What is the important geologic information recorded in Thrust Belts and Foreland Basins (TBFB) on the evolution of orogens? How do they transcript the coupled influence of deep and surficial geological processes? Is it still worth looking for hydrocarbons in foothills areas? These and other questions are addressed in the volume edited by Lacombe, Lavé, Roure and Vergés, which constitutes the Proceedings of the first meeting of the new ILP task force on "Sedimentary Basins\

The Mediterranean Basins

"This book was written for students, new professionals in oil companies, and for anyone with an interest in reservoir geology. It explains the background to production geology in the context of oil field subsurface operations. It also gives practical guidelines as to how a production geologist can analyze the reservoir geology and fluid flow characteristics of an oil field with the aim of improving hydrocarbon recovery. Advice is given on how to search for the remaining oil volumes in a producing field, where

these pockets are typically found, and then how to plan wells to target these volumes."--Publisher's description.

Geology and Tectonic Evolution of the Central-southern Apennines, Italy

Did you know that the Grand Bank earthquake of 1929 triggered ahuge submarine mass movement which broke submarine cables over adistance of up to 1000 km from its source and generated a tsunamiwhich devastated a small village in Newfoundland killing 27 people?The same happened in Papua New Guinea in 1998 with more than 2000casualties. Submarine mass movements of various sizes and styles areshaping the sea floor and are of concern for many facets of humanactivities both onshore and offshore. These include the development ofnatural resources, energy and communication transport, coastalinfrastructures and communities. This book provides a world-wideperspective of submarine mass movements and their consequences. Thishas been made possible by assembling excellent contributions fromactive researchers, groups, or institutions, thus providing fullcoverage of the many scientific and engineering aspects of this typeof marine and coastal geo-hazard. It covers fundamental as well assite specific studies from many areas including the Atlantic andPacific oceans, inner seas like the Mediterranean Sea, and fjordsusing the most recent technologies from multibeam sonar imagingtechniques, 3D seismic analysis, slope stability analysis, to debrisflow and tsunami modeling."Audience: " This book is of interest to any researcher in thefield of marine and coastal geo-hazards. It will be useful forplanners, scientists and engineers involved in the development ofoffshore and near-shore resources and also to those in charge of themanagement and mitigation of coastal hazards. For graduate students, this book provides an up-to-date vision of the process of submarinemass movements and their consequences from both ascientific and anengineering standpoint, and it includes a unique collection of theexisting literature on marine geo-hazards."CD-Rom included" This volume contains a CD-Rom which in additionto an electronically searchable vers

Petroleum Exploration and Exploitation in Norway

This unparelleled reference synthesizes the methods used in microfacies analysis and details the potential of microfacies in evaluating depositional environments and diagenetic history, and, in particular, the application of microfacies data in the study of carbonate hydrocarbon reservoirs and the provenance of archaeological materials. Nearly 230 instructive plates (30 in color) showing thin-section photographs with detailed explanations form a central part of the content. Helpful teaching-learning aids include detailed captions for hundreds of microphotographs, boxed summaries of technical terms, many case studies, guidelines for the determination and evaluation of microfacies criteria, for enclosed CD with 14000 references, self-testing exercises for recognition and characterization skills, and more

New Frontiers in Tectonic Research

Sequence stratigraphy has become a powerful tool in the basin analysis of the North Sea Basin, and will continue to play an important role in the maximization of the remaining hydrocarbon potential of the region, whilst also supporting the energy transition in carbon capture and storage projects with Jurassic storage units. This Memoir provides a long-awaited, comprehensive documentation of Jurassic to lowermost Cretaceous sequence stratigraphy of the region (UK, Norway, Denmark and adjacent areas). The volume is amply illustrated by numerous well log displays, core images, seismic lines, chronostratigraphic diagrams and outcrop photographs. Individual chapters discuss the historical usage of sequence stratigraphy in the North Sea Jurassic, sequence stratigraphic concepts and models, application in hydrocarbon field development, definition of stratigraphic traps, well sequence interpretation methodology and controls on sequence development. To complete the volume there are further chapters on North Sea Jurassic lithostratigraphy and its relation to sequence stratigraphy, and descriptions of the biozones used to characterize and correlate the sequences.

The NE Atlantic Region

Tectonics and Sedimentation