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this report on removing barriers to the use of natural gas as maritime transportation fuel is another step in our exploration of the catalytic role of natural gas in attaining the sustainable development goals and in particular goal 7 to ensure access to affordable reliable sustainable and modern energy for all the report demonstrates the business case for using lng as a fuel in maritime transport for both lng tankers and increasingly since 2000 other ships currently there are over 300 ships powered by lng this is a positive development in view of the significant environmental benefits of lng compared to heavy fuel oil and diesel both of which dominate today s market for international shipping bunkers this book explores in detail the challenges which the european gas markets currently face and the opportunities they present bringing together some of the most prominent gas experts on europe from both academia and industry this edited volume provides a comprehensive analysis of the various economic political and technological factors that interact in this sector featuring a foreword by maroš Šefčovič vice president of the european commission in charge of the energy union contributions explore a wide range of issues such as the role of gas in decarbonizing europe the outlook of europe s gas demand supply and pricing and global lng dynamics country specific studies include russia norway the netherlands and germany with regional studies including north africa and the eastern mediterranean alongside detailed analysis of this complex sector it also puts forward a set of policy recommendations for the sector s key stakeholders this volume will be of interest to researchers and academics as well as practitioners and professionals within european gas natural gas and global energy transitions provides an in depth and authoritative examination of the transformative implications of the ongoing global energy transitions for natural gas markets across the world with case studies from africa asia europe north america latin america south america australia and the middle east the volume introduces readers to the latest legal policy technological and fiscal innovations in natural gas markets in response to ongoing global energy transitions it outlines the risk mitigation strategies and contractual techniques focusing on resilience planning low carbon business models green procurement climate smart infrastructure development accountability gender justice and other sustainability safequards that are required to maximize the full value of natural gas as a catalyst for a just and equitable energy transition and for energy security across the world written in an accessible style this book outlines the guiding principles for a responsible and low carbon approach to the design financing and implementation of natural gas development and commercialization it is an indispensable text and reference work for students scholars practitioners and stakeholders in natural gas energy infrastructure and environmental investments and projects sustainable liquefied natural gas the latest release in the fundamentals and sustainable advances in natural gas science and engineering series delivers many of the technical fundamentals needed in the natural gas industry with an additional sustainability lens introductory topics include liquefication and separation technology advanced applications include improving operational efficiency for carriers and cargo shipping schedules exploiting cold energy for regasification operations and an outlook on ways to further reduce emissions supported by corporate and academic contributors along with two well distinguished editors sustainable liquefied natural gas provides today s natural gas engineers the knowledge to adjust liquefied natural gas operations in a more environmentally sustainable way provides case studies and visuals to illustrate how new principles can be applied in practical situations presents innovative advances that are leading to improved environmental performance bridges theory and comprehensive exploration of some of the most critical issues regarding the eu s energy union policy applied european energy policies face a number of challenges ranging from the geopolitics of energy and energy regulation to climate change advancing renewable and gas

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technologies and consumer empowerment structures this book takes a multi dimensional look into some of these vital issues regarding the european energy sector with a special focus on the effects the energy union policy has in two sensitive regional systems southeastern europe and the eastern mediterranean energy being by definition a multi disciplinary field presents a challenge for readers of any specific disciplinary background that need to grasp an overall understanding of the various aspects of this exciting sector this book s objective is to offer the opportunity for readers to get a quality hands on overview of the energy union by the professionals and academics that interact with it on a daily basis since 2007 the biennial international conferences on dynamics in logistics ldic offers researchersand practitioners from logistics operations research production industrial and electrical engineering aswell as from computer science an opportunity to meet and to discuss the latest developments in this particular research domain from february 23th to 25th 2022 for the eighth time ldic 2022 was held inbremen germany similar to its seven predecessors the bremen research cluster for dynamics inlogistics logdynamics organized this conference the spectrum of topics reaches from the dynamic modeling planning and control of processes over supply chain management and maritime logistics toinnovative technologies and robotic applications for cyber physical production and logistics systems ldic 2022 provided a forum for the discussion of advances in that matter the conference programconsisted of keynote speeches and research papers selected by a severe double blind reviewing process within these proceedings all the papers are published by this the proceedings give an interdisciplinaryoutline on the state of the art of dynamics in logistics as well as identify challenges and solutions forlogistics today and tomorrow environmental health discusses environmental effects on human health it examines heavy metal pollution biological effects of arsenic on reproductive health especially effects of soil organic carbon chemical pollution of drinking water climate change and vector borne diseases marine fuels particulate matter and the united nations sustainable development goals sdgs logistics accounts for around 9 10 of global co2 emissions and will be one of the hardest economic sectors to decarbonize this is partly because the demand for freight transport is expected to rise sharply over the next few decades but also because it relies very heavily on fossil fuel decarbonizing logistics outlines the nature and extent of the challenge we face in trying to achieve deep reductions in greenhouse gas emissions from logistical activities it makes a detailed assessment of the available options including restructuring supply chains shifting freight to lower carbon transport modes and transforming energy use in the logistics sector the options are examined from technological and managerial standpoints for all the main freight transport modes based on an up to date review of almost 600 publications and containing new analytical frameworks and research results decarbonizing logistics is the first to provide a global multi disciplinary perspective on the subject it is written by one of the foremost specialists in the field who has spent many years researching the links between logistics and climate change and been an adviser to governments international organizations and companies on the topic this set of two volumes comprises the collection of the papers presented at the 5th international conference on maritime technology and engineering martech 2020 that was held in lisbon portugal from 16 to 19 november 2020 the conference has evolved from the series of biennial national conferences in portugal which have become an international event and which reflect the internationalization of the maritime sector and its activities martech 2020 is the fifth of this new series of biennial conferences the set comprises 180 contributions that were reviewed by an international scientific committee volume 1 is dedicated to maritime transportation ports and maritime traffic as well as maritime safety and reliability it further comprises sections dedicated to ship design cruise ship design and to the structural aspects of ship design such as ultimate strength and composites subsea structures as pipelines and to ship building and ship repair this book gathers the peer reviewed proceedings of the 14th international symposium prads 2019 held in yokohama japan in september 2019 it brings together naval architects engineers academic researchers and professionals who are involved in ships and other floating structures to share the latest research advances in the field the contents cover a broad range of topics including design synthesis for ships and floating systems production hydrodynamics and structures and materials reflecting the latest advances the book will be of interest to researchers and practitioners alike this book collects the papers presented at the 7th international conference on risk analysis and crisis response racr 2019 held in athens greece on october 15 19 2019 the overall theme of the seventh international conference on risk analysis and crisis response is risk analysis based on data and crisis response beyond knowledge highlighting science and technology to improve risk analysis capabilities and to optimize crisis response strategy this book contains primarily research articles of risk issues underlying topics include natural hazards and major

chemical accidents prevention disaster risk reduction and society resilience information and communication technologies safety and cybersecurity modern trends in crisis management energy and resources security critical infrastructure nanotechnology safety and others all topics include aspects of multidisciplinarity and complexity of safety in education and research the book should be valuable to professors engineers officials businessmen and graduate students in risk analysis and risk management safety of sea transportation is the second of two conference proceedings of transnav 2017 june 21 23 in gdynia poland safety of sea transportation will focus on the following themes sustainability intermodal and multimodal transportation safety and hydrodynamic study of hydrotechnical structures bunkering and fuel consumption gases emission water pollution and environmental protection occupational accidents supply chain of blocks and spare parts electrotechnical problems ships stability and loading strength cargo loading and port operations maritime education and training met human factor crew manning and seafarers problems economic analysis mathematical models methods and algorithms fishery legal aspects aviation there are numerous problems in the world that need to be dealt with in order to achieve sustainable development the energy system has significant negative impacts on many of these problems and there is a need for a transition towards more sustainable energy sweden has already started this transition and is using large amounts of renewable energy however within the transport sector and the manufacturing sector in particular large amounts of fossil fuels are still used biogas is one alternative that can help solve several sustainability problems and that could be part of a future more sustainable energy system however it is not certain what biogas is most suitable to be used for the aim of this thesis is to investigate how biogas should be used in a future more sustainable energy system by answering three research questions 1 in what ways can biogas be used in a more sustainable energy system 2 how can we assess whether biogas is suitable in a specific context and 3 what determines whether it is easy or difficult for a user to start using biogas these questions are explored in a swedish context using four appended articles which are based on two collaborative projects using a combination of workshops literature reviews and interviews biogas can be used for heat electricity or fuel in the manufacturing or transport sector in sweden heat and electricity are mainly of interest for smaller production scales while production on larger scales will likely be dominated by upgrading mostly to cbg but also to lbg cbg can be used for less energy intensive purposes such as cars or buses while the growing interest in lbg in sweden may open up new market segments for biogas which are more energy intensive such as heavy trucks or shipping or in geographical locations that are further away from the site of production several sustainability assessment methods exist that can be used to evaluate whether biogas is suitable in a specific context such as multi criteria assessments or scenario analyses these methods can include a number of different aspects that are relevant to biogas use such as ghg emissions safety issues and the vitality of the surrounding region in order to introduce biogas six main factors were identified that can make this easier or more difficult technical maturity tank volume distance between the producer and the user scale of energy use policies and costs and strategies of individual organizations overall the rise in lbg production creates new opportunities for biogas use in both geographical and usage areas that did not previously use biogas there is no simple answer to what biogas should be used for in the future rather this depends on the circumstances it is also possible that the usage areas that are most suitable now for biogas might not be the most suitable areas in the future depending on developments within for example the electricity system and hydrogen however cbg and lbg are likely to dominate biogas production in sweden until then this book examines the state of the art in green transportation logistics from the perspective of balancing environmental performance in the transportation supply chain while also satisfying traditional economic performance criteria part of the book is drawn from the recently completed european union project super green a three year project intended to promote the development of european freight corridors in an environmentally friendly manner additional chapters cover both the methodological base and the application context of green transportation logistics individual chapters look at the policy context the basics of transportation emissions green corridors basics the concept of ten t trans european network benchmarking of green corridors the potential role of ict information and communication technologies green vehicle routing reducing maritime co2 emissions via market based measures and speed and route optimization sulphur emissions lifecycle emissions green rail transportation green air transportation green inland navigation and possible areas for further research throughout the book pursues the goal of win win solutions and analyzes the phenomenon of push down pop up wherein a change in one aspect of a problem can cause another troubling aspect to arise for example speed reduction in maritime transportation can reduce emissions and fuel costs but could

require additional ships and could raise in transit inventory costs or regulations to reduce sulphur emissions may ultimately increase co2 elsewhere in the supply chain the book takes stock at the various tradeoffs that are at stake in the goal of greening the supply chain and looks at where balances can be struck 30th european symposium on computer aided chemical engineering volume 47 contains the papers presented at the 30th european symposium of computer aided process engineering escape event held in milan italy may 24 27 2020 it is a valuable resource for chemical engineers chemical process engineers researchers in industry and academia students and consultants for chemical industries presents findings and discussions from the 30th european symposium of computer aided process engineering escape event offers a valuable resource for chemical engineers chemical process engineers researchers in industry and academia students and consultants for chemical industries the international ship and offshore structures congress issc is a forum for the exchange of information by experts undertaking and applying marine structural research the aim of the issc is to facilitate the evaluation and dissemination of results from recent investigations to make recommendations for standard design procedures and criteria to discuss research in progress and planned to identify areas requiring future research and to encourage international collaboration in furthering these aims ships and other marine structures used for transportation exploration and exploitation of resources in and under the oceans are in the scope of the issc the 20th international ship and offshore structures congress issc 2018 was held in liège belgium and amsterdam the netherlands 9 14 september 2018 the first volume of the proceedings contains the eight technical committee reports presented and discussed at the conference and the second volume contains the reports of the eight specialist committees this third volume contains the official discusser s reports written discussions and floor discussions and the replies by the committees sustainable development and innovations in marine technologies includes the papers presented at the 18th international congress of the maritime association of the mediterranean imam 2019 varna bulgaria 9 11 september 2019 sustainable development and innovations in marine technologies includes a wide range of topics aquaculture fishing construction defence security design dynamic response of structures degradation defects in structures electrical equipment of ships human factors hydrodynamics legal social aspects logistics machinery control marine environmental protection materials navigation noise non linear motions manoeuvrability off shore and coastal development off shore renewable energy port operations prime movers propulsion safety at sea safety of marine systems sea waves seakeeping shaft propellers ship resistance shipyards small pleasure crafts stability static response of structures structures and wind loads the imam series of conferences started in 1978 when the first congress was organised in istanbul turkey imam 2019 is the eighteenth edition and in its nearly forty years of history this biannual event has been organised throughout europe sustainable development and innovations in marine technologies is essential reading for academics engineers and all professionals involved in the area of sustainable and innovative marine technologies this book provides a coherent and systematic view of the key concepts principles and techniques in maritime container transport and logistics chains including all the main segments international maritime trade and logistics freight logistics container logistics vessel logistics port and terminal management and sustainability issues in maritime transport container logistics and maritime transport emphasizes analytical methods and current optimization models to tackle challenging issues in maritime transport and logistics this book takes a holistic approach to cover all the main segments of the container shipping supply chains to achieve an efficient and effective logistics service system across the entire global transport chain sustainability issues such as social concern and carbon emissions from shipping and ports are also discussed each maritime transport segment is addressed using an approach from qualitative descriptive analytics to quantitative prescriptive analytics cutting edge optimization models are presented and explained to tackle various strategic tactical and operational planning problems the book will help readers better understand operations management in global maritime container transport chain it will also provide practical principles and effective techniques and tools for researchers to push forward the frontiers of knowledge and for practitioners to implement decision support systems it will be directly relevant to academic courses related to maritime transport maritime logistics transport management international shipping port management container shipping container logistics shipping supply chain and international logistics this book introduces a holistic approach to ship design and its optimisation for life cycle operation it deals with the scientific background of the adopted approach and the associated synthesis model which follows modern computer aided engineering cae procedures it integrates techno economic databases calculation and multi objective optimisation modules and s w tools with a well established computer

aided design cad platform along with a virtual vessel framework vvf which will allow virtual testing before the building phase of a new vessel the resulting graphic user interface qui and information exchange systems enable the exploration of the huge design space to a much larger extent and in less time than is currently possible thus leading to new insights and promising new design alternatives the book not only covers the various stages of the design of the main ship system but also addresses relevant major onboard systems components in terms of life cycle performance to offer readers a better understanding of suitable outfitting details which is a key aspect when it comes the outfitting intensive products of international shipyards the book disseminates results of the eu funded horizon 2020 project holiship div this book covers different aspects related to utilization of alcohol fuels in internal combustion ic engines with a focus on combustion performance and emission investigations the focal point of this book is to present engine combustion performance and emission characteristics of ic engines fueled by alcohol blended fuels such as methanol ethanol and butanol the contents also highlight the importance of alcohol fuel for reducing emission levels possibility of alcohol fuels for marine applications has also been discussed this book is a useful quide for researchers academics and scientists international shipping is currently at a crossroads the decision of the international maritime organization imo in april 2018 to adopt an initial strategy so as to achieve by 2050 a reduction of at least 50 in maritime greenhouse gas ghg emissions vis à vis 2008 levels epitomizes the last among a series of recent developments as regards sustainable shipping it also sets the scene on what may happen in the future even though many experts and industry circles believe that the imo decision is in line with the cop21 climate change agreement in paris in 2015 others disagree either on the ground that the target is not ambitious enough or on the ground that no clear pathway to reach the target is currently visible this book takes a cross disciplinary view of the various dimensions of the maritime transportation sustainability problem cross disciplinary means that a variety of angles are used to examine the book topics and these mainly include the technological angle the economics angle the logistics angle and the environmental angle the book reviews models that can be used to evaluate decisions policy alternatives and trade offs for sustainable shipping a spectrum of technical logistics based and market based measures are being contemplated all may have important side effects as regards the economics and logistics of the maritime supply chain including ports and hinterland connections the objective to attain an acceptable environmental performance while at the same time respecting traditional economic performance criteria so that shipping remains viable is and is likely to be a central goal for both industry and policy makers in the years ahead at the same time policy fragmentation is likely to create distortions of competition and sub optimal solutions this book attempts to address these issues and identify better solutions divsustainable shipping a cross disciplinary view includes chapters that cover many relevant topics these include a general view of maritime transport sustainability green ship technologies information and communication technologies icts for sustainable shipping green tramp ship routing and scheduling green liner network design and speed optimization market based measures oil pollution ship recycling sulphur emissions ballast water management alternative fuels and green ports are also covered the book concludes by discussing prospects for the future with a focus on the imo initial strategy this book contains a unique wealth of information on sustainable shipping the knowledge it provides is rigorous complete and well supported by statistics technical reports and scientific references the treatment of the various topics is not only informative but also analytical and critical gilbert laporte maritime economics logistics 12 may 2020 engineers applied scientists students and individuals working to reduceemissions and advance diesel engine technology will find the secondedition of diesel emissions and their control to be an indispensable reference whether readers are at the outset of their learning journey orseeking to deepen their expertise this comprehensive reference bookcaters to a wide audience in this substantial update to the 2006 classic the authors have expanded the coverage of the latest emission technologies with the industry evolving rapidly the book ensures that readers are well informed about the most recent advances in commercial diesel engines providing acompetitive edge in their respective fields the second edition has also streamlined the content to focus on the most promising technologies this book is rooted in the wealth of information available on dieselnet com where the technology quide papers offer in depth insights each chapter includes links to relevant online materials granting readers accessto even more expertise and knowledge the second edition is organized into six parts providing a structuredjourney through every aspect of diesel engines and emissions control part i a foundational exploration of the diesel engine combustion andessential subsystems part ii an in depth look at emission characterization health andenvironmental impacts testing methods

and global regulations part iii a comprehensive overview of diesel fuels covering petroleumdiesel alternative fuels and engine lubricants part iv an exploration of engine efficiency and emission controltechnologies from exhaust gas recirculation to engine control part v the latest developments in diesel exhaust aftertreatment encompassing catalyst technologies and particulate filters part vi a historical journey through the evolution of dieselengine technology with a focus on heavy duty engines in the northamerican market isbn 9781468605693 isbn 9781468605709 isbn 9781468605716 doi 10 4271 9781468605709 global oil and gas emissions fell to historic lows in 2020 as a result of the decline in global demand associated with the covid 19 coronavirus pandemic data released by the international energy agency suggest that co2 emissions are on the rise as energy demands increase after the pandemic whether emissions will rebound to precrisis levels largely depends on governments emphasis on clean energy transition in their efforts to reboot economic growth in 2019 direct and indirect emissions from the oil and gas sector represented about 15 percent of the global energy sector s greenhouse gas emissions more than half of these emissions came from flaring and methane released during oil and gas operations this book aims to create awareness of the business case for reducing gas flaring and methane emissions it provides a framework for policy makers to evaluate the feasibility and financial attractiveness of flaring and methane reduction fmr projects analyzes investment barriers and identifies key variables and success factors backed by lessons learned from case studies simplified financial modeling templates are suggested to help policy makers to assess fmr options the book focuses on midsized flares that collectively represent 58 percent of the global flare volumes these flares are typically too small to be prioritized by oil companies but still allow for profitable monetization smaller fmr projects are unlikely to be economically viable unless clustered in larger projects or propelled by an enabling and compulsory regulatory framework large scale capture projects require tailored projects large ancillary infrastructure government planning and capital injections costing hundreds of millions of dollars although potentially attractive in terms of equity returns to developers midsized flares face various barriers to the financing and execution of fmr solutions navigating these barriers requires project developers with specific fmr expertise as highlighted through six detailed case studies discussed in this book better urban transport systems and the need for a healthier environment are continuous requirements that create a fertile atmosphere for original ideas innovative approaches and applications of advanced technologies their tests and evaluations in practice moreover there is a growing need for integration with it systems and applications to improve safety and efficiency meanwhile the substantial growth of maritime shipping has resulted in large transported quantities around the world creating a demand for innovative solutions for ports and fleets the apparently parallel topics of urban transport and maritime transport meet in the transport and environmental management of coastal cities both being affected positively and negatively by landslide and seaside traffic maritime transport is highly interconnected with rail road and air services as well as inland waterways each of these must therefore operate complimentary of one another to maximise efficiency and respond rapidly to variable economic and political contingencies the variety of topics covered in this volume reflects the complex interaction of transport systems with their environment and the need to establish integrated strategies the goal is to arrive at optimal socio economic solutions while reducing the negative environmental impacts of transportation systems typically by interdisciplinary approaches this volume analyses maritime decarbonization from various perspectives it contains unique approaches and tools in four areas scenarios value chains enablers and partnerships decarbonization has become a very important focus in the maritime industry anyone that delves into the topic quickly appreciates its breadth and complexity minimizing greenhouse gases ghg emissions in maritime practices at large and doing it swiftly is far from simple the paris 2015 climate goals and the imo ambitions may be the industry s quiding lights but is this enough probably not at the managerial level a paradigm shift is needed from a fixed mindset that is calling for compensation to a growth mindset that seeks to capture the benefits of decarbonization this will require a structured approach in the form of practical frameworks and clear recommendations in this book 75 scholars and industry and subject matter experts have joined forces to explore different scenarios value chain designs decarbonization enablers and partnership models to develop frameworks and recommendations around how to effectively work and make progress the books offers a valuable mix of theory practical tools and real life cases in 1974 a scientific conference covering marine automation group and large vessels issues was organized under the patronage of the technical naval studies centre cetena and the italian national research council cnr a later collaboration with the marine technical association atena led to the renaming of the conference as nav extending the topics covered to the technical field

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previously covered by atena national conferences the nav conference is now held every 3 years and attracts specialists from all over the world this book presents the proceedings of nav 2018 held in trieste italy in june 2018 the book contains 70 scientific papers 35 technical papers and 16 reviews and subjects covered include comfort on board conceptual and practical ship design deep sea mining and marine robotics protection of the environment renewable marine energy design and engineering of offshore vessels digitalization unmanned vehicles and cyber security yacht and pleasure craft design and inland waterway vessels with its comprehensive coverage of scientific and technical maritime issues the book will be of interest to all those involved in this important industry the book is composed of 15 chapters in total all chapters presented by the authors co authors are published in the author s edition and aim to present an issue on how to achieve more sustainable and more environmentally safe development of modern transport and energy sector the chapters are grouped into 3 parts the first part decisions for alternative energy sources use in modern transport represents novel solutions in alternative energy sources development and implementation in different spheres of the modern transport sector the second part solutions for reducing negative impact of energy and transport on environment is devoted to advances in technologies aimed on reducing impact of energy and transport sectors on environment and utilization of waste the third part of the book advance in alternative motor fuels technology represents recent developments in chemical technology of alternative fuels production and aspects of modern fuels quality control natural gas and liquefied natural gas lng continue to grow as a part of the sustainable energy mix while oil and gas companies look to lower emissions one key refinery component that contributes up to 60 of emissions are valves mainly due to poor design sealing and testing cryogenic valves for liquefied natural gas plants delivers a much needed reference that focuses on the design testing maintenance material selection and standards needed to stay environmentally compliant at natural gas refineries covering technical definitions case studies and g a the reference includes all ranges of natural gas compounds including lpg cng ngl and png key design considerations are included that are specific for cryogenic services including a case study on cryogenic butterfly valves the material selection process can be more complex for cryogenic services so the author goes into more detail about materials that adhere to cryogenic temperature resistance most importantly testing of valves is covered in depth including shell test closure or seat test and thermal shock tests along with tactics on how to prevent dangerous cryogenic leaks which are very harmful to the environment the book is a vital resource for today s natural gas engineers teaches lng valve design including sealing selection wall thickness calculation of the valve body and bonnet and proper material selection provides tactics on how to prevent cryogenic leaks with compliant valve testing applies natural gas calculations that will better support the lng supply chain enables readers to understand cryogenic valve standards including en iso and mss sp this book provides an overview of contemporary trends and challenges in maritime energy management mem coordinated action is necessary to achieve a low carbon and energy efficient maritime future and mem is the prevailing framework aimed at reducing greenhouse gas emissions resulting from maritime industry activities the book familiarizes readers with the status quo in the field and paves the way for finding solutions to perceived challenges the 34 contributions cover six important aspects regulatory framework energy efficient ship design energy efficient ship and port operation economic and social dimensions alternative fuels and wind assisted ship propulsion and marine renewable energy this pioneering work is intended for researchers and academics as well as practitioners and policymakers involved in this important field risk reliability and safety contains papers describing innovations in theory and practice contributed to the scientific programme of the european safety and reliability conference esrel 2016 held at the university of strathclyde in glasgow scotland 25 29 september 2016 authors include scientists academics practitioners regulators and other key individuals with expertise and experience relevant to specific areas papers include domain specific applications as well as general modelling methods papers cover evaluation of contemporary solutions exploration of future challenges and exposition of concepts methods and processes topics include human factors occupational health and safety dynamic and systems reliability modelling maintenance optimisation uncertainty analysis resilience assessment risk and crisis management the arctic region contains large amounts of natural resources considered necessary to sustain global economic growth so it is unsurprising that it is increasingly susceptible to political economic environmental and even military conflicts this book looks in detail at the preconditions and outlook for international cooperation on the development of arctic petroleum resources focusing on norwegian russian cooperation in the barents sea towards 2025 the authors provide a cross disciplinary approach including geopolitical institutional technological corporate and environmental perspectives

to analyse the underlying factors that shape the future development of the region three future scenarios are developed exploring various levels of cooperation and development influenced by and resulting from potential political commercial and environmental circumstances through these scenarios the book improves understanding of the challenges and opportunities for arctic petroleum resource development and promotes further consideration of the possible outcomes of future cooperation the book should be of interest to students scholars and policy makers working in the areas of arctic studies oil and gas studies energy security global environmental governance environmental politics and environmental technology chapter 1 of this book is freely available as a downloadable open access pdf under a creative commons attribution non commercial no derivatives 3 0 license s3 us west 2 amazonaws com tandfbis rt files docs open access chapters 9781138783263 oachapter1 pdf chapter 2 of this book is freely available as a downloadable open access pdf under a creative commons attribution non commercial no derivatives 3 0 license s3 us west 2 amazonaws com tandfbis rt files docs open access chapters 9781138783263 oachapter2 pdf chapter 6 of this book is freely available as a downloadable open access pdf under a creative commons attribution non commercial no derivatives 3 0 license s3 us west 2 amazonaws com tandfbis rt files docs open access chapters 9781138783263 oachapter6 pdf this book is a printed edition of the special issue sustainable freight transport that was published in sustainability in this collection of cudes 2017 wide spectrum of topics that occupy primary place in the current debates of international relations and law were addressed by the papers presented at the current debates in social sciences conference which was held in İstanbul on december 14 16 2017 the purpose of this conference was to provide a forum for scholars researchers and students to foster discussion and expand understanding on the current themes of social sciences in parallel to changing and multiplying dynamics of world politics papers reflect diversity of issues in international relations and law including the impacts of the syrian refugee crisis on eu turkey relations lone wolf terrorism energy security russia s domestic factors in its foreign policy foreign policy of iran and russia in the middle east mirziyoyev s first year in presidency turkish foreign aid under the justice and development party the place of civil aviation in turkish foreign policy as a soft power instrument the kosovo intervention in the context of un s human security discourse un and gender issues mediation in international law and turkey the development of good corporate governance in turkey ombudsman institution in turkey the status of surviving spouse in terms of law of succession and the regime of participation in acquired property in turkey legitimacy of censorship in the west from the perspective of human rights intellectual property protection for plant innovation legal framework of autonomy in modern liberal eugenics the impact of the new technologies on the law this open access book offers a holistic and interdisciplinary analysis of the energy sector in the middle east and north africa mena region and its ongoing transformation taking into account global decarbonization policies it offers a comprehensive overview of the transition s effects in the region highlighting socioeconomic geopolitical and cultural aspects the book is divided into four parts the first of which illustrates the historical cultural and socioeconomic heterogeneity of the mena region the second part assesses the region s energy sector with a special focus on the energy mix and consumption evolution at the national level the third part addresses the geopolitics and geoeconomics of the energy sector in mena countries including foreign interference conflicts investments and partnerships both related to hydrocarbons and energy transition lastly the fourth part provides overall conclusions and key takeaways on all major aspects addressed by the book highlighting various paths and strategies for decarbonization in the region maritime technology and engineering includes the papers presented at the 2nd international conference on maritime technology and engineering martech 2014 lisbon portugal 15 17 october 2014 the contributions reflect the internationalization of the maritime sector and cover a wide range of topics ports maritime transportation inland navigat this proceedings volume presents the latest on the theoretical approach of the contemporary issues evolved in strategic marketing and the integration of theory and practice it highlights strategic research and innovative activities in marketing the contributed chapters are concerned with using modern qualitative and quantitative techniques based on information technology used to manage and analyze business data to discover hidden knowledge and to introduce intelligence into marketing processes this allows for a focus on innovative applications in all aspects of marketing of computerized technologies related to data analytics predictive analytics and modeling business intelligence and knowledge engineering in order to demonstrate new ways of uncovering hidden knowledge and supporting marketing decisions with evidence based intelligent tools the chapters from the proceedings of the 5th international conference on strategic innovative marketing 2016 cover areas such as social media marketing innovation sustainable marketing

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customer satisfaction strategies customer relationship management marketing research and analytics the papers have been written by scientists researchers practitioners and students that demonstrate a special orientation in strategic marketing all of whom aspire to be ahead of the curve based on the pillars of innovation this proceedings volume shares their recent contributions to the field and showcases their exchange of insights on strategic issues in the science of innovation marketing towards green marine technology and transport covers recent developments in marine technology and transport the book brings together a selection of papers reflecting fundamental areas of recent research and development in the fields of ship hydrodynamics marine structures ship design shipyard technology ship machinery maritime transportation this contributed book focuses on decarbonization of maritime transport by highlighting different aspects of decarbonization methods indicated in the international maritime organization s initial greenhouse gas strategy 2018 the book contains studies on alternative fuels and alternative energy systems with their life cycle assessment electrification and hybridization of ships carbon capture technologies green port concept energy efficiency management and market based measures this book will be of interest to those working in academia and industry in maritime technologies and transportation

Removing Barriers to the Use of Natural Gas as Maritime Transportation Fuel 2017

this report on removing barriers to the use of natural gas as maritime transportation fuel is another step in our exploration of the catalytic role of natural gas in attaining the sustainable development goals and in particular goal 7 to ensure access to affordable reliable sustainable and modern energy for all the report demonstrates the business case for using lng as a fuel in maritime transport for both lng tankers and increasingly since 2000 other ships currently there are over 300 ships powered by lng this is a positive development in view of the significant environmental benefits of lng compared to heavy fuel oil and diesel both of which dominate today s market for international shipping bunkers

The European Gas Markets 2017-08-16

this book explores in detail the challenges which the european gas markets currently face and the opportunities they present bringing together some of the most prominent gas experts on europe from both academia and industry this edited volume provides a comprehensive analysis of the various economic political and technological factors that interact in this sector featuring a foreword by maroš Šefčovič vice president of the european commission in charge of the energy union contributions explore a wide range of issues such as the role of gas in decarbonizing europe the outlook of europe s gas demand supply and pricing and global lng dynamics country specific studies include russia norway the netherlands and germany with regional studies including north africa and the eastern mediterranean alongside detailed analysis of this complex sector it also puts forward a set of policy recommendations for the sector s key stakeholders this volume will be of interest to researchers and academics as well as practitioners and professionals within european gas markets

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The Palgrave Handbook of Natural Gas and Global Energy Transitions 2022-05-04

the palgrave handbook of natural gas and global energy transitions provides an in depth and authoritative examination of the transformative implications of the ongoing global energy transitions for natural gas markets across the world with case studies from africa asia europe north america latin america south america australia and the middle east the volume introduces readers to the latest legal policy technological and fiscal innovations in natural gas markets in response to ongoing global energy transitions it outlines the risk mitigation strategies and contractual techniques focusing on resilience planning low carbon business models green procurement climate smart infrastructure development accountability gender justice and other sustainability safeguards that are required to maximize the full value of natural gas as a catalyst for a just and equitable energy transition and for energy security across the world written in an accessible style this book outlines the guiding principles for a responsible and low carbon approach to the design financing and implementation of natural gas development and commercialization it is an indispensable text and reference work for students scholars practitioners and stakeholders in natural gas energy infrastructure and environmental investments and projects

Sustainable Liquefied Natural Gas 2024-01-29

sustainable liquefied natural gas the latest release in the fundamentals and sustainable advances in natural gas science and engineering series delivers many of the technical fundamentals needed in the natural gas industry with an additional sustainability lens introductory topics include liquefication and separation technology advanced applications include improving operational efficiency for carriers and cargo shipping schedules exploiting cold energy for regasification operations and an outlook on ways to further reduce emissions supported by corporate and academic contributors along with two well distinguished editors sustainable liquefied natural gas provides today s natural gas engineers the knowledge to adjust liquefied natural gas operations in a more environmentally sustainable way provides case studies and visuals to illustrate how new principles can be applied in practical situations presents innovative advances that are leading to improved environmental performance bridges theory and applications with methods and examples from worldwide contributors in academia and industry

?????? 2019? 11??? 2019-09-25

Aspects of the Energy Union 2020-11-12

this book provides a comprehensive exploration of some of the most critical issues regarding the eu s energy union policy applied european energy policies face a number of challenges ranging from the geopolitics of energy and energy regulation to climate change advancing renewable and gas technologies and consumer empowerment structures this book takes a multi dimensional look into some of these vital issues regarding the european energy sector with a special focus on the effects the energy union policy has in two sensitive regional systems southeastern europe and the eastern mediterranean energy being by definition a multi disciplinary field presents a challenge for readers of any specific disciplinary background that need to grasp an overall understanding of the various aspects of this exciting sector this book s objective is to offer the opportunity for readers to get a quality hands on overview of the energy union by the professionals and academics that interact with it on a daily basis

Dynamics in Logistics 2022-05-04

since 2007 the biennial international conferences on dynamics in logistics ldic offers researchersand practitioners from logistics operations research production industrial and electrical engineering aswell as from computer science an opportunity to meet and to discuss the latest developments in thisparticular research domain from february 23th to 25th 2022 for the eighth time ldic 2022 was held inbremen germany similar to its seven predecessors the bremen research cluster for dynamics inlogistics logdynamics organized this conference the spectrum of topics reaches from the dynamicmodeling planning and control of processes over supply chain management and maritime logistics toinnovative technologies and robotic applications for cyber physical production and logistics systems ldic 2022 provided a forum for the discussion of advances in that matter the conference programconsisted of keynote speeches and research papers selected by a severe double blind reviewing process within these proceedings all the papers are published by this the proceedings give an interdisciplinaryoutline on the state of the art of dynamics in logistics as well as identify challenges and solutions for logistics today and tomorrow

Environmental Health 2021-12-15

environmental health discusses environmental effects on human health it examines heavy metal pollution biological effects of arsenic on reproductive health especially effects of soil organic carbon chemical pollution of drinking water climate change and vector borne diseases marine fuels particulate matter and the united nations sustainable development goals sdgs

Decarbonizing Logistics 2018-06-03

logistics accounts for around 9 10 of global co2 emissions and will be one of the hardest economic sectors to decarbonize this is partly because the demand for freight transport is expected to rise sharply over the next few decades but also because it relies very heavily on fossil fuel decarbonizing logistics outlines the nature and extent of the challenge we face in trying to achieve deep reductions in greenhouse gas emissions from logistical activities it makes a detailed assessment of the available options including restructuring supply chains shifting freight to lower carbon transport modes and transforming energy use in the logistics sector the options are examined from technological and managerial standpoints for all the main freight transport modes based on an up to date review of almost 600 publications and containing new analytical frameworks and research results decarbonizing logistics is the first to provide a global multi disciplinary perspective on the subject it is written by one of the foremost specialists in the field who has spent many years researching the links between logistics and climate change and been an adviser to governments international organizations and companies on the topic

Maritime Technology and Engineering 5 Volume 1 2021-07-08

this set of two volumes comprises the collection of the papers presented at the 5th international conference on maritime technology and engineering martech 2020 that was held in lisbon portugal from 16 to 19 november 2020 the conference has evolved from the series of biennial national conferences in portugal which have become an international event and which reflect the internationalization of the maritime sector and its activities martech 2020 is the fifth of this new series of biennial conferences the set comprises 180 contributions that were reviewed by an international scientific committee volume 1 is dedicated to maritime transportation ports and maritime traffic as well as maritime safety and reliability it further comprises sections dedicated to ship design cruise ship design and to the structural aspects of ship design such as ultimate strength and composites subsea structures as pipelines and to ship building and ship repair

Practical Design of Ships and Other Floating Structures 2020-10-03

this book gathers the peer reviewed proceedings of the 14th international symposium prads 2019 held in yokohama japan in september 2019 it brings together naval architects engineers academic researchers and professionals who are involved in ships and other floating structures to share the latest research advances in the field the contents cover a broad range of topics including design synthesis for ships and floating systems production hydrodynamics and structures and materials reflecting the latest advances the book will be of interest to researchers and practitioners alike

Risk Analysis Based on Data and Crisis Response Beyond Knowledge 2019-10-11

this book collects the papers presented at the 7th international conference on risk analysis and crisis response racr 2019 held in athens greece on october 15 19 2019 the overall theme of the seventh international conference on risk analysis and crisis response is risk analysis based on data and crisis response beyond knowledge highlighting science and technology to improve risk analysis capabilities and to optimize crisis response strategy this book contains primarily research articles of risk issues underlying topics include natural hazards and major chemical accidents prevention disaster risk reduction and society resilience information and communication technologies safety and cybersecurity modern trends in crisis management energy and resources security critical infrastructure nanotechnology safety and others all topics include aspects of multidisciplinarity and complexity of safety in education and research the book should be valuable to professors engineers officials businessmen and graduate students in risk analysis and risk management

Safety of Sea Transportation 2017-07-14

safety of sea transportation is the second of two conference proceedings of transnav 2017 june 21 23 in gdynia poland safety of sea transportation will focus on the following themes sustainability intermodal and multimodal transportation safety and hydrodynamic study of hydrotechnical structures bunkering and fuel consumption gases emission water pollution and environmental protection occupational accidents supply chain of blocks and spare parts electrotechnical problems ships stability and loading strength cargo loading and port operations maritime education and training met human factor crew manning and seafarers problems economic analysis mathematical models methods and algorithms fishery legal aspects aviation

The role of biogas in a more sustainable energy system in Sweden 2019-11-18

there are numerous problems in the world that need to be dealt with in order to achieve sustainable development the energy system has significant negative impacts on many of these problems and there is a need for a transition towards more sustainable energy sweden has already started this transition and is using large amounts of renewable energy however within the transport sector and the manufacturing sector in particular large amounts of fossil fuels are still used biogas is one alternative that can help solve several sustainability problems and that could be part of a future more sustainable energy system however it is not certain what biogas is most suitable to be used for the aim of this thesis is to investigate how biogas should be used in a future more sustainable energy system by answering three research questions 1 in what ways can biogas be used in a more sustainable energy system 2 how can we assess whether biogas is suitable in a specific context and 3 what determines whether it is easy or difficult for a user to start using biogas these questions are explored in a swedish context using four appended articles which are based on two collaborative projects using a combination of workshops literature reviews and interviews biogas can be used for heat electricity or fuel in the manufacturing or transport sector in sweden heat and electricity are mainly of interest for smaller production scales while production on larger scales will likely be dominated by upgrading mostly to cbg but also to lbg cbg can be used for less energy intensive purposes such as cars or buses while the growing interest in lbg in sweden may open up new market segments for biogas which are more energy intensive such as heavy trucks or shipping or in geographical locations that are further away from the site of production several sustainability assessment methods exist that can be used to evaluate whether biogas is suitable in a specific context such as multi criteria assessments or scenario analyses these methods can include a number of different aspects that are relevant to biogas use such as ghg emissions safety issues and the vitality of the surrounding region in order to introduce biogas six main factors were identified that can make this easier or more difficult technical maturity tank volume distance between the producer and the user scale of energy use policies and costs and strategies of individual organizations overall the

rise in lbg production creates new opportunities for biogas use in both geographical and usage areas that did not previously use biogas there is no simple answer to what biogas should be used for in the future rather this depends on the circumstances it is also possible that the usage areas that are most suitable now for biogas might not be the most suitable areas in the future depending on developments within for example the electricity system and hydrogen however cbg and lbg are likely to dominate biogas production in sweden until then

Green Transportation Logistics 2015-07-13

this book examines the state of the art in green transportation logistics from the perspective of balancing environmental performance in the transportation supply chain while also satisfying traditional economic performance criteria part of the book is drawn from the recently completed european union project super green a three year project intended to promote the development of european freight corridors in an environmentally friendly manner additional chapters cover both the methodological base and the application context of green transportation logistics individual chapters look at the policy context the basics of transportation emissions green corridors basics the concept of ten trans european network benchmarking of green corridors the potential role of ict information and communication technologies green vehicle routing reducing maritime co2 emissions via market based measures and speed and route optimization sulphur emissions lifecycle emissions green rail transportation green air transportation green inland navigation and possible areas for further research throughout the book pursues the goal of win win solutions and analyzes the phenomenon of push down pop up wherein a change in one aspect of a problem can cause another troubling aspect to arise for example speed reduction in maritime transportation can reduce emissions and fuel costs but could require additional ships and could raise in transit inventory costs or regulations to reduce sulphur emissions may ultimately increase co2 elsewhere in the supply chain the book takes stock at the various tradeoffs that are at stake in the goal of greening the supply chain and looks at where balances can be struck

30th European Symposium on Computer Aided Chemical Engineering 2020-10-23

30th european symposium on computer aided chemical engineering volume 47 contains the papers presented at the 30th european symposium of computer aided process engineering escape event held in milan italy may 24 27 2020 it is a valuable resource for chemical engineers chemical process engineers researchers in industry and academia students and consultants for chemical industries presents findings and discussions from the 30th european symposium of computer aided process engineering escape event offers a valuable resource for chemical engineers chemical process engineers researchers in industry and academia students and consultants for chemical industries

Proceedings of the 20th International Ship and Offshore Structures Congress (ISSC 2018) Volume 3 2020-02-21

the international ship and offshore structures congress issc is a forum for the exchange of information by experts undertaking and applying marine structural research the aim of the issc is to facilitate the evaluation and dissemination of results from recent investigations to make recommendations for standard design procedures and criteria to discuss research in progress and planned to identify areas requiring future research and to encourage international collaboration in furthering these aims ships and other marine structures used for transportation exploration and exploitation of resources in and under the oceans are in the scope of the issc the 20th international ship and offshore structures congress issc 2018 was held in liège belgium and amsterdam the netherlands 9 14 september 2018 the first volume of the proceedings contains the eight technical committee reports presented and discussed at the conference and the second volume contains the

reports of the eight specialist committees this third volume contains the official discusser's reports written discussions and floor discussions and the replies by the committees

Sustainable Development and Innovations in Marine Technologies 2019-08-22

sustainable development and innovations in marine technologies includes the papers presented at the 18th international congress of the maritime association of the mediterranean imam 2019 varna bulgaria 9 11 september 2019 sustainable development and innovations in marine technologies includes a wide range of topics aquaculture fishing construction defence security design dynamic response of structures degradation defects in structures electrical equipment of ships human factors hydrodynamics legal social aspects logistics machinery control marine environmental protection materials navigation noise non linear motions manoeuvrability off shore and coastal development off shore renewable energy port operations prime movers propulsion safety at sea safety of marine systems sea waves seakeeping shaft propellers ship resistance shipyards small pleasure crafts stability static response of structures structures and wind loads the imam series of conferences started in 1978 when the first congress was organised in istanbul turkey imam 2019 is the eighteenth edition and in its nearly forty years of history this biannual event has been organised throughout europe sustainable development and innovations in marine technologies is essential reading for academics engineers and all professionals involved in the area of sustainable and innovative marine technologies

Container Logistics and Maritime Transport 2021-05-05

this book provides a coherent and systematic view of the key concepts principles and techniques in maritime container transport and logistics chains including all the main segments international maritime trade and logistics freight logistics container logistics vessel logistics port and terminal management and sustainability issues in maritime transport container logistics and maritime transport emphasizes analytical methods and current optimization models to tackle challenging issues in maritime transport and logistics this book takes a holistic approach to cover all the main segments of the container shipping supply chains to achieve an efficient and effective logistics service system across the entire global transport chain sustainability issues such as social concern and carbon emissions from shipping and ports are also discussed each maritime transport segment is addressed using an approach from qualitative descriptive analytics to quantitative prescriptive analytics cutting edge optimization models are presented and explained to tackle various strategic tactical and operational planning problems the book will help readers better understand operations management in global maritime container transport chain it will also provide practical principles and effective techniques and tools for researchers to push forward the frontiers of knowledge and for practitioners to implement decision support systems it will be directly relevant to academic courses related to maritime transport maritime logistics transport management international shipping port management container shipping container logistics shipping supply chain and international logistics

A Holistic Approach to Ship Design 2018-12-11

this book introduces a holistic approach to ship design and its optimisation for life cycle operation it deals with the scientific background of the adopted approach and the associated synthesis model which follows modern computer aided engineering cae procedures it integrates techno economic databases calculation and multi objective optimisation modules and s w tools with a well established computer aided design cad platform along with a virtual vessel framework vvf which will allow virtual testing before the building phase of a new vessel the resulting graphic user interface gui and information exchange systems enable the exploration of the huge design space to a much

larger extent and in less time than is currently possible thus leading to new insights and promising new design alternatives the book not only covers the various stages of the design of the main ship system but also addresses relevant major onboard systems components in terms of life cycle performance to offer readers a better understanding of suitable outfitting details which is a key aspect when it comes the outfitting intensive products of international shipyards the book disseminates results of the eu funded horizon 2020 project holiship

Alcohol as an Alternative Fuel for Internal Combustion Engines 2021-05-15

div this book covers different aspects related to utilization of alcohol fuels in internal combustion ic engines with a focus on combustion performance and emission investigations the focal point of this book is to present engine combustion performance and emission characteristics of ic engines fueled by alcohol blended fuels such as methanol ethanol and butanol the contents also highlight the importance of alcohol fuel for reducing emission levels possibility of alcohol fuels for marine applications has also been discussed this book is a useful guide for researchers academics and scientists

Sustainable Shipping 2019-02-11

international shipping is currently at a crossroads the decision of the international maritime organization imo in april 2018 to adopt an initial strategy so as to achieve by 2050 a reduction of at least 50 in maritime greenhouse gas ghg emissions vis à vis 2008 levels epitomizes the last among a series of recent developments as regards sustainable shipping it also sets the scene on what may happen in the future even though many experts and industry circles believe that the imo decision is in line with the cop21 climate change agreement in paris in 2015 others disagree either on the ground that the target is not ambitious enough or on the ground that no clear pathway to reach the target is currently visible this book takes a cross disciplinary view of the various dimensions of the maritime transportation sustainability problem cross disciplinary means that a variety of angles are used to examine the book topics and these mainly include the technological angle the economics angle the logistics angle and the environmental angle the book reviews models that can be used to evaluate decisions policy alternatives and trade offs for sustainable shipping a spectrum of technical logistics based and market based measures are being contemplated all may have important side effects as regards the economics and logistics of the maritime supply chain including ports and hinterland connections the objective to attain an acceptable environmental performance while at the same time respecting traditional economic performance criteria so that shipping remains viable is and is likely to be a central goal for both industry and policy makers in the years ahead at the same time policy fragmentation is likely to create distortions of competition and suboptimal solutions this book attempts to address these issues and identify better solutions divsustainable shipping a cross disciplinary view includes chapters that cover many relevant topics these include a general view of maritime transport sustainability green ship technologies information and communication technologies icts for sustainable shipping green tramp ship routing and scheduling green liner network design and speed optimization market based measures oil pollution ship recycling sulphur emissions ballast water management alternative fuels and green ports are also covered the book concludes by discussing prospects for the future with a focus on the imo initial strategy this book contains a unique wealth of information on sustainable shipping the knowledge it provides is rigorous complete and well supported by statistics technical reports and scientific references the treatment of the various topics is not only informative but also analytical and critical gilbert laporte maritime economics logistics 12 may 2020

Diesel Emissions and Their Control, 2nd Edition 2023-12-20

engineers applied scientists students and individuals working to reduceemissions and advance diesel engine technology will find the secondedition of diesel emissions and their control to be an indispensablereference whether readers are at the outset of their learning journey orseeking to deepen their expertise this comprehensive reference bookcaters to a wide audience in this substantial update to the 2006 classic the authors have expanded the coverage of the latest emission technologies with the industryevolving rapidly the book ensures that readers are well informed about the most recent advances in commercial diesel engines providing acompetitive edge in their respective fields the second edition has alsostreamlined the content to focus on the most promising technologies this book is rooted in the wealth of information available on dieselnet com where the technology guide papers offer in depth insights each chapter includes links to relevant online materials granting readers access to even more expertise and knowledge the second edition is organized into six parts providing a structured journey through every aspect of diesel engines and emissions control part i a foundational exploration of the diesel engine combustion and essential subsystems part ii an in depth look at emission characterization health andervironmental impacts testing methods and global regulations part iii a comprehensive overview of diesel fuels covering petroleum diesel alternative fuels and engine lubricants part iv an exploration of engine efficiency and emission control technologies from exhaust gas recirculation to engine control part v the latest developments in diesel exhaust aftertreatment encompassing catalyst technologies and particulate filters part vi a historical journey through the evolution of dieselengine technology with a focus on heavy duty engines in the northamerican market isbn 9781468605709 isbn 9781468605709 isbn 9781468605716 doi 10 4271 9781468605709

Financing Solutions to Reduce Natural Gas Flaring and Methane Emissions 2022-05-20

global oil and gas emissions fell to historic lows in 2020 as a result of the decline in global demand associated with the covid 19 coronavirus pandemic data released by the international energy agency suggest that co2 emissions are on the rise as energy demands increase after the pandemic whether emissions will rebound to precrisis levels largely depends on governments emphasis on clean energy transition in their efforts to reboot economic growth in 2019 direct and indirect emissions from the oil and gas sector represented about 15 percent of the global energy sector s greenhouse gas emissions more than half of these emissions came from flaring and methane released during oil and gas operations this book aims to create awareness of the business case for reducing gas flaring and methane emissions it provides a framework for policy makers to evaluate the feasibility and financial attractiveness of flaring and methane reduction fmr projects analyzes investment barriers and identifies key variables and success factors backed by lessons learned from case studies simplified financial modeling templates are suggested to help policy makers to assess fmr options the book focuses on midsized flares that collectively represent 58 percent of the global flare volumes these flares are typically too small to be prioritized by oil companies but still allow for profitable monetization smaller fmr projects are unlikely to be economically viable unless clustered in larger projects or propelled by an enabling and compulsory regulatory framework large scale capture projects require tailored projects large ancillary infrastructure government planning and capital injections costing hundreds of millions of dollars although potentially attractive in terms of equity returns to developers midsized flares face various barriers to the financing and execution of fmr solutions navigating these barriers requires project developers with specific fmr expertise as highlighted through six detailed case studies discussed in this book

Urban and Maritime Transport XXVII 2021-09-01

better urban transport systems and the need for a healthier environment are continuous requirements that create a fertile atmosphere for original ideas innovative approaches and applications of advanced technologies their tests and evaluations in practice moreover there is a

growing need for integration with it systems and applications to improve safety and efficiency meanwhile the substantial growth of maritime shipping has resulted in large transported quantities around the world creating a demand for innovative solutions for ports and fleets the apparently parallel topics of urban transport and maritime transport meet in the transport and environmental management of coastal cities both being affected positively and negatively by landslide and seaside traffic maritime transport is highly interconnected with rail road and air services as well as inland waterways each of these must therefore operate complimentary of one another to maximise efficiency and respond rapidly to variable economic and political contingencies the variety of topics covered in this volume reflects the complex interaction of transport systems with their environment and the need to establish integrated strategies the goal is to arrive at optimal socio economic solutions while reducing the negative environmental impacts of transportation systems typically by interdisciplinary approaches

Maritime Decarbonization 2023-10-20

this volume analyses maritime decarbonization from various perspectives it contains unique approaches and tools in four areas scenarios value chains enablers and partnerships decarbonization has become a very important focus in the maritime industry anyone that delves into the topic quickly appreciates its breadth and complexity minimizing greenhouse gases ghg emissions in maritime practices at large and doing it swiftly is far from simple the paris 2015 climate goals and the imo ambitions may be the industry s guiding lights but is this enough probably not at the managerial level a paradigm shift is needed from a fixed mindset that is calling for compensation to a growth mindset that seeks to capture the benefits of decarbonization this will require a structured approach in the form of practical frameworks and clear recommendations in this book 75 scholars and industry and subject matter experts have joined forces to explore different scenarios value chain designs decarbonization enablers and partnership models to develop frameworks and recommendations around how to effectively work and make progress the books offers a valuable mix of theory practical tools and real life cases

Technology and Science for the Ships of the Future 2018-06-22

in 1974 a scientific conference covering marine automation group and large vessels issues was organized under the patronage of the technical naval studies centre cetena and the italian national research council cnr a later collaboration with the marine technical association atena led to the renaming of the conference as nav extending the topics covered to the technical field previously covered by atena national conferences the nav conference is now held every 3 years and attracts specialists from all over the world this book presents the proceedings of nav 2018 held in trieste italy in june 2018 the book contains 70 scientific papers 35 technical papers and 16 reviews and subjects covered include comfort on board conceptual and practical ship design deep sea mining and marine robotics protection of the environment renewable marine energy design and engineering of offshore vessels digitalization unmanned vehicles and cyber security yacht and pleasure craft design and inland waterway vessels with its comprehensive coverage of scientific and technical maritime issues the book will be of interest to all those involved in this important industry

Modern Technologies in Energy and Transport 2023-11-30

the book is composed of 15 chapters in total all chapters presented by the authors co authors are published in the author s edition and aim to present an issue on how to achieve more sustainable and more environmentally safe development of modern transport and energy sector the chapters are grouped into 3 parts the first part decisions for alternative energy sources use in modern transport represents novel solutions in alternative energy sources development and implementation in different spheres of the modern transport sector the second part

solutions for reducing negative impact of energy and transport on environment is devoted to advances in technologies aimed on reducing impact of energy and transport sectors on environment and utilization of waste the third part of the book advance in alternative motor fuels technology represents recent developments in chemical technology of alternative fuels production and aspects of modern fuels quality control

Cryogenic Valves for Liquefied Natural Gas Plants 2022-05-18

natural gas and liquefied natural gas lng continue to grow as a part of the sustainable energy mix while oil and gas companies look to lower emissions one key refinery component that contributes up to 60 of emissions are valves mainly due to poor design sealing and testing cryogenic valves for liquefied natural gas plants delivers a much needed reference that focuses on the design testing maintenance material selection and standards needed to stay environmentally compliant at natural gas refineries covering technical definitions case studies and q a the reference includes all ranges of natural gas compounds including lpg cng ngl and png key design considerations are included that are specific for cryogenic services including a case study on cryogenic butterfly valves the material selection process can be more complex for cryogenic services so the author goes into more detail about materials that adhere to cryogenic temperature resistance most importantly testing of valves is covered in depth including shell test closure or seat test and thermal shock tests along with tactics on how to prevent dangerous cryogenic leaks which are very harmful to the environment the book is a vital resource for today s natural gas engineers teaches lng valve design including sealing selection wall thickness calculation of the valve body and bonnet and proper material selection provides tactics on how to prevent cryogenic leaks with compliant valve testing applies natural gas calculations that will better support the lng supply chain enables readers to understand cryogenic valve standards including en iso and mss sp

Trends and Challenges in Maritime Energy Management 2018-05-03

this book provides an overview of contemporary trends and challenges in maritime energy management mem coordinated action is necessary to achieve a low carbon and energy efficient maritime future and mem is the prevailing framework aimed at reducing greenhouse gas emissions resulting from maritime industry activities the book familiarizes readers with the status quo in the field and paves the way for finding solutions to perceived challenges the 34 contributions cover six important aspects regulatory framework energy efficient ship design energy efficient ship and port operation economic and social dimensions alternative fuels and wind assisted ship propulsion and marine renewable energy this pioneering work is intended for researchers and academics as well as practitioners and policymakers involved in this important field

Risk, Reliability and Safety: Innovating Theory and Practice 2016-11-25

risk reliability and safety contains papers describing innovations in theory and practice contributed to the scientific programme of the european safety and reliability conference esrel 2016 held at the university of strathclyde in glasgow scotland 25 29 september 2016 authors include scientists academics practitioners regulators and other key individuals with expertise and experience relevant to specific areas papers include domain specific applications as well as general modelling methods papers cover evaluation of contemporary solutions exploration of future challenges and exposition of concepts methods and processes topics include human factors occupational health and safety dynamic and systems reliability modelling maintenance optimisation uncertainty analysis resilience assessment risk and crisis management

International Arctic Petroleum Cooperation 2015-06-05

the arctic region contains large amounts of natural resources considered necessary to sustain global economic growth so it is unsurprising that it is increasingly susceptible to political economic environmental and even military conflicts this book looks in detail at the preconditions and outlook for international cooperation on the development of arctic petroleum resources focusing on norwegian russian cooperation in the barents sea towards 2025 the authors provide a cross disciplinary approach including geopolitical institutional technological corporate and environmental perspectives to analyse the underlying factors that shape the future development of the region three future scenarios are developed exploring various levels of cooperation and development influenced by and resulting from potential political commercial and environmental circumstances through these scenarios the book improves understanding of the challenges and opportunities for arctic petroleum resource development and promotes further consideration of the possible outcomes of future cooperation the book should be of interest to students scholars and policy makers working in the areas of arctic studies oil and gas studies energy security global environmental governance environmental politics and environmental technology chapter 1 of this book is freely available as a downloadable open access pdf under a creative commons attribution non commercial no derivatives 3 0 license s3 us west 2 amazonaws com tandfbis rt files docs open access chapters 9781138783263 oachapter1 pdf chapter 2 of this book is freely available as a downloadable open access pdf under a creative commons attribution non commercial no derivatives 3 0 license s3 us west 2 amazonaws com tandfbis rt files docs open access chapters 9781138783263 oachapter2 pdf chapter 6 of this book is freely available as a downloadable open access pdf under a creative commons attribution non commercial no derivatives 3 0 license s3 us west 2 amazonaws com tandfbis rt files docs open access chapters 9781138783263 oachapter6 pdf

Sustainable Freight Transport 2018-12-10

this book is a printed edition of the special issue sustainable freight transport that was published in sustainability

Current Debates in International Relations & Law 2023-08-28

in this collection of cudes 2017 wide spectrum of topics that occupy primary place in the current debates of international relations and law were addressed by the papers presented at the current debates in social sciences conference which was held in İstanbul on december 14 16 2017 the purpose of this conference was to provide a forum for scholars researchers and students to foster discussion and expand understanding on the current themes of social sciences in parallel to changing and multiplying dynamics of world politics papers reflect diversity of issues in international relations and law including the impacts of the syrian refugee crisis on eu turkey relations lone wolf terrorism energy security russia s domestic factors in its foreign policy foreign policy of iran and russia in the middle east mirziyoyev s first year in presidency turkish foreign aid under the justice and development party the place of civil aviation in turkish foreign policy as a soft power instrument the kosovo intervention in the context of un s human security discourse un and gender issues mediation in international law and turkey the development of good corporate governance in turkey ombudsman institution in turkey the status of surviving spouse in terms of law of succession and the regime of participation in acquired property in turkey legitimacy of censorship in the west from the perspective of human rights intellectual property protection for plant innovation legal framework of autonomy in modern liberal eugenics the impact of the new technologies on the law

The Energy Sector and Energy Geopolitics in the MENA Region at a Crossroad 2014-09-30

this open access book offers a holistic and interdisciplinary analysis of the energy sector in the middle east and north africa mena region and its ongoing transformation taking into account global decarbonization policies it offers a comprehensive overview of the transition s effects in the region highlighting socioeconomic geopolitical and cultural aspects the book is divided into four parts the first of which illustrates the historical cultural and socioeconomic heterogeneity of the mena region the second part assesses the region s energy sector with a special focus on the energy mix and consumption evolution at the national level the third part addresses the geopolitics and geoeconomics of the energy sector in mena countries including foreign interference conflicts investments and partnerships both related to hydrocarbons and energy transition lastly the fourth part provides overall conclusions and key takeaways on all major aspects addressed by the book highlighting various paths and strategies for decarbonization in the region

Maritime Technology and Engineering 2017-06-02

maritime technology and engineering includes the papers presented at the 2nd international conference on maritime technology and engineering martech 2014 lisbon portugal 15 17 october 2014 the contributions reflect the internationalization of the maritime sector and cover a wide range of topics ports maritime transportation inland navigat

Strategic Innovative Marketing 2015-09-04

this proceedings volume presents the latest on the theoretical approach of the contemporary issues evolved in strategic marketing and the integration of theory and practice it highlights strategic research and innovative activities in marketing the contributed chapters are concerned with using modern qualitative and quantitative techniques based on information technology used to manage and analyze business data to discover hidden knowledge and to introduce intelligence into marketing processes this allows for a focus on innovative applications in all aspects of marketing of computerized technologies related to data analytics predictive analytics and modeling business intelligence and knowledge engineering in order to demonstrate new ways of uncovering hidden knowledge and supporting marketing decisions with evidence based intelligent tools the chapters from the proceedings of the 5th international conference on strategic innovative marketing 2016 cover areas such as social media marketing innovation sustainable marketing customer satisfaction strategies customer relationship management marketing research and analytics the papers have been written by scientists researchers practitioners and students that demonstrate a special orientation in strategic marketing all of whom aspire to be ahead of the curve based on the pillars of innovation this proceedings volume shares their recent contributions to the field and showcases their exchange of insights on strategic issues in the science of innovation marketing

Towards Green Marine Technology and Transport 2023-05-30

towards green marine technology and transport covers recent developments in marine technology and transport the book brings together a selection of papers reflecting fundamental areas of recent research and development in the fields of ship hydrodynamics marine structures ship design shipyard technology ship machinery maritime transportation

Decarbonization of Maritime Transport

this contributed book focuses on decarbonization of maritime transport by highlighting different aspects of decarbonization methods indicated in the international maritime organization s initial greenhouse gas strategy 2018 the book contains studies on alternative fuels and alternative energy systems with their life cycle assessment electrification and hybridization of ships carbon capture technologies green port concept energy efficiency management and market based measures this book will be of interest to those working in academia and industry in maritime technologies and transportation

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