This groundbreaking book provides a meticulously-researched history of the rise of a new state that aims to govern people by changing their behaviour through influencing (or at least claiming to influence) their psyche. With examples from finance, transport, health and environment, it also illustrates the struggles of citizens who fight against this new agenda of government. The book shows how deeply the psyche has become a different site of power and hence a different object of knowledge over the last two or three decades. Developing Behaviour charts the emergence of the behaviour change agenda in UK based public policy making since the late 1990s. By tracing the influence of the behavioural sciences on Whitehall policy makers, the authors explore a new psychological orthodoxy in the practices of governing. Drawing on original empirical material, chapters examine the impact of behaviour change policies in the fields of health, personal finance and the environment. This topical and insightful book analyses how the nature of the human subject itself is re-imagined through behaviour change, and develops an analytical framework for evaluating the ethics, efficacy and potential empowerment of behaviour change. This unique book will be of interest to advanced undergraduates, postgraduates and academics in a range of different disciplines. In particular, its inter-disciplinary focus on key themes in the social sciences (the state, citizenship, the meaning and scope of government) will make it essential reading for students of political science, sociology, anthropology, geography, policy studies and public administration. In addition, the book’s focus on the practical use of psychological and behavioural insights by politicians and policy makers should lead to considerable interest in psychology and behavioural economics.

Disruptive Technology and Digital Transformation for Business and Government The Committee decided to examine the UK Energy Efficiency Action Plan with particular reference to Defra’s efforts to improve households’ energy efficiency and its statutory duty under the Warm Homes and Energy Conservation Act 2008 to ensure that people in England do not live in fuel poverty after November 2016. The Committee had received many responses to its call for evidence, but on 3 October 2008 the Prime Minister announced the creation of a new Government department, the Department of Energy and Climate Change. The responsibility for fuel poverty was passed from Defra to the new Department. The Committee decided not to proceed with its inquiry, but has decided to publish the written evidence it received on this subject. The Committee recommends that the new select committee set up to examine the expenditure, policy and administration of the new Department of Energy and Climate Change seriously consider holding an inquiry into fuel poverty at the earliest opportunity.
Smart Grid As energy innovation becomes imperative for the environment and energy security, the law must be fleet-footed to evolve in an unwieldy area of policy. This much-needed text assembles experts to analyse the most recent developments, and to postulate how human rights, sustainable development, and the eradication of energy poverty could be achieved.

Government Program Briefing This book addresses the question: how effective are countries in promoting the innovation needed to facilitate an energy transition? At the heart of the book is a set of empirical case studies covering supply and demand side technologies at different levels of maturity in a variety of countries. The case studies are set within an analytical framework encompassing the functions of technological innovation systems and innovation metrics. The book concludes with lessons and recommendations for effective policy intervention.

Smart Grid Handbook, 3 Volume Set With the far-reaching global impact of the COVID-19 pandemic, the demand and the necessity for digital enterprise transformation have accelerated exponentially. Management and strategies for the adoption and wider usage of newer digital technologies for the transformation of an enterprise through digital tools such as real-time video communications have shown that people no longer need to be required to be physically present in the same place; rather, they can be geographically dispersed. Technologies such as artificial intelligence, cloud computing, digital banking, and cloud data have taken over tasks that were initially done by human hands and have increased both the automation and efficiency of tasks and the accessibility of information and services. Inclusion of all these newer technologies has shown the fast pace at which the digital enterprise transformation is rapidly evolving and how new ecosystems are reshaping the digital enterprise model. Disruptive Technology and Digital Transformation for Business and Government presents interesting research on digital enterprise transformation at different stages and across different settings within government and industry, along with key issues and deeper insights on the core problems and developing solutions and recommendations for digital enterprise transformation. The chapters examine the three core leaders of transformation: the people such as managers, employees, and customers; the digital technology such as artificial intelligence and robotics; and the digital enterprise, including the products and services being transformed. They unravel the underlying process for management and strategies to fully incorporate new digital tools and technologies across all aspects of an enterprise undergoing transformation. This book is ideally intended for managers, executives, IT consultants, business professionals, government officials, researchers, students, practitioners, stakeholders, academicians, and anyone else looking to learn about new developments in digital enterprise transformation of business systems from a global perspective.

Low carbon technologies in a green economy This book focuses on the economics of smart meters and is one of the first to present comprehensive evidence on the impacts, cost-benefits and risks associated with smart metering. Throughout this volume, Jacopo Torriti integrates his findings from institutional cost-benefit analyses and smart metering trials in a range of European countries with key economic and social concepts and policy insights derived from almost ten years of research in this area. He explores the extent to which the benefits of smart meters outweigh the cost, and poses key questions including: which energy savings can be expected from the roll out of smart meters in households? Is Cost-Benefit Analysis an appropriate economic tool for assessing the impacts of smart metering rollouts? Can smart meters play a significant role in research on people’s activities and the timing of energy demand? Torriti concludes by providing a much-needed survey of recent changes and expected future developments in this growing field. This book will be of great interest to students and scholars of energy policy and demand and smart metering infrastructure.

Advances in Next Generation Services and Service Architectures This book offers a detailed account of how renewable energy has moved from the margins to the mainstream in the UK, and of the battles that have been fought to achieve this, trawling through the often troubled history of government involvement. The book examines how renewables became what now seem likely to be the dominant energy sources of the future. Renewable energy technologies, using solar and wind power and other natural energy sources, are now supplying around 30% of UK electricity and appear set to continue expanding to supply around 50% within the next decade. Although the emphasis of the book is on the UK, developments there are compared with those in other countries to provide an overall assessment of the relevance of the UK experience. Chapters explore why the UK still lags behind many other
countries in deploying renewables, in part, it is argued, due to its continued reliance on nuclear power. The book ends with a discussion on what sort of changes may be expected over the coming years. The author does not assume a single answer, but invites readers to consider the possibilities.

Transitions in Energy Efficiency and Demand Smart Cities: Issues and Challenges: Mapping Political, Social and Economic Risks and Threats serves as a primer on smart cities, providing readers with no prior knowledge on smart cities with an understanding of the current smart cities debates. Gathering cutting-edge research and insights from academics, practitioners and policymakers around the globe, it identifies and discusses the nascent threats and challenges contemporary urban areas face, highlighting the drivers and ways of navigating these issues in an effective manner. Uniquely providing a blend of conceptual academic analysis with empirical insights, the book produces policy recommendations that boost urban sustainability and resilience. Combines conceptual academic approaches with empirically-driven insights and best practices Offers new approaches and arguments from inter and multi-disciplinary perspectives Provides foundational knowledge and comparative insight from global case-studies that enable critical reflection and operationalization Generates policy recommendations that pave the way to debate and case-based planning

Im Hürdenlauf zur Energiewende

The Stances of e-Government Advances in Next Generation Services and Service Architectures presents state-of-the-art results in services and service architectures, identifies challenges including business models, technology issues, service management, and security, and describes important trends and directions. The book is intended to provide readers with a comprehensive reference for the most current developments in the field. It offers broad coverage of important topics with eighteen chapters covering both technology and applications written by international experts. The chapters are organized into the following four parts: Part 1: Emerging Services and Service Architectures - This part provides eight chapters which survey many of the important emerging categories of services, and provides details about architectures, service models, and sample applications. Part 2: IPTV and Video Services - Video content delivery to a variety of endpoints with varying capacities and network connectivity is a fundamental service. In this part, four chapters address enabling technologies including semantic support, context-awareness, QoE optimization, and support for mobile devices. Part 3: Context Awareness - User sensitive application delivery has long been viewed as an important capability to increase the value of services to users. Context awareness focuses on representing and using the immediate situation and surroundings of the user in the delivery of the service. In this part, four chapters cover recent progress in context awareness and illustrate its use in next generation networks and IPTV. Part 4: Security - New types of services and service architectures require new security techniques. This part contains two chapters, one on security challenges and the other on the user of reputation in service management. Advances in Next Generation Services and Service Architectures is complemented by a separate volume, Future Internet Services and Service Architectures, which covers future Internet architectures, peer-to-peer service models, event based processing, and VANETs.

Appraising the Economics of Smart Meters This book describes the significance of metrology for inclusive growth in India and explains its application in the areas of physical-mechanical engineering, electrical and electronics, Indian standard time measurements, electromagnetic radiation, environment, biomedical, materials and Bhartiya Nirdeshak Dravyas (BND®). Using the framework of “Aswal Model”, it connects the metrology, in association with accreditation and standards, to the areas of science and technology, government and regulatory agencies, civil society and media, and various other industries. It presents critical analyses of the contributions made by CSIR-National Physical Laboratory (CSIR-NPL), India, through its world-class science and apex measurement facilities of international equivalence in the areas of industrial growth, strategic sector growth, environmental protection, cybersecurity, sustainable energy, affordable health, international trade, policy-making, etc. The book will be useful for science and engineering students, researchers, policymakers and entrepreneurs.

Progress in Cryptology - AFRICACRYPT 2017 The Annual Energy Statement 2013 sets out the government's priorities in delivering the UK's energy policies in the near term: helping households and businesses take control of their energy bills and keep their costs down; unlocking investment in
the UK's infrastructure that will support economic growth; playing a leading role in efforts to secure international action to reduce greenhouse gas emissions and tackle climate change. It presents plans to make switching simpler and quicker, and a new probe into energy firms' accounts, to make them more transparent on profits and prices, as well as increasing penalties for market manipulation and regularly checking that the market is working properly.

Smart Metering Design and Applications

Smart Grid Applications and Developments This book constitutes the refereed proceedings of the 9th International Conference on the Theory and Application of Cryptographic Techniques in Africa, AFRICACRYPT 2017, held in Dakar, Senegal, in May 2017. The 13 papers presented in this book were carefully reviewed and selected from 40 submissions. The papers are organized in topical sections on cryptographic schemes, side-channel analysis, differential cryptanalysis, applications, and number theory.

EBOOK: Economics for Business, 6e In its report of last year on the Communities and Local Government's Departmental Annual Report 2007 (HC 170, session 2007-08, ISBN 9780215037978) the Committee commented on the particular nature of the Department's work: on its unusual reliance for the achievement of the goals Government has set it on a plethora of other Departments, agencies, non-departmental bodies, local authorities and other stakeholders; on the long, devolved delivery chains by which those goals therefore have to be delivered; and on the skills of influence, brokering and negotiation which are required to achieve them. In this Report the Committee assesses the progress made since last. The most recent Cabinet Office Capability Review concludes that there has been a positive "direction of travel" for CLG in that period, but the Committee concludes that there is still some way to go before CLG can be said to be performing at the highest achievable level of effectiveness. The Department's overall performance against its Public Service Agreement targets is likewise moving in the right direction but still short of full effectiveness. Achievement of efficiency targets is applauded. Finally, the report considers examples of particular policies which highlight some of the Department's strengths and weaknesses, and follow up some issues in earlier inquiries. These issues include: eco-towns; the Decent Homes programme; Home Information Packs; Fire Service response times; Firebuy; the FiReControl programme. The report also considers the Department's response to the serious flooding of summer 2007, and to the reviews which followed; and the mismanagement of European Regional Development Fund monies.

Metrology for Inclusive Growth of India Under European Directives, all member states are required to install 'intelligent metering systems' - smart meters - to at least 80% of domestic electricity consumers by 2020. The UK Government has opted for a more challenging programme, with plans for energy suppliers to install smart electricity and gas meters in all homes and smaller non-domestic premises in Great Britain by 2019. The Department estimates that the smart meters programme will cost some £11.7 billion. This large complex programme requires replacing around 53 million gas and electricity meters, with significant uncertainties over the estimated costs and benefits involved. Installation costs will be borne by consumers through their energy bills, but many of the benefits accrue in the first instance to energy suppliers. No transparent mechanism presently exists for ensuring savings to the supplier are passed on to consumers, and the track record of energy companies to date does not inspire confidence that this will happen. There remain significant uncertainties in a number of key areas in the programme and the Department needs to address these by conducting proper trials to identify and manage the risks associated with an IT project involving such a substantial amount of money which is financed by individuals as consumers. The Department needs to ensure that the vulnerable, those on low incomes and those who use prepayment meters also benefit from smart meters. It would be unacceptable if these consumers bore the costs of smart meters through higher charges without getting a share of the potential benefits.

Understanding Energy Innovation They walk in your shadows they are everywhere, watching you. And you don't even know it. The Shadow Government. For years they have been slowly taking control over the United States of America and turning it into something our forefathers never could have imagined it would have become. I know things that they don't want us to know, but I feel we all should know them. That's why I wrote this book to expose them and their evil to the world. Consider this book a warning. Not only is the Shadow Government taking over our country, but we are living in the end
times. If you don't change your life now, you might not have the chance to do it later.


Consumer Engagement with Energy Markets Meeting today's energy and climate challenges require not only technological advancement but also a good understanding of stakeholders' perceptions, political sensitivity, well-informed policy analyses and innovative interdisciplinary solutions. This book will fill this gap. This is an interdisciplinary informative book to provide a holistic and integrated understanding of the technology-stakeholder-policy interactions of smart grid technologies. The unique features of the book include the following: (a) interdisciplinary approach – by bringing in the policy dimensions to smart grid technologies; (b) global and Asian perspective and (c) learning from national case studies. This book is organised into five sections. Part 1 discusses the historical and conceptual aspects of smart grids. Part 2 introduces the technological aspects and showcase the state of the art of the technologies. Part 3 explores the policy and governance dimensions by bringing in a stakeholder perspective. Part 4 presents a collection of national case studies. Part 5 shares insights and lesson learnt and provide policy recommendations. This book showcases the state-of-the-art R&D developments and policy experiences. This book contributes to a better understanding of governance institution and policy challenges and helps formulate policy recommendations for successful smart grid deployment.

SMART METERING IMPLEMENTATION PROGRAMME

Energy Efficiency and Fuel Poverty Meta-regulation presents itself as a progressive policy approach that can manage complexity and conflicting objectives better than traditional command and control regulation. It does this by ‘harnessing’ markets and enlisting a broad range of stakeholders to reach a more inclusive view of the public interest that a self-regulating business can then respond to. Based on a seventeen year study of the Australian energy industry, and via the lens of Niklas Luhmann’s systems theory, Meta-Regulation in Practice argues that normative meta-regulatory theory relies on questionable assumptions of stakeholder morality and rationality. Meta-regulation in practice appears to be most challenged in a complex and contested environment; the very environment it is supposed to serve best. Contending that scholarship must prioritise an understanding of communicative possibilities in practice, this book will be of interest to undergraduate and postgraduate students, as well as postdoctoral researchers interested in subjects such as business regulation, systems theory and corporate social responsibility.

Government Response to the Consultation on Simplifying the CRC Energy Efficiency Scheme Electric power systems worldwide face radical transformation with the need to decarbonise electricity supply, replace ageing assets and harness new information and communication technologies (ICT). The Smart Grid uses advanced ICT to control next generation power systems reliably and efficiently. This authoritative guide demonstrates the importance of the Smart Grid and shows how ICT will extend beyond transmission voltages to distribution networks and customer-level operation through Smart Meters and Smart Homes. Smart Grid Technology and Applications: Clearly unravels the evolving Smart Grid concept with extensive illustrations and practical examples. Describes the spectrum of key enabling technologies required for the realisation of the Smart Grid with worked examples to illustrate the applications. Enables readers to engage with the immediate development of the power system and take part in the debate over the future Smart Grid. Introduces the constituent topics from first principles, assuming only a basic knowledge of mathematics, circuits and power systems. Brings together the expertise of a highly experienced and international author team from the UK, Sri Lanka, China and Japan. Electrical, electronics and computer engineering researchers, practitioners and consultants working in inter-disciplinary Smart Grid RD&D will significantly enhance their knowledge through this reference. The tutorial style will greatly benefit final year undergraduate and master’s students as the curriculum increasing focuses on the breadth of technologies that contribute to Smart Grid realisation.

Meta-Regulation in Practice Taking into account the present day trends and the requirements, this Brief focuses on smart metering of electricity for next generation energy efficiency and conservation. The contents include discussions on the smart metering concepts and existing technologies and...
systems as well as design and implementation of smart metering schemes together with detailed examples.

Energy Innovation for the Twenty-First Century A guide to a multi-disciplinary approach that includes perspectives from noted experts in the energy and utilities fields Advances in Energy Systems offers a stellar collection of articles selected from the acclaimed journal Wiley Interdisciplinary Review: Energy and Environment. The journal covers all aspects of energy policy, science and technology, environmental and climate change. The book covers a wide range of relevant issues related to the systemic changes for large-scale integration of renewable energy as part of the on-going energy transition. The book addresses smart energy systems technologies, flexibility measures, recent changes in the marketplace and current policies. With contributions from a list of internationally renowned experts, the book deals with the hot topic of systems integration for future energy systems and energy transition. This important resource: Contains contributions from noted experts in the field Covers a broad range of topics on the topic of renewable energy Explores the technical impacts of high shares of wind and solar power Offers a review of international smart-grid policies Includes information on wireless power transmission Presents an authoritative view of micro-grids Contains a wealth of other relevant topics Written for energy planners, energy market professionals and technology developers, Advances in Energy Systems is an essential guide with contributions from an international panel of experts that addresses the most recent smart energy technologies.

Smart Grid Security A comprehensive overview of the Internet of Things’ core concepts, technologies, and applications Internet of Things A to Z offers a holistic approach to the Internet of Things (IoT) model. The Internet of Things refers to uniquely identifiable objects and their virtual representations in an Internet-like structure. Recently, there has been a rapid growth in research on IoT communications and networks, that confirms the scalability and broad reach of the core concepts. With contributions from a panel of international experts, the text offers insight into the ideas, technologies, and applications of this subject. The authors discuss recent developments in the field and the most current and emerging trends in IoT. In addition, the text is filled with examples of innovative applications and real-world case studies. Internet of Things A to Z fills the need for an up-to-date volume on the topic. This important book: Covers in great detail the core concepts, enabling technologies, and implications of the Internet of Things Addresses the business, social, and legal aspects of the Internet of Things Explores the critical topic of security and privacy challenges for both individuals and organizations Includes a discussion of advanced topics such as the need for standards and interoperability Contains contributions from an international group of experts in academia, industry, and research Written for ICT researchers, industry professionals, and lifetime IT learners as well as academics and students, Internet of Things A to Z provides a much-needed and comprehensive resource to this burgeoning field.


Changing Behaviours This two-volume set LNCS 9771 and LNCS 9772 constitutes - in conjunction with the volume LNAI 9773 - the refereed proceedings of the 12th International Conference on Intelligent Computing, ICIC 2016, held in Lanzhou, China, in August 2016. The 221 full papers and 15 short papers of the three proceedings volumes were carefully reviewed and selected from 639 submissions. The papers are organized in topical sections such as signal processing and image processing; information security, knowledge discovery, and data mining; systems biology and intelligent computing in computational biology; intelligent computing in scheduling; information security; advances in swarm intelligence: algorithms and applications; machine learning and data analysis for medical and engineering applications; evolutionary computation and learning; independent component analysis; compressed sensing, sparse coding; social computing; neural networks; nature inspired computing and optimization; genetic algorithms; signal processing; pattern recognition; biometrics recognition; image processing; information security; virtual reality and human-computer interaction; healthcare informatics theory and methods; artificial bee colony algorithms; differential evolution; memetic algorithms; swarm intelligence and optimization; soft computing; protein structure and function prediction; advances in swarm intelligence: algorithms and applications; optimization, neural network, and signal processing; biomedical informatics and image processing; machine learning; knowledge discovery and natural language processing; nature inspired computing and optimization; intelligent control and automation; intelligent data analysis and prediction; computer vision; knowledge representation and expert system; bioinformatics.

HC 665 - Smart Meters: Progress or Delay? Low carbon technologies will create jobs and lower carbon dioxide emissions but the Government must act faster if the UK is to reap the economic benefits it deserves. To date, there has been disappointingly slow progress with the move towards a green economy. Having reviewed low carbon technologies across the energy supply chain - from low carbon energy generation, through storage and transmission, to end user efficiency, they have the potential to create jobs. In 2007/8, there were 881,000 so-called 'green jobs' in the UK's low carbon and environmental goods and services sector. This could potentially grow by 44 per cent to over 1.27 million jobs by 2015. Government has done well to develop a regulatory system for carbon capture and storage (CCS), but slow progress on demonstration projects has put the UK behind international competitors. Implementation of the Government's target to install smart meters in every home by 2020 needs to be fully integrated with the development of smart communication technologies, smart appliances and electric vehicles. The Government must tackle domestic energy efficiency more aggressively. And it should widen its portfolio of green fiscal policy measures to drive forward investment in low carbon technologies.

Communities and Local Government's departmental annual report 2008

Intelligent Computing Theories and Application Smart meters (also known as advanced meters) are a physical technology that is added to or replaces a typical gas, electric, or water meter (fitting in the same footprint). This case study focuses solely on electric smart meters. Most smart meters are computerized and allow for remote data collection through periodic (e.g. 15-minute, hourly, daily) communication to the utility on energy use. In this way, utilities can gather information on energy use. Smart meters also have the ability to provide output to customers on real-time energy use to allow for behavioral modifications. Grids with smart meters or "smart grids" attempt to predict demand and react to rapid changes in demand and supply to deliver efficient, reliable, and sustainable electric power. Smart meters are part of a smart grid but the meters themselves do not comprise the entire smart grid solution, but rather a part of the physical backbone of the system.

Smart Cities: Issues and Challenges The Smart Grid has the potential to revolutionize electricity delivery systems, and the security of its infrastructure is a vital concern not only for cyber-security practitioners, engineers, policy makers, and utility executives, but also for the media and consumers. Smart Grid Security: An End-to-End View of Security in the New Electrical Grid explores the important techniques, challenges, and forces that will shape how we achieve a secure twenty-first century electric grid. Includes a Foreword by Michael Assante, President and CEO, National Board of Information Security Examiners Following an overview of the components of the Smart Grid, the book
delves into the evolution of security standards and regulations and examines ways in which the Smart Grid might be regulated. The authors discuss the technical details about how metering technology is being implemented and the likely threats and vulnerabilities that utilities will face. They address the home area network (HAN) and examine distribution and transmission—the foundation for the delivery of electricity, along with distributed generation, micro-grids, and operations. The book explores future concepts—such as energy storage and the use of plug-in electric vehicles (PEVs)—in addition to the concomitant risk for fraud and manipulation with stored energy. Consumer-related issues are discussed as they pertain to emerging ways of receiving and generating energy. The book examines dysfunctions ranging from inadvertent outages to cyber-attack and presents recommendations on how to respond to these incidents. It concludes with speculation of future cyber-security challenges and discusses new ways that the grid can be defended, such as better key management and protection. Written in a style rigorous enough for the practitioner yet accessible to a broad audience, this comprehensive volume covers a topic that is becoming more critical to industry and consumers everywhere.

Renewable Energy in the UK "We need a simple government. Don't get me wrong; I know that many of the nation's problems are highly complex. But I also know that the governing principles that can solve them, if we work together, are simple." Armed with little money but a lot of common sense, former Arkansas Governor Mike Huckabee surprised the nation by coming in second during the 2008 Republican presidential primaries. He connected with millions of voters by calling for a smaller, simpler government that would get out of the way when appropriate. (Unfortunately, there weren't quite enough of those voters to prevent the election of Barack Obama.) Since then, President Obama's message has morphed from "hope and change" to "tax and spend" and "borrow and spend" and "over-regulate and spend." The stimulus failed to stop the recession, the deficit exploded to unimaginable heights, and the Democrats jammed through Congress a financial "reform" bill that didn't really reform anything and a healthcare monstrosity that gave the government more power over our personal lives than ever. Meanwhile, Huckabee has continued to be the voice of common sense conservatism, through his television talk show, his radio commentaries, and his lectures around the country. Now he's written a book that sums up the twelve things we really need from Washington to get the country back on the right track. These twelve essential truths will have you nodding in agreement, whether you're a Republican, an Independent, or even an open-minded Democrat. They can help us put aside our differences, tone down the partisan rancor, and return to the simple principles of the Founding Fathers: liberty, justice, personal freedom, and civic virtue. And they can help us tackle even the most seemingly complicated of today's problems. For instance: * You can't spend what you don't have; you can't borrow what you can't pay back. Families, businesses, towns, cities, and states all have to balance their budgets or face dire consequences. Why shouldn't the federal government be held to the same standard? And if that means making some hard choices now, it's a far better alternative than saddling our kids and grandkids. * The further you drift from shore, the more likely you are to be lost at sea. The Founders expected the federal government to be subordinate to state and local governments. How can politicians in DC know the best way to help farmers in Iowa, autoworkers in Michigan, or teachers in California? They can't. So every problem should be solved at the most local level capable of solving it. * Bullies in the playground only understand one thing. There's a time and place for diplomacy, but we can't protect the country just by negotiating with our enemies. We need a strong national defense and a counterterrorism policy that focuses on effectiveness, not political correctness. * The most important form of government is the family. In the long run, the only way to ensure prosperity, safety, and equal opportunity is to make sure we raise our children to be ethical and productive citizens. No bureaucracy can replace parents in that essential role, so we have to do everything possible to help parents do their job. A Simple Government will inspire any American looking forward to a better future.

Innovation in Energy Law and Technology The CRC Energy Efficiency Scheme (CRC) is a mandatory UK-wide trading scheme designed to incentivise large public and private sector organisations to take up cost-effective energy efficiency opportunities, so helping to drive down consumption and protect energy security. The Government issued proposals (http://www.decc.gov.uk/assets/decc/11/consultation/CRC/4757-cons-simp-crc-energy-efficiency-scheme.pdf) to simplify the scheme, to make it easier and simpler for businesses to feel the benefits of using less energy, as well as supporting jobs in the energy savings industry. The 46 proposals were intended to: address stakeholder concerns about complexity and associated administrative costs; provide greater business certainty; allow for greater
Preparations for the roll-out of smart meters There are major risks the Department of Energy and Climate Change must address to achieve value for money from its £11.3 billion national programme to install 'smart' electricity and gas meters in all homes and smaller non-domestic premises in Great Britain from 2014 to 2019. Smart meters provide consumers with detailed information on their energy use and can enable energy suppliers to provide a wider range of off-peak tariffs as well as allowing suppliers to collect meter readings remotely. The cost of installing smart meters in every home and smaller non-domestic premise and the associated communications technology will be borne by energy suppliers, passing on the costs and efficiency savings to their customers. Uncertainties remain over the cost of the programme, and the Department still has to develop a specification for the central data and communications system. The Department estimates the economic benefits at £18.6 billion between 2011 and 2030 (achieving a discounted net benefit of £7.3 billion). However, there is uncertainty about the extent to which smart meters will result in changed energy use by consumers over a sustained period. Other risks that the NAO has highlighted are that there is very little contingency time to address the risk that design approvals, procurement and testing take longer than planned; that the system will have to be flexible enough to minimize the risk of future obsolescence; and that the Department has more work to do on the security of the system.

Smart Grid

A Simple Government EBOOK: Economics for Business, 6e

Preparations for the roll-out of smart meters The Open Access version of this book, available at http://www.tandfebooks.com/doi/view/10.4324/9781351127264, has been made available under a Creative Commons Attribution-Non Commercial-No Derivatives 4.0 license. Meeting the goals enshrined in the Paris Agreement and limiting global temperature increases to less than 2°C above pre-industrial levels demands rapid reductions in global carbon dioxide emissions. Reducing energy demand has a central role in achieving this goal, but existing policy initiatives have been largely incremental in terms of the technological and behavioural changes they encourage. Against this background, this book develops a sociotechnical approach to the challenge of reducing energy demand and illustrates this with a number of empirical case studies from the United Kingdom. In doing so, it explores the emergence, diffusion and impact of low-energy innovations, including electric vehicles and smart meters. The book has the dual aim of improving the academic understanding of sociotechnical transitions and energy demand and providing practical recommendations for public policy. Combining an impressive range of contributions from key thinkers in the field, this book will be of great interest to energy students, scholars and decision-makers.

Advances in Energy Systems Comprehensive, cross-disciplinary coverage of Smart Grid issues from global expert researchers and practitioners. This definitive reference meets the need for a large scale, high quality work reference in Smart Grid engineering which is pivotal in the development of a low-carbon energy infrastructure. Including a total of 83 articles across 3 volumes The Smart Grid Handbook is organized in 6 sections: Vision and Drivers, Transmission, Distribution, Smart Meters and Customers, Information and Communications Technology, and Socio-Economic Issues. Key features: Written by a team representing smart grid R&D, technology deployment, standards, industry practice, and socio-economic aspects. Vision and Drivers covers the vision, definitions,
evolution, and global development of the smart grid as well as new technologies and standards. The Transmission section discusses industry practice, operational experience, standards, cyber security, and grid codes. The Distribution section introduces distribution systems and the system configurations in different countries and different load areas served by the grid. The Smart Meters and Customers section assesses how smart meters enable the customers to interact with the power grid. Socio-economic issues and information and communications technology requirements are covered in dedicated articles. The Smart Grid Handbook will meet the need for a high quality reference work to support advanced study and research in the field of electrical power generation, transmission and distribution. It will be an essential reference for regulators and government officials, testing laboratories and certification organizations, and engineers and researchers in Smart Grid-related industries.

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