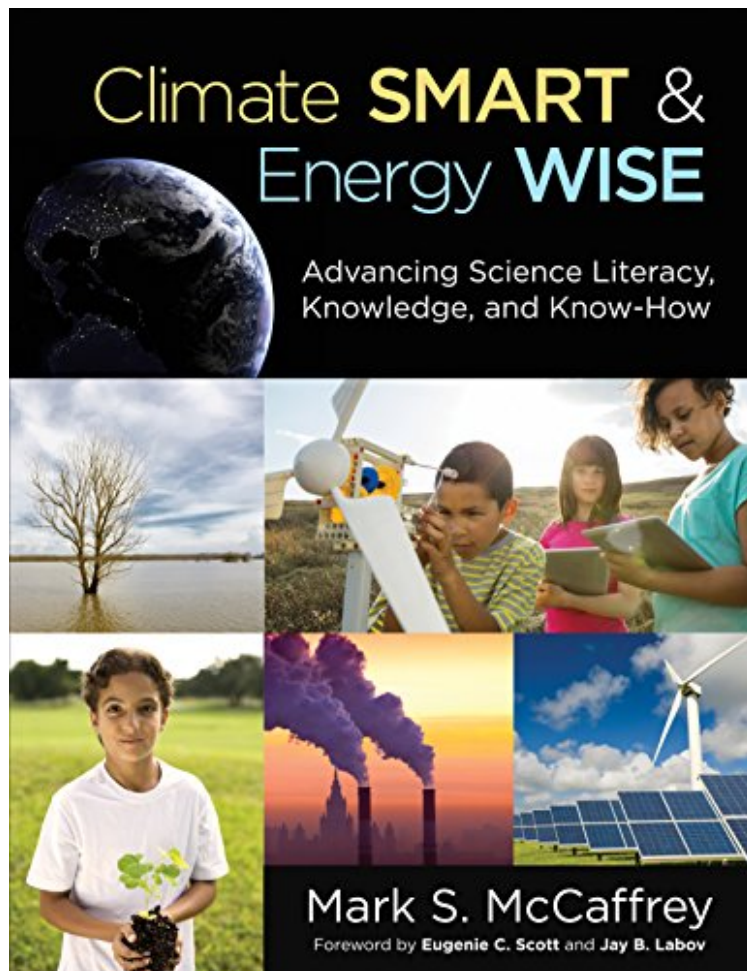


Climate Smart Energy Wise: Advancing Science Literacy, Knowledge, and Know-How

Mark S. McCaffrey

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Mark S. McCaffrey : Climate Smart Energy Wise: Advancing Science Literacy, Knowledge, and Know-How before purchasing it in order to gage whether or not it would be worth my time, and all praised Climate Smart Energy Wise: Advancing Science Literacy, Knowledge, and Know-How:

2 of 2 people found the following review helpful. Resource for educators policy makersBy E L AndrewsClimate SMART Energy WISE is a great resource for your bookshelf, and could also serve as a self-contained text for workshops. This sourcebook outlines the state-of-the-art of climate and energy education, and makes the link between understanding energy science and understanding climate science. It offers concepts and resources for educators and policy makers, focused on improving education about science inquiry and analysis skills.In 8 efficient chapters, the book provides evidence for the need to offer and enhance energy education; provides an overview of research about energy and climate science; links science concepts to education standards; describes sample education techniques;

suggests curriculum resources; and describes programs working to address climate and energy education goals. The text is well written and easy to understand. The goal of the book is to encourage a solid understanding of energy science principles, and how they relate to climate science. Knowing how people actually learn is identified as important to meeting this goal, but the book does not dwell on this topic, concentrating instead on the science of energy and climate, while recognizing that energy and climate are central to the lives of people and communities. The author promotes the idea that education about climate and energy can and must also incorporate mathematics, history, economics, and communication. As a result energy and climate science education lends itself to, and almost requires, interdisciplinary approaches. For educators, the useful resources here include education standards for science and engineering, climate literacy, and energy literacy. A table based on the National Science Education Standards K-12 Framework for science and engineering practices outlines relevant performance standards for each grade, along with their connection to Common Core State Standards and related ideas and concepts. A table outlining Climate Literacy Essential Principles (CLEAN) links these principles to other standards, providing a "pragmatic mix of science and solutions, risk and responses without political or ideological agenda." Content is also coordinated with an Energy Literacy framework developed by the U.S. Department of Energy. A chapter about countering skepticism, denial, and despair offers a unique overview for educators and policy makers, summarizing research about how to inform beliefs formed by fear or doubt or without a basis in scientific information. Learning options that engage students in investigating and developing solutions that reduce the impacts of climate change illustrate one way to move beyond denial or despair to practical application. Finally, the author suggests age-appropriate opportunities to use energy and climate science in schools and communities. Students can analyze school-building energy use, for example, to discover ways to reduce costs as well as potential impacts on climate. Action examples advocate for analyzing problems and applying science to derive solutions, rather than advocating for a pre-conceived solution. In short, this is a terrific resource that deserves wide use. Considering my career in adult education about the environment, I can think of no other resource that targets these topics so well.

3 of 3 people found the following review helpful. Climate Change Era - Needs teachers who understand Energy and Climate literacy. By CustomerAre you generation X or Generation Y? We are all generation living in a climate change era. For that reason, this book by Mark McCaffrey is a must read for teachers. It outlines what we know, how we know and most importantly what to teach. If I could pass a bill in Congress, it would be to make all new teachers and current teacher get trained on how to teach climate and energy issues. Climate literacy and energy literacy by the United States Global Change Research Program are two documents that help frame a interdisciplinary approach to learning. This book, helps put that into context. I highly recommend this book for teachers of teachers, teachers and future teachers.

3 of 3 people found the following review helpful. fantastic resource By beeClimate Smart and Energy Wise is an exceptionally useful book for citizens and educators seeking knowledge of how to explore and understand climate change and energy use. Broken into sections that concisely simplify both the background science content and educational pedagogy, the book carefully steps readers through the process of how to understand and educate others of all ages about the science of climate change and energy use. The book is incredibly thorough. It includes up to date information regarding the best available age-appropriate educational resources and includes links to National Science Standards across all grade levels. Any educator should keep a copy of this guidebook on their shelf.

Today's answers to our most urgent climate issues The twenty-first century ushered in a set of unmistakably urgent global challenges that are too important to be an afterthought in today's classrooms. Climate Smart Energy Wise offers a virtual blueprint to climate and energy education, packed with resources and strategies, including: A high-level overview of where climate and energy topics fit (or don't fit) into your current curriculum with connections to the NGSS Proven methods to teach climate change and related topics in a grade-appropriate way Sample learning activities and high-quality online resources

"The climate change education cavalry has arrived! Climate Smart - Energy Wise: Advancing Science Literacy, Knowledge and Know-how by Mark S. McCaffrey is a must-have resource for all educators striving to increase climate and energy literacy of our K-12 student population. In a nutshell, this book is a roadmap beginning with climate and energy basics and ending with a bold ten year action plan to "tackle the climate and energy challenges of the 21st century through improved literacy and learning environments." Along the way the reader learns best practices for teaching climate and energy issues with each chapter ending with numerous links to educational resources listed by grade level. These resources are worth the price of the book alone."--Scott A. Mandia, Professor of Physical Sciences "Climate Smart and Energy Wise is an honest and realistic take on what's possible for the future of climate and energy education. McCaffrey's optimism about society's ability to cope with the alarming reality of global change is founded on the potential of our educational system and its ability to inform and improve students', teachers', and parents' understanding of our world. McCaffrey ties the disparate aspects of climate science together. This book is a resource with many more resources within it so that educators can begin addressing climate education in their classrooms right away." --Laura Faye Tenenbaum, Education Specialist "This is an excellent resource for all

educators - from novices to master teachers - who are struggling to decide when and how to teach about climate change. It contains a well-researched and well-organized compendium of factual information and relevant concepts in both life sciences and earth sciences, along with strategies and links to diverse and detailed resources for teaching. McCaffrey has been working in the field of climate education for years, knows both the field and important players well, and presents a number of interesting new ways to present this vital information. McCaffrey also does an excellent job coordinating important facts and concepts related to climate change with new national standards, in the process, putting this material into the larger context of revitalizing and reinvigorating science education."--Joseph Levine, Science Educator, Writer, Producer, Co-author of Biology"Climate Smart - Energy Wise provides a roadmap to teachers to assist them in acquiring the background and resources to bring climate and energy education into their classrooms . . . It provides a wealth of information to help teachers find resources, including the very useful Climate Literacy and Energy Literacy frameworks, developed by scientists and master teachers. This small book is packed with suggestions for where a teacher can find more information and classroom guidance for the teaching of global climate change."--From the Foreword by Eugenie C. Scott"How do we prepare students for global change? This book envisions schools that are "living laboratories of innovation, "that provide students with the knowledge they will need to live in a very different--and much warmer--world. The book shows how climate can act as an integrative thread bringing together science, math and "virtually any other topic or discipline and how Climate change effects every aspect of our lives." The book also emphasizes that we must teach about climate change through a lens of hope, focusing on the positive things we all can -and must--do. Climate literacy provides a unified concept that makes STEM education and the Next Generation Science Standards relevant through natural links to the most important issues of our time."--Lynne Cherry, Author, Empowering Young Voices for the Planet"The United States has a serious science literacy problem as witnessed by the statements made by local, state, and federal officials about global warming and other topics. One way to combat this is to improve science education at the K-12 level by providing the instructional materials needed by science teachers. This should be a valuable reference for those involved in science education." --NSTA Recommends (12/08/2014)"The climate change education cavalry has arrived! Climate Smart - Energy Wise: Advancing Science Literacy, Knowledge and Know-how by Mark S. McCaffrey is a must-have resource for all educators striving to increase climate and energy literacy of our K-12 student population. In a nutshell, this book is a roadmap beginning with climate and energy basics and ending with a bold ten year action plan to "tackle the climate and energy challenges of the 21st century through improved literacy and learning environments." Along the way the reader learns best practices for teaching climate and energy issues with each chapter ending with numerous links to educational resources listed by grade level. 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