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Title of Abstract: Space-Based Earth Observations: Informing Energy Management Decision Making.

ABSTRACT BODY: Earth observations from space are playing an increasing role in informing decision making in the energy sector. In renewable energy applications, spaceborne observations now routinely augment sparse ground-based observations to improve solar energy resource assessment globally. As one of the nine Global Earth Observing System of Systems (GEOSS) societal benefit areas, the enhancement of policy and management decision making in the energy sector employing Earth observations and related models is being conducted by the Committee on Earth Observation Satellites (CEOS). CEOS supports the space-based activities of the Group on Earth Observations (GEO), contributing directly to GEO work plan tasks supporting the energy societal benefit area. We describe several projects being conducted by CEOS member agencies, including NASA, to engage and partner with end-user energy decision makers to enhance their decision support systems using space-based observations. These prototype projects have been pursued through the GEO Energy Community of Practice and, more recently, in collaboration with the CEOS Energy societal benefit area. Several case studies exhibiting the utility of Earth observations to enhance renewable energy resource assessment, improve the forecast of space-weather impacts on the power grid, and augment integrated assessment modeling studies for energy technology scenario evaluation are discussed. In addition, ongoing activities to engage stakeholders in other Federal agencies, industry, and academia are described.

INDEX TERMS: [1934] INFORMATICS / International collaboration, [0360] ATMOSPHERIC COMPOSITION AND STRUCTURE / Radiation: transmission and scattering, [3360] ATMOSPHERIC PROCESSES / Remote sensing, [1918] INFORMATICS / Decision analysis.