

The future power system centralized, distributed, or just integrated? [Guest editorial]

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Abstract-

Distributed energy resources (DERs), including distributed renewable generation, have changed the operational, commercial, and regulatory dynamics of power systems. The growth of DERs has challenged the classic organization of power systems, which was generally based on centralized supply from larger plants, and there has been a broad, worldwide discussion among institutions and agents of the electricity industry about the character of future energy systems in the face of DERs. A fundamental question arises: will the future energy supply be dominated by large-scale power plants, developed by traditional agents and acting in the wholesale market, or by DERs? Some see a DER-dominant future in which millions of proactive energy consumers choose to install DERs behind their electricity meters, revolutionizing the traditional model. Others believe that the future power system will simply be an integrated mix of centralized energy resources and DERs, with most of the traditional model remaining intact.

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