

CFD FOR WIND AND TIDAL OFFSHORE TURBINES

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ABSTRACT

The International Energy Agency (IEA) concludes in The World Energy Outlook 2008 [1] that the current energy consumption and production is “patently unsustainable environmentally, economically, and socially”. Social concern and international agreements (e.g. Kyoto 1997, Copenhagen 2009 or Durban 2011) are pushing forward the development of renewable energy technologies for sustainable and renewable energy generation. In particular, offshore wind and tidal turbines have seen increasing interest from academia, industry and government bodies, during recent years, as offshore sites present huge energy potential e.g. [2], [3].

The new engineering challenges presented by these technologies, together with the difficulty to undertake experimental test under offshore environments, have risen the interest on Computational Fluid Dynamic (CFD) to design appropriate turbines and blades, understand fluid flow physical phenomena associated to offshore environments and predict power production, among others [4].

This minisymposium invites CFD researchers from academia and industry to share their expertise and research interest regarding CFD challenges and novel techniques for offshore wind and tidal applications.

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