

1. Record Nr.	UNINA9910797533003321
Autore	Cervigni Raffaello
Titolo	Enhancing the Climate Resilience of Africa's Infrastructure : : The Power and Water Sectors. // Cervigni, Raffaello
Pubbl/distr/stampa	Washington, D.C. : , : The World Bank, , 2015
ISBN	1-4648-0467-2
Descrizione fisica	1 online resource (216 pages)
Collana	Africa development forum
Disciplina	330.01
Soggetti	Water resources development - Environmental aspects - Africa Water-supply - Environmental aspects - Africa Power resources - Environmental aspects - Africa Water-power - Environmental aspects - Africa Infrastructure (Economics) - Environmental aspects - Africa Climatic changes - Africa Economic development - Environmental aspects - Africa Resilience (Ecology) - Africa
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"A copublication of the Agence Francaise de Developpement and the World Bank." "United Nations Economic Commission for Africa"--Cover. Appendices available online.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Overview / Raffaello Cervigni, James E. Neumann, Rikard Liden, Kenneth M. Strzepek -- Africa's power and water infrastructure / James E. Neumann -- Methodology / Kenneth M. Strzepek [and 7 others] -- Climate change projections in Africa / Brent Boehlert, Kenneth M. Strzepek, David Groves, Bruce Hewitson, and Chris Jack -- Reference investment scenario / Annette Huber-Lee [and 5 others] -- Impacts of climate change on infrastructure performance / Mark Howells [and 7 others] -- Adaptation to climate change in infrastructure planning / Robert Lempert [and 7 others] -- Adaptation to climate change in project design / David Groves [and 7 others] -- Recommendations / Raffaello Cervigni, Fatima Denton, and Rikard Liden.
Sommario/riassunto	To sustain Africa's growth, and accelerate the eradication of extreme poverty, investment in infrastructure is fundamental. In 2010, the

Africa Infrastructure Country Diagnostic found that to enable Africa to fill its infrastructure gap, some USD 93 billion per year for the next decade will need to be invested. The Program for Infrastructure Development in Africa (PIDA), endorsed in 2012 by the continent's Heads of State and Government, lays out an ambitious long-term plan for closing Africa's infrastructure including through step increases in hydroelectric power generation and water storage capacity. Much of this investment will support the construction of long-lived infrastructure (e.g. dams, power stations, irrigation canals), which may be vulnerable to changes in climatic patterns, the direction and magnitude of which remain significantly uncertain. Enhancing the Climate Resilience of Africa's Infrastructure evaluates -using for the first time a single consistent methodology and the state-of-the-art climate scenarios-, the impacts of climate change on hydro-power and irrigation expansion plans in Africa's main rivers basins (Niger, Senegal, Volta, Congo, Nile, Zambezi, Orange); and outlines an approach to reduce climate risks through suitable adjustments to the planning and design process. The book finds that failure to integrate climate change in the planning and design of power and water infrastructure could entail, in scenarios of drying climate conditions, losses of hydropower revenues between 5% and 60% (depending on the basin); and increases in consumer expenditure for energy up to 3 times the corresponding baseline values. In in wet climate scenarios, business-as-usual infrastructure development could lead to foregone revenues in the range of 15% to 130% of the baseline, to the extent that the larger volume of precipitation is not used to expand the production of hydropower. Despite the large uncertainty on whether drier or wetter conditions will prevail in the future in Africa, the book finds that by modifying existing investment plans to explicitly handle the risk of large climate swings, can cut in half or more the cost that would accrue by building infrastructure on the basis of the climate of the past.
