

BEAUTIFUL FRIENDSHIPS: Casablanca enjoys a juxtaposition of cultures, histories, and values, making it an appropriate hub for the integration of European and North African electrical grids. Although parts of the city might easily be mistaken for a modern European capital [left], Casablanca's ancient roots are apparent in its walled Old Medina [right], built centuries before Morocco's days as a French protectorate. PHOTOS: ANA NANCE

Since that first Gibraltar link, 400-kV transmission lines and substations such as the one in Bir Osta Milad have been popping up along the Mediterranean's sun-scorched southern flank. With this reinforcement of the region's older 220-kV transmission grids, power generated in Europe could soon flow all the way to the Syrian-Turkish border, which lies more than 3000 km from Gibraltar. Energizing existing power lines that connect Turkey to Syria and to Bulgaria, a UCTE member, is all that remains to close the ring and realize the dream.

There are strong, if divergent, interests on both sides of the Mediterranean backing this project. To the south, the secure and efficient provision of electricity is seen as a key ingredient for economic growth, which is sorely needed. Unemployment, particularly among younger workers, is endemic throughout the region, and the resulting unrest plays to Islamist groups seeking to topple the area's authoritarian and in many cases U.S.-supported governments. Ensuring stable electrical supplies, the local thinking goes, will help ensure stable societies.

European governments, for their part, see stability and harmony in North Africa as a safeguard against Islamist violence on their own streets. North Africa is also emerging as a critical source of diversification for Europe's energy needs. Algeria and Libya provide Europeans with natural gas today and want to sell them gas-fired electricity tomorrow. A few decades from now, exports of North African wind and solar power may well be supplying a large fraction of Europe's demand.

There is an additional, if intangible, benefit as well. Electrical integration helps tie together two worlds that seem at times to be racing apart—those of Muslim North Africa and an increasingly xenophobic Europe. The Mediterranean countries have tried, and to date failed, to create a free-trade zone integrating their economies. Electrical interconnection—with power plants in Libya keeping the lights on in Italy, for example—offers another way to link these divergent cultures.

Bruno Cova, a grid expert with Milan-based Centro Elettrotecnico Sperimentale

Italiano, expresses that sentiment aptly: "This is a positive consequence beyond mere energy interchange. You become, in some sense, part of the same family when you are this tight with your neighbor."

NO ONE BELIEVES more keenly in the interconnection's potential for good than Fatima Mansouri, who directs network projects for the Casablanca-based Office National de l'Electricité (ONE), the state-owned utility that runs Morocco's grid. She says there are times when they couldn't cope without the power flowing across Gibraltar. "Just two days ago we had a problem with two steam groups at Jorf—each one producing about 300 megawatts. Thanks to the interconnection, we covered the energy gap," she says.

It's no mean feat to keep power flowing in the face of consumption that rose between 7 and 9 percent for each of the past five years and shows no signs of abating. The country's monarch, King Mohammed VI, has made it clear that he is counting on ONE to sustain Morocco's economic growth.

The stakes are clear on the streets of Casablanca, a city of more than 3 million that fairly crackles with contrasts. At the Place des Nations Unies, the Hyatt Regency looks over the rundown Old Medina, and Paris fashions rub shoulders with the occasional burka. Although part of an overwhelmingly Sunni Muslim country, this cosmopolitan hub is home to several thousand Jews, five of whom ran for parliament last year. Real power resides with the king, yet Islamist violence remains an ever-present danger.

Mass demonstrations at the other end of the continent show the least of the troubles that can occur when demand outraces supply. South Africa began suffering a shortage of power in January, requiring operators to ration electricity and up the price—a move that sparked a nationwide



strike in August. The electricity shortfall seems likely to clip the growth of South Africa's gross domestic product, from the 5 percent level delivered for the past five years to about 3.4 percent predicted for this year. Mansouri says that only the interconnection with Spain has kept Morocco a step ahead of similar shortages.

Indeed, last year ONE bought 3479 gigawatt-hours of electricity—15.4 percent of its total supply—on the European market. The value of that power is especially high in Africa, where difficulty raising capital, dependence on pricey foreign contractors, and widespread corruption all take a toll and in some cases add years to the process of power-plant construction. What's more, Morocco has no natural-gas fields, so it depends on imported coal for domestic power generation.

The connection with Spain is important for power quality as well: the UCTE, with its vast reserves, acts as a bulwark against instability in the 50-hertz ac signal in Algeria, Morocco, and Tunisia. The UCTE has 630 gigawatts of installed capacity, more than enough to smooth over any glitches in the comparatively tiny amount of North African generation; Morocco, by contrast, can produce just 5.3 GW. Disruptions that would throw off the frequency of an isolated North African grid, whether from short-term mismatches between generation and demand or from a downed power line, are instead absorbed by the UCTE's heft.