



The WB Clean Technology Fund MENA Renewable Energy Program

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Outline



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- CSP MNA Regional Plan Overview**

Clean Technology Fund Objectives



- CTF is a multi-donor trust fund with pledges of US\$ 5 billion
- Governed by Trust Fund Committee, with equal representation of donor and eligible recipient countries: (Australia, Brazil, China, Egypt, France, Germany, India, Japan, Mexico, Morocco, South Africa, Spain, Sweden, Turkey, UK and US)
- Provides incentives for scaled-up deployment and transfer of low carbon technologies with significant potential for greenhouse gas emissions savings
- More Background → www.worldbank.org/cjf

Clean Technology Fund Financing Products and Terms



- Financing **Terms** depend on nature of the project

Type	Maturity	Grace	Service Charge	Management Fee
Softer Concessional	40 y	10 y	0.25%	0.1% on undisbursed balance or 0.25% front-end fee on committed loan amount
Harder Concessional	20 y	10 y	0.75%	0.1% on undisbursed balance or 0.25% front-end fee on committed loan amount

Note:
Service charge on disbursed amounts

- CTF resources can also be deployed as loan **guarantees** and contingent finance.
- Leverage is expected and CTF funding must be **blended** with sponsoring Multilateral Development Bank
 - Expected leverage ratio: no strict criteria, but in the range of 5:1
 - Egypt, Mexico & Turkey: CTF is 10-15% of investment

Clean Technology Fund Investment Plans



- **Business** Plans of the Multilateral Development Banks to assist countries with CTF co-financing in implementing their national development strategies and plans with low carbon objectives
- Investment Plans are **agreed** between, and owned by, the governments and MDBs
- The CTF Trust Fund Committee will **review** the Investment Plan: **endorse** the CTF resource envelope and authorize designated MDBs to proceed with project **preparation**
- Subsequently, individual projects **prior to appraisal** are circulated to the Trust Fund Committee for **approval** of CTF funding
- Further processing of projects follows standard **MDB procedures**

Clean Technology Fund Investment Plan



Investment Plans should demonstrate:

- Evidence of country ownership and how the proposed activities are embedded in country strategies and plans
- Additionality of CTF financing and how CTF resources will be used to catalyze transformation and leverage future activities.
- Co-benefits, especially those related to sustainable development, and regional impacts.
- Clear attention to the need for a strong enabling environment and proposed regulatory and policy changes
- Strong role for private investment and the emphasis on building domestic investments

Clean Technology Fund Investment Plan



- *Section 1*: country description
- *Section 2*: identification of priority sectors. See www.carbontax.org/wp-content/uploads/2007/01/socolow-_-wedges-oct-2004.pdf
- *Section 3*: identification of action plans in priority sectors
- *Section 4*: barriers to investments in low carbon technology, and policy and regulatory needs to overcome the barriers
- *Section 5*: implementation, risk analysis
- *Section 6*: financing plans and instruments
- *Annexes*: summary sheet for each projects, 2 pages maximum including project description, financing needs and implementation schedule



Clean Technology Fund Investment Criteria



- The CTF uses the following criteria to assess and prioritize proposed programs and projects:
 - Potential for GHG Emissions Savings
 - Cost-Effectiveness
 - Demonstration Potential at Scale
 - Development Impact
 - Implementation Potential
 - Additional Cost and Risk Premium

Latest Developments on CTF / Country programs



- CTF Trust Fund Committee endorsed 3 Investment plans in January 2009
 - Egypt 300 M\$ (Wind and Transportation)
 - Turkey 400 M\$ (RE and EE)
 - Mexico 500 M\$ (Urban transport, RE and EE)
- Total program cost
 - Egypt 1921 M\$
 - Turkey 3850 M\$ – 2 phases
 - Mexico 6197 M\$
- Bank teams for each country are preparing project document according to bank procedure.



Latest Developments on CTF/CSP MNA Scale up (concentrated solar power)



- On May 11 2009 the CTF Trust Fund Committee approved preparation of investment plan for 1GW of CSP in MENA.
- Proposed **\$750 million of concessional CTF funds**, part of estimated \$6-8 billion total financing (concessional and non-concessional, private and public).
- Need to identify good projects that can be considered as part of the MENA regional CSP scale-up investment plan.
- Need to mobilize financing.



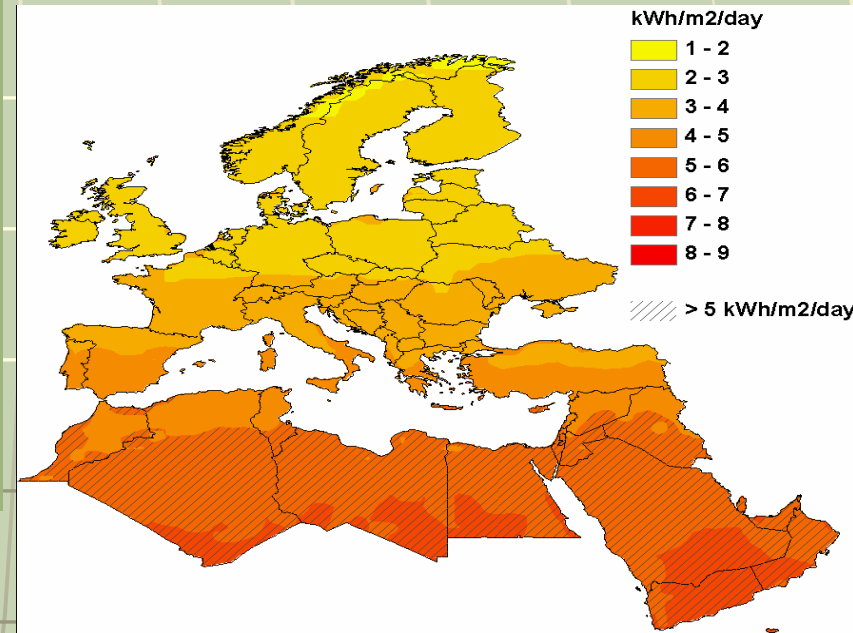
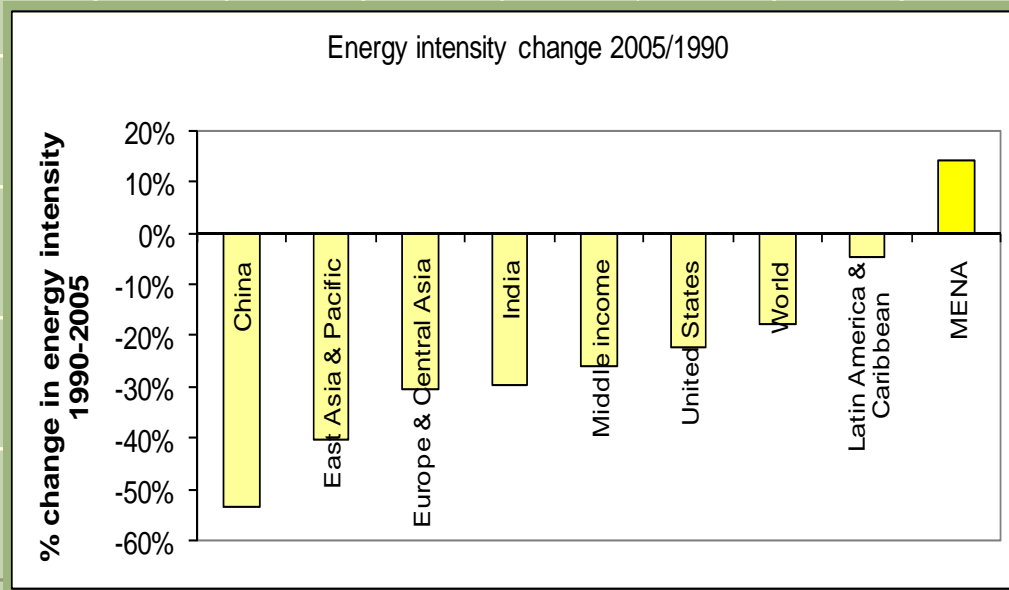
Concentrating Solar Power (CSP)

CSP Scale-up in MENA regional plan overview



Energy Intensity is Increasing in MENA
(almost entirely with fossil fuels)

MENA has some of the world's best conditions for solar power



Global Direct Normal Solar Radiation (kWh/m²/day).
Source: Ummel, K. and Wheeler, D. (2008)



Why CSP in MENA ?

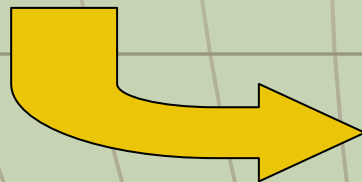
- Unexploited **manufacturing scale economies** and is yet to benefit from **major cost reductions**.
- CSP is of particular interest to utilities due to **scalability and dispatchability**.
- MENA region has amongst the **best physical conditions** for solar power including abundant sunshine, low precipitation and land availability.
- Growing importance of renewable energy in the region, including **possibility of exports**.





Technical and economical issues

- **Solar intensity**
- **Land topography**
- **Land usage**
- **Local manufacturing**
- **Grid proximity**
- **Road proximities**
- **Export and inter-connections**
- **Financing terms**

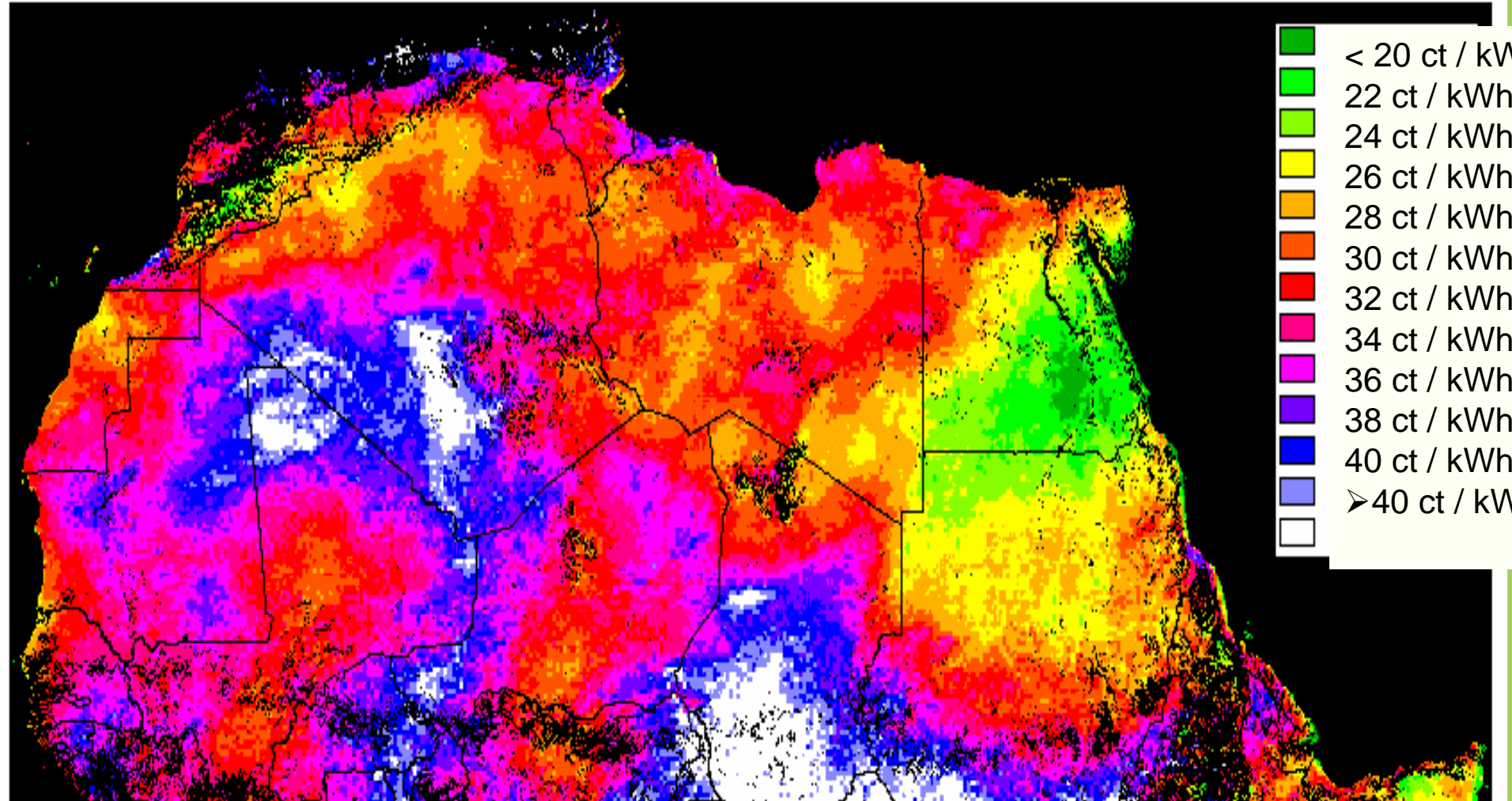


Cost /kWh

From Technical to Economic Potential (Courtesy, MASDAR)



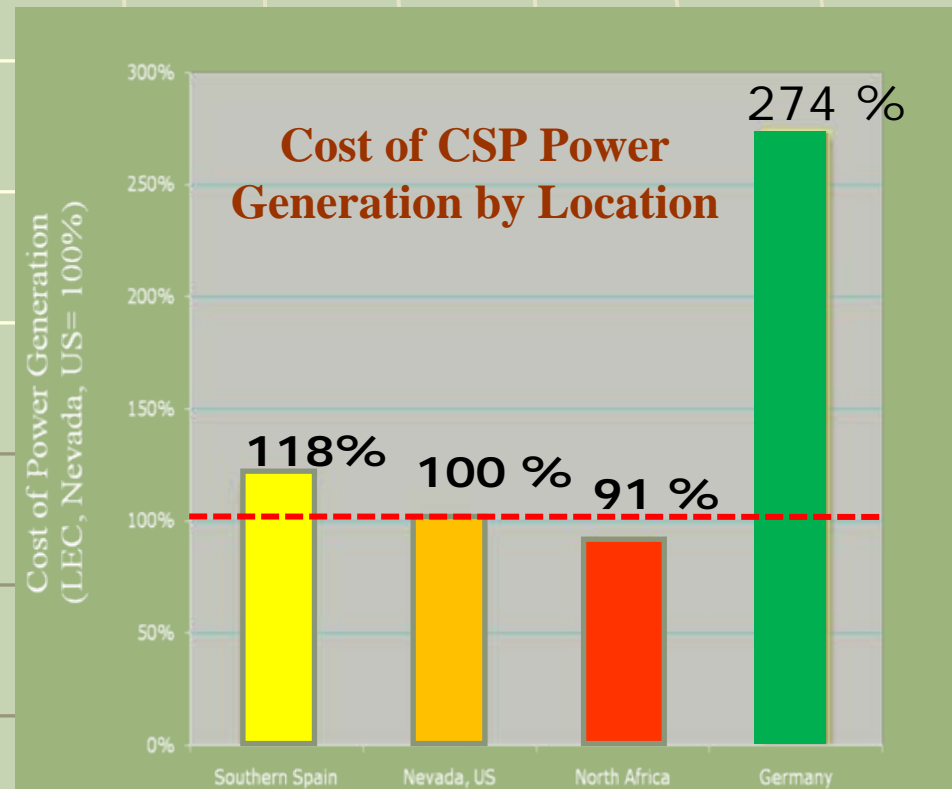
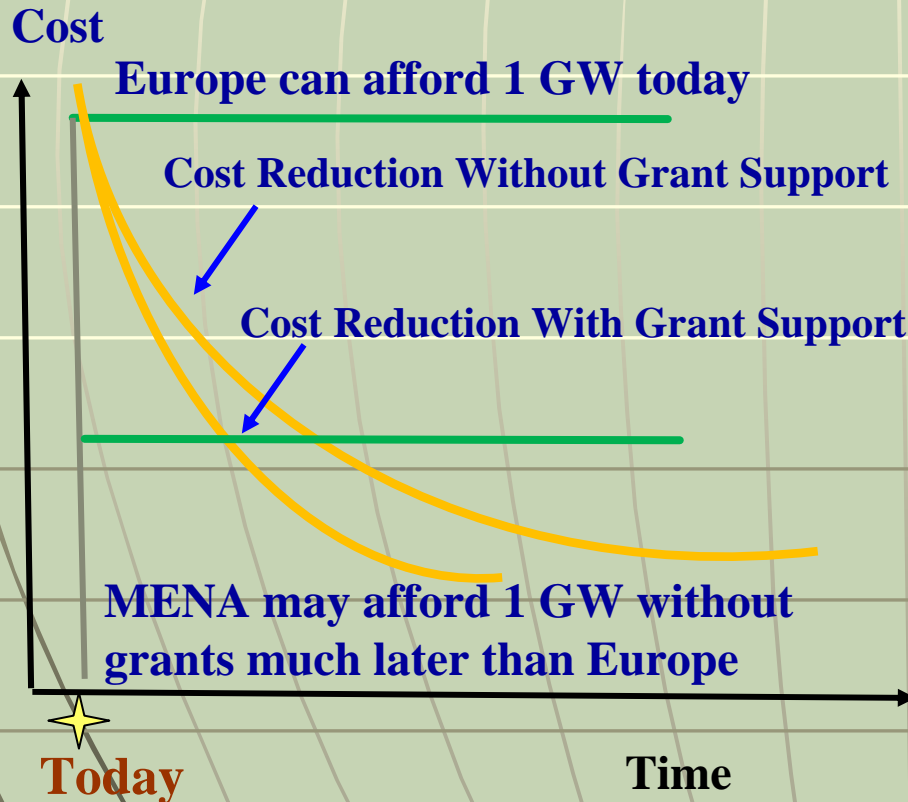
North Africa - Solar Thermal Electricity Costs per kWh





Technology and Market status

- An increasing interest in CSP in MENA with projects under implementation in Egypt, Morocco and Algeria.
- Resurgence in global interest driven by strong demand in U.S and Spain.
- High initial capital costs (\$ 4000- 6000/kW) still a significant barrier.





Proposed Transformation

- Proposed that the Clean Technology Fund (CTF) co-finance a 1 GW level deployment of CSP in the region over 6-8 years.
- Implementation of 8-10 sizeable projects (~ 100 MW) would provide the critical mass of investments to attract private sector interest, benefit from economies of scale, manage technology and country risk.
- Synergy with the vision of the proposed Mediterranean Solar Plan (MSP).
- Contribute to acceleration in global adoption of this technology.



Rationale for CTF Financing

- Potential for GHG emission reductions: Preliminary estimates indicate 2.6 million tons per year in the region.
- Cost Effectiveness: Improved efficiencies, learning effects due to volume production and economies of scale.
- Replicability: Institutional learning and cost reductions will facilitate faster and greater diffusion in other parts of the world such as sub-saharan Africa and Asia.
- Development Impact: Supply diversification and a catalyst for local manufacturing.
- Implementation Potential: Pilot projects, country commitments to renewable energy, ongoing energy subsidy reforms



...But What is Needed?

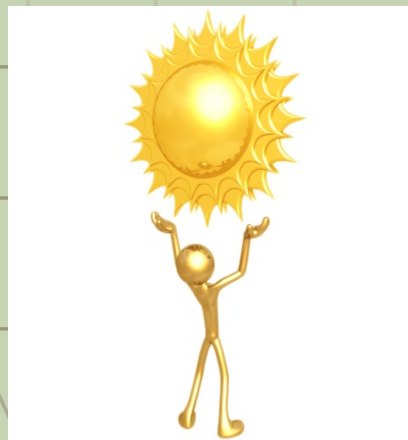
- **Technical and financial analysis and further capacity bldg.**
- **Overcome grid constraints within countries, between countries and with EU.**
- **Cooperation agreements between countries, regulatory frameworks (laws and contracts with appropriate tariffs/subsidies).**
- **Market aggregation approach to attract industry.**
- **Financing packages.**
 - **With Partners:** dialogue about framework for CSP imports, mobilizing co-financing & learning.
 - **With MENA Partners:** CTF/IBRD/AfDB/IFC financing, mobilizing co-financing, dialogue about framework for domestic supply and exports, advisory services & learning
- **CSP manufacturing capacity in MENA countries.**



Thank You!

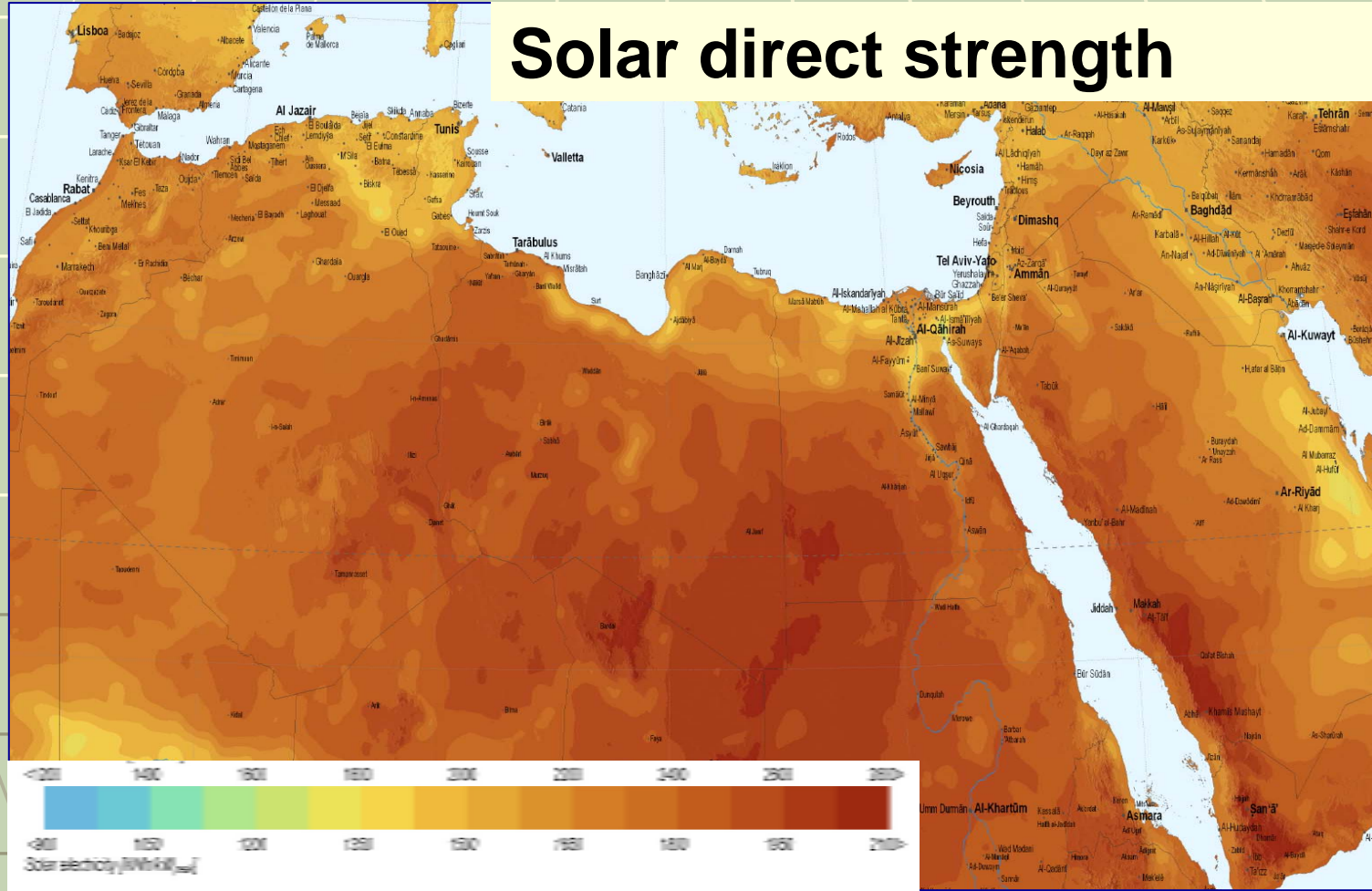
www.worldbank.org/cif

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Solar direct strength





-
- **A massive de-leveraging by financial institutions contributed to a collapse in the price of oil ... which has recovered but is still half 2008 peak**
 - **A global economic slowdown is creating a real decline in the demand for oil which will persist for some years**
 - **The drying up of new credit availability and more restrictive terms is seriously hampering the normal business financing of some players**
- ... and perhaps a fourth whammy ...
- **Accelerating momentum towards carbon regulation**



- **short-term impact of the financial crisis on infrastructure projects with private participation in developing countries. Based on a sample of 522 projects trying to raise finance or at advanced tender stage between either January 2008 and March 2008 or July 2008 and March 2009, the latest review identifies the following trends:**
- **New projects are still being tendered and brought to financial closure, but at a slower pace. Between July 2008 and March 2009, the rate of project closure fell 15% by investment commitments compared to a similar period in the previous year. Investments in private infrastructure projects showed some signs of recovery in the first months of 2009, but this recovery is unlikely to continue as it was driven by a few large priority projects;**
- **The “flight to quality” is already taking place among investors and financiers. Projects more likely to reach closure are characterized by strong economic and financial fundamentals, the backing of financially solid sponsors, and government support. The financial conditions for those projects are more stringent with lower debt/equity ratios, higher cost of financing, and more conservative structures;**
- **Projects continue to show the impact of the higher cost of financing, delays and cancellations;**
- **The rate of project closure varies across sectors, with energy reporting higher investments, telecom seeing stable investments, and transport and water receiving lower investments;**
- **The rate of project closure varies across regions with East Asia and Pacific and Sub-Saharan Africa attracting higher investments, South Asia reporting stable investments, and the three other regions (Latin America and Caribbean, Europe and Central Asia, and Middle East and North Africa) seeing lower investments;**
- **The rate of project closure varies across project types with greenfield projects reporting higher investments and concessions and divestitures seeing lower investments;**
- **Local state-owned banks as well as multilateral and bilateral agencies are key finance providers; and**
- **Countries continue to tender/award new PPI projects even in the first quarter of 2009.**



North Africa - Annual Solar Electricity Generation per km²

