



MENA Concentrated Solar Power (CSP) Investment Plan

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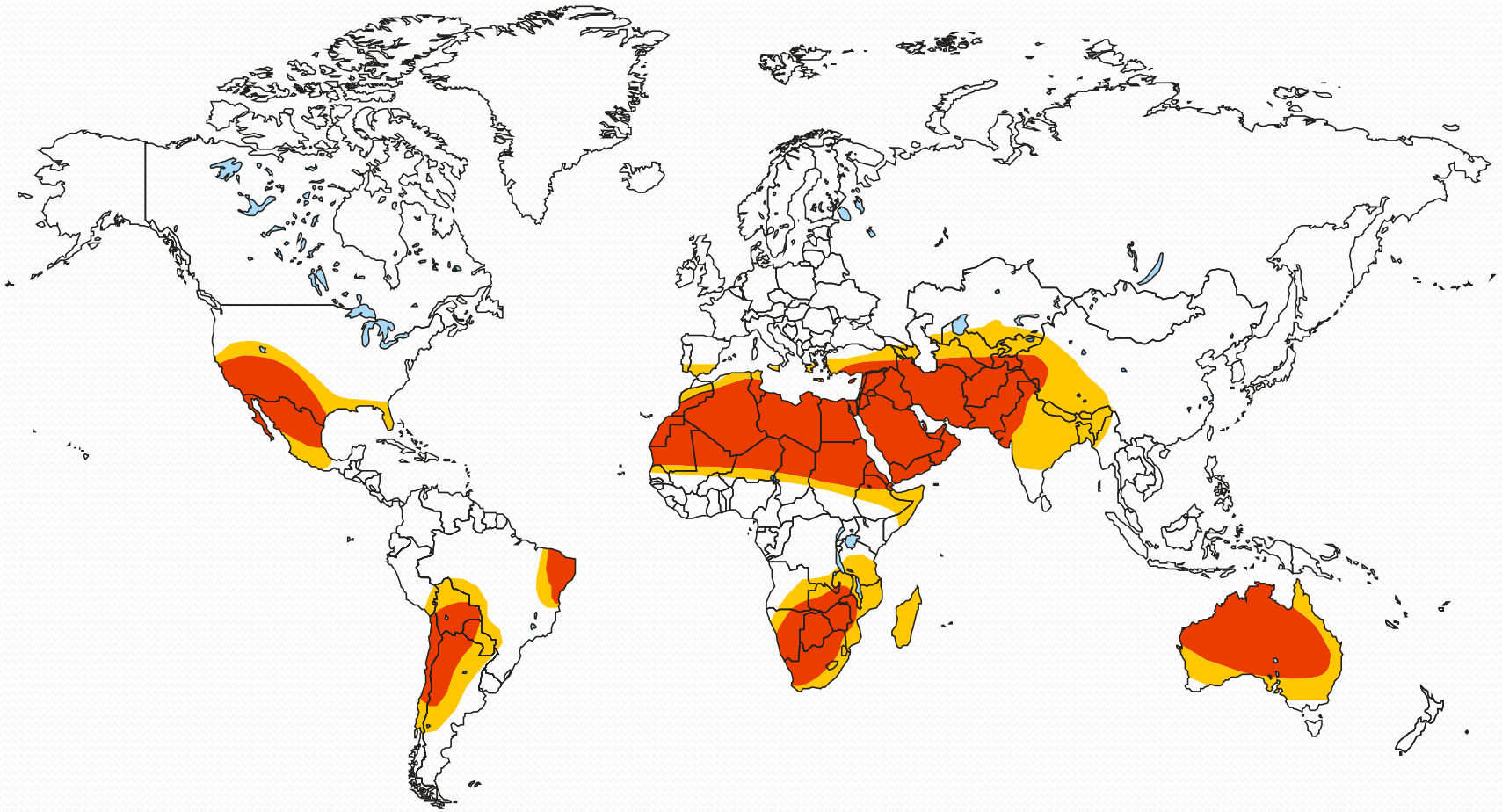


Why CSP Scale-up in MENA has global impacts?

- MENA and South Western USA/Mexico offer best solar resources; land, infrastructure, and market access
- Therefore economies of scale can be achieved most effectively in these two regions, driving cost reduction in the global CSP market
- So major contribution to climate change mitigation



MENA offers optimal physical resources



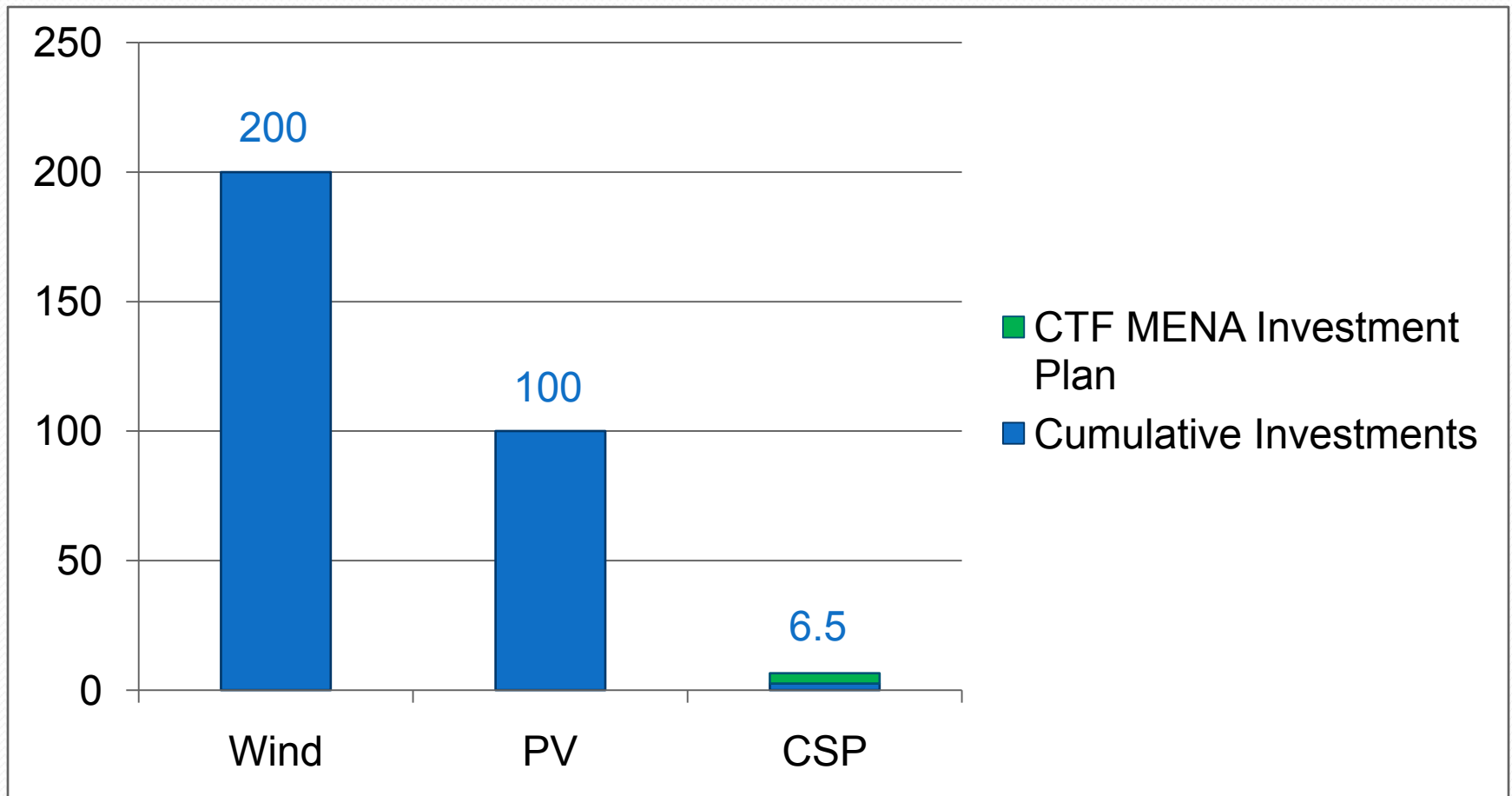
- Favorable for Concentrated Solar Power (CSP)
- Worth considering for CSP



CSP is a proven technology with unexploited economies of scale



Global Investments in Renewable Energy (US \$ billion)



CTF's transformational impact on CSP technology

- Supports market transformation that will result in economies of scale, enhanced competition and private sector participation
- Scales up GEF which allocated \$200 million more than ten years ago for four pilot projects
- Leads to cost reduction for regional and global deployment of CSP. Each doubling of capacity generally leads to 8-15% cost reduction. High initial capital costs are the main barrier for the expansion of CSP: \$4,000 - \$6,000 per kW.



CTF's transformational impact on CSP investment

- Scale provides necessary market signal to private developers, suppliers, utilities and banks.
- Concessional finance to buy down costs and mitigate risk of private sector investors in CSP generation, and investors in transmission capacity into uncertain markets.
- Creates critical mass of experience in private and public sector on utility-scale CSP deployment for global replication.



Why solar energy is important for Middle East & North Africa (MENA)?

- For oil & gas producers: free up oil & gas for higher value added uses
- For oil & gas importers: energy security
- Industrial diversification and job creation
- First mover advantage in an industry starting to take off
- Export to high-paying green electricity markets in Europe



Transmission projects are key for CSP scale-up in MENA



The EU Renewables Energy Directive of April 23 2009 sets a favorable policy framework for CSP

- Targets for 2020:
 - 20% of renewable energy in final consumption
 - Binding national targets for each EU Member State
- Article 9 allows physical imports from sellers in non-EU countries to benefit from EU national support schemes
- Schedule:
 - 30 June 2010: EU countries announce national support schemes ("Action Plans") including feed-in tariffs etc.
 - implementation timetable to be determined, and track record to be established
- Regulatory reform advancing - but there is risk for investors. It is likely that regulation will be "by contract" at first, and by comprehensive legislation later
- Physical imports under Article 9 implies transmission must be in place.



Strong commitment from MENA countries to support CSP scale-up

| Country | Commitment |
|----------------|---|
| Algeria | <ul style="list-style-type: none">- National program sets targets for renewables in power generation: 5% by 2017, 20% by 2030. CSP to play a major role.- Feed-in tariff |
| Egypt | <ul style="list-style-type: none">- National plan sets target for 20% of renewables by 2020- New Electricity Law (to be approved early 2010) establishes funding mechanism to support renewables |
| Jordan | <ul style="list-style-type: none">- Energy sector strategy (2007) emphasizes role of renewables- 7% of renewables by 2015 and 10% by 2020 |
| Morocco | <ul style="list-style-type: none">- Moroccan Solar Plan (2009): 42% of renewables by 2020- Creation of National Solar Agency- 2000 MW target for solar power, including CSP, by 2020 |
| Tunisia | <ul style="list-style-type: none">- Tunisian Solar Plan (2009) for implementation during 2010-16 |



CSP Projects in Pipeline

Indicative allocations

| Country | Location | Capacity (MW) | Cost (US\$ million) | CTF (US\$ million) |
|--------------|----------------------------|-----------------|---------------------|--------------------|
| Algeria | Megahir | 80 | 322 | 58 |
| | Naama | 70 | 285 | 51 |
| | Hassi R'mel II | 70 | 285 | 51 |
| Egypt | Kom Ombo | 70 | 370 | 51 |
| | Marsa Alam | 30 | 270 | 44 |
| Jordan | Maan Province | 100 | 418 | 72 |
| | Aqaba-Qatrana transmission | | 410 | 40 |
| Morocco | Tan Tan | 50 | 240 | 35 |
| | Ain Beni Mathar | 125 | 525 | 90 |
| | Ouarzazate | 100 | 440 | 72 |
| Tunisia | IPP-CSP Project | 100 | 450 | 73 |
| | ELMED-CSP | 100+ | 450 | 73 |
| | Tunisia-Italy transmission | | 1,140 | 40 |
| Total | | ~ 900 MW | 5,604 | 750 |



Proposed Financing Plan (US\$ million)

| Source | Generation | Transmission | Total |
|--|--------------|--------------|--------------|
| CTF | 670 | 80 | 750 |
| Equity/Govt. contribution | 540 | 200 | 740 |
| Commercial/other Debt | 640 | 650 | 1,290 |
| Official Financing (concessional and non-concessional) | 1,238 | 70 | 1,308 |
| World Bank Group | 537 | 400 | 937 |
| African Dev. Bank | 429 | 150 | 579 |
| Total | 4,054 | 1,550 | 5,604 |





Thank you!

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