U.S. Department of Energy
Energy Efficiency and Renewable Energy

Photovoltaics for Large-Scale Utility Applications

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Renewable Energy Opportunities in Algeria
October 23-24, 2003

Kermin, California, 500 KW_e System

SMUD Rancho Seco 2.2 MW PV System

PowerLight Corporation's "Power Tracker" PV Array at Scottsdale Reservoir, AZ.

Courtesy: PowerLight Corp.

100 KW Amonix 250X Concentrating Concentrating PV System at Glendale, AZ

Courtesy: Amonix, Inc.

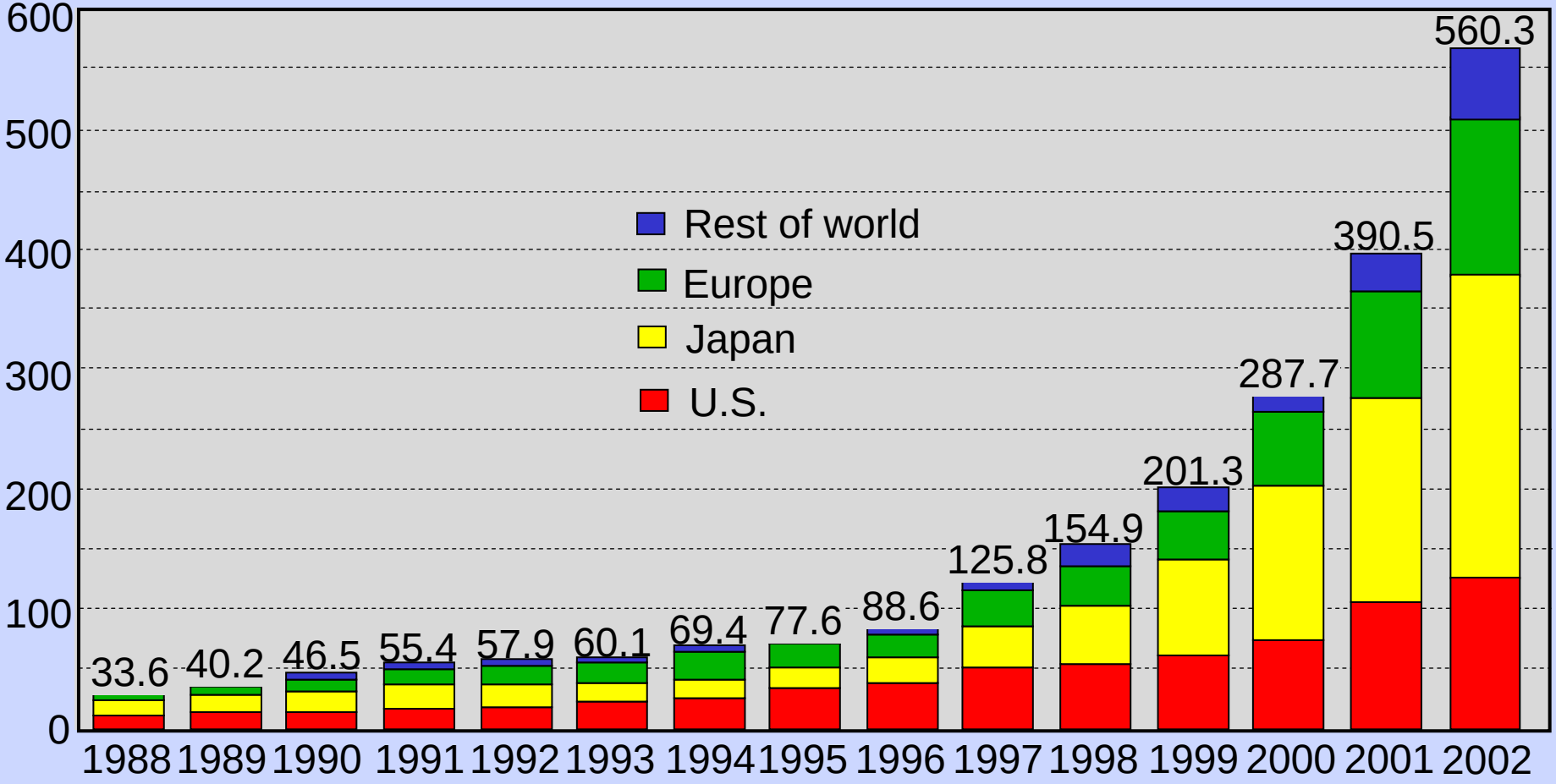
Amonix 25 KW Concentrating PV Array

Courtesy: Amonix, Inc.

PV Availability

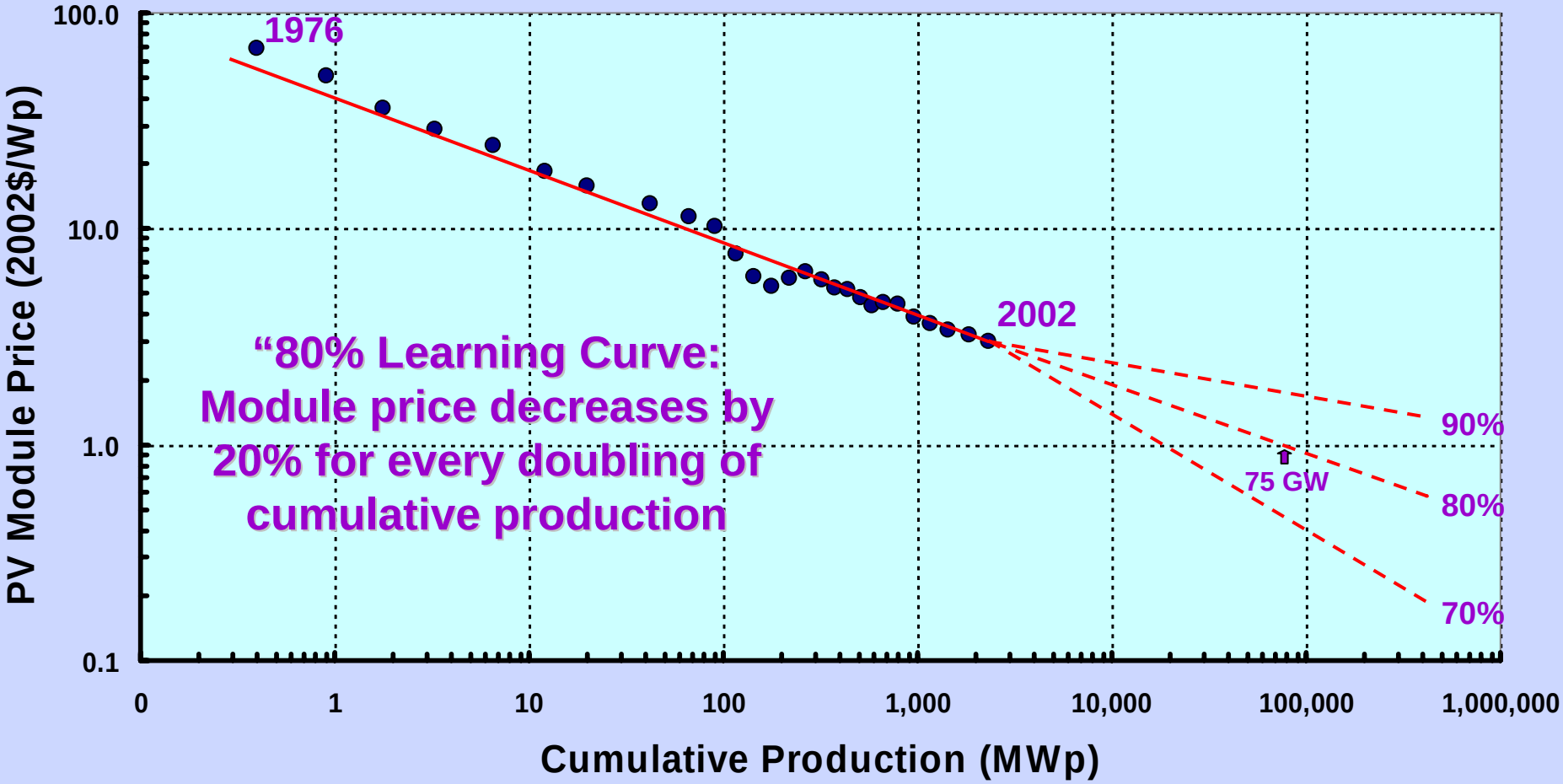
- World production of PV in 2003 on order of 700 MW (25% increase over 2002)
- Current cost of electricity from a large, off-the-shelf, grid-connected PV system is about US$0.20-0.25/kWh
- There may be cost improvements due to a very large order

World Production of PV

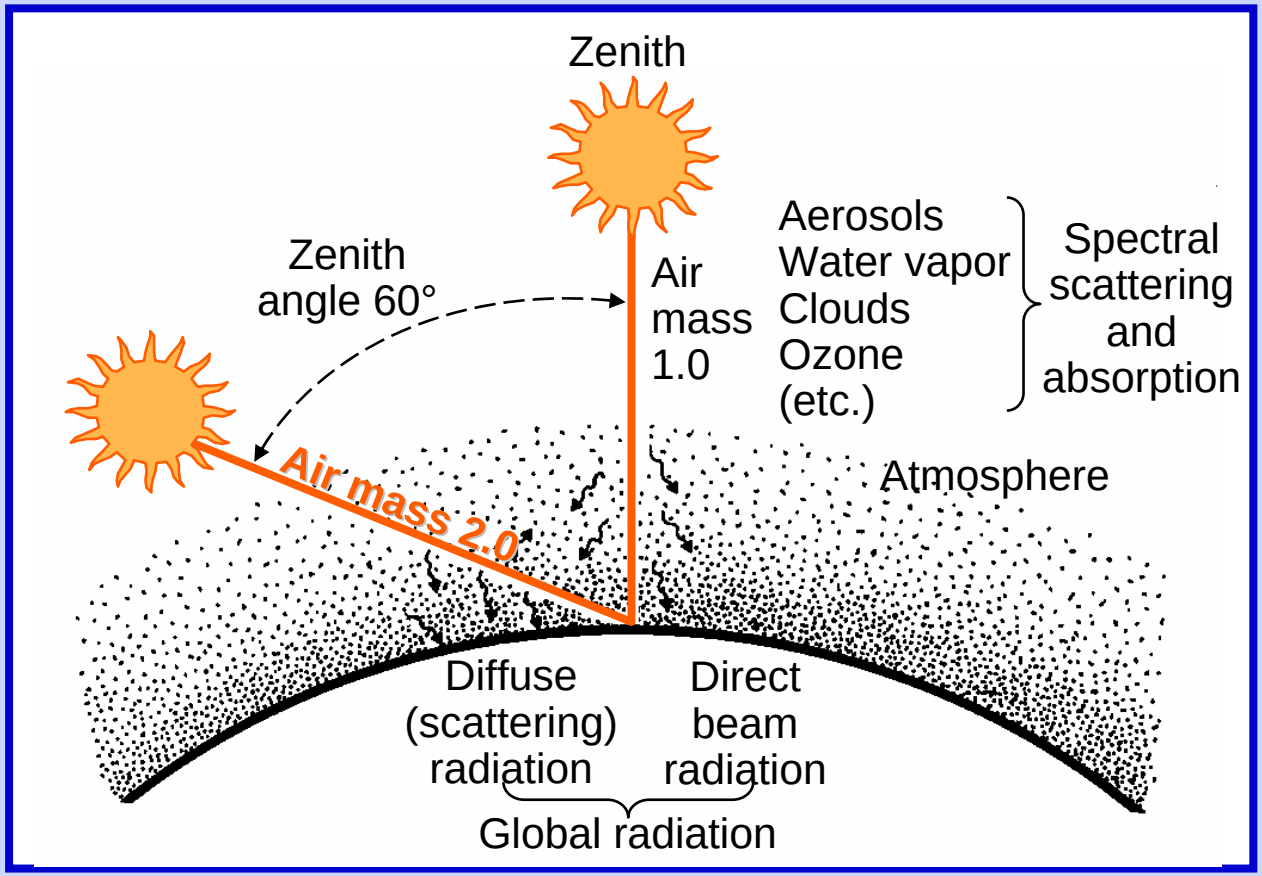


Source: *PV News*, May 2003

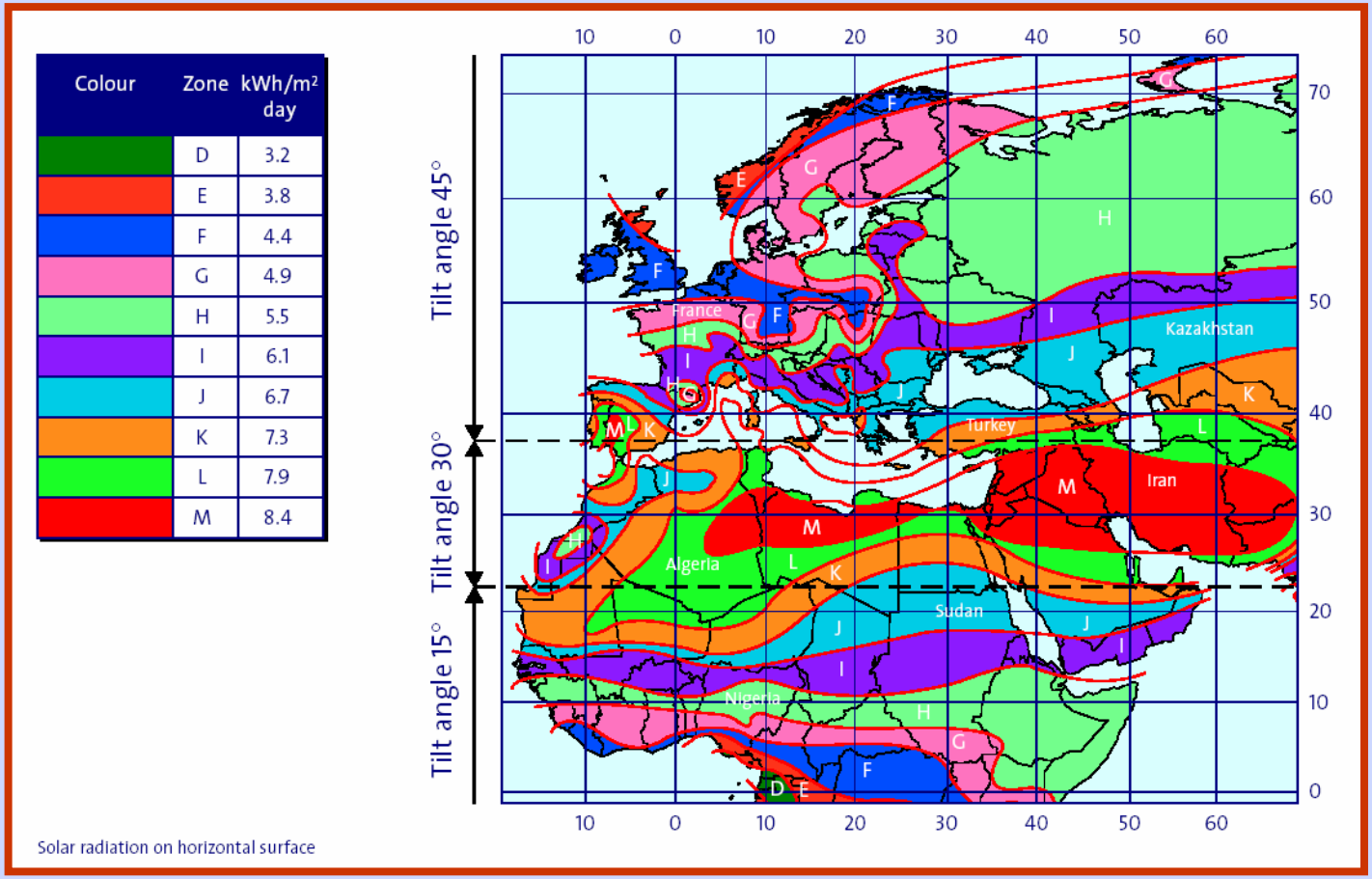
PV Production Learning Curve



Comparison of Global and Direct-Beam Solar Radiation

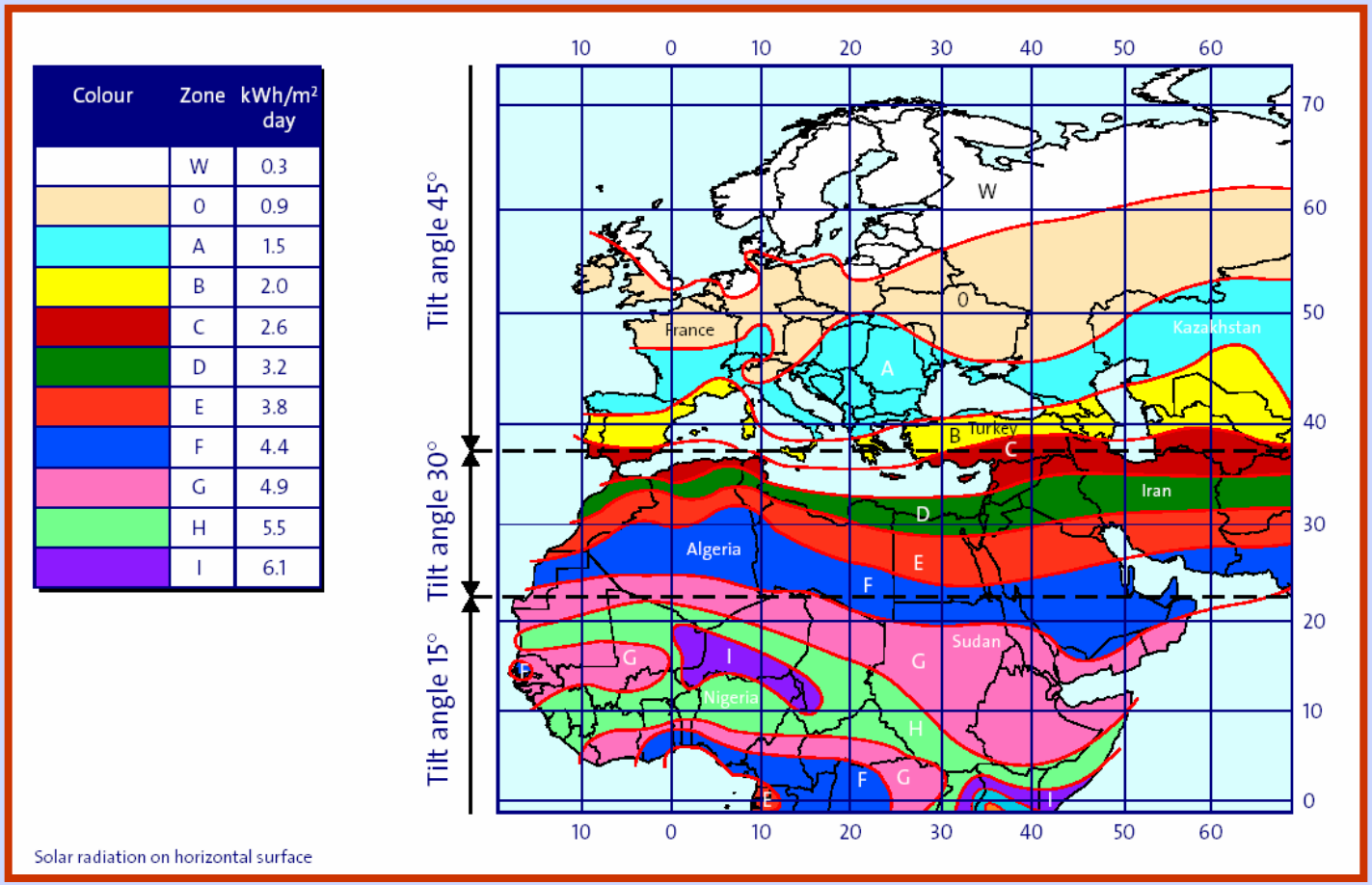


Solar Resource in N. Africa and Northern Europe - July



Courtesy: Grundfos

Solar Resource in N. Africa and Northern Europe - January



Courtesy: Grundfos

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