

Future Perspectives of Main Intl. Markets for Photovoltaic

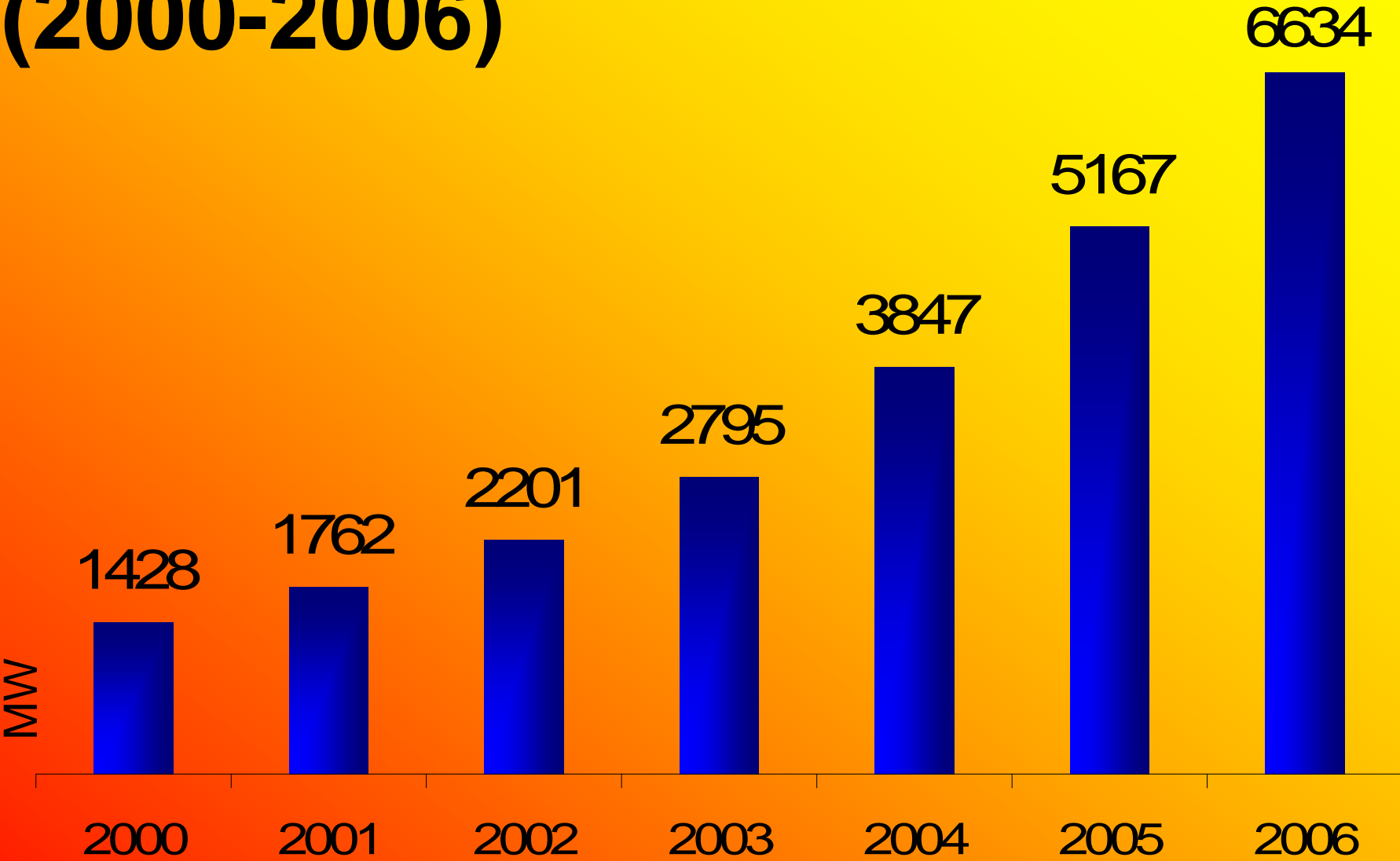
2nd China New Energy International Forum
Dec. 11-12, 2007, Wuxi, Jiangsu Province

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EU Renewable Energy Manager
EU-China Energy & Environment Programme

Overview

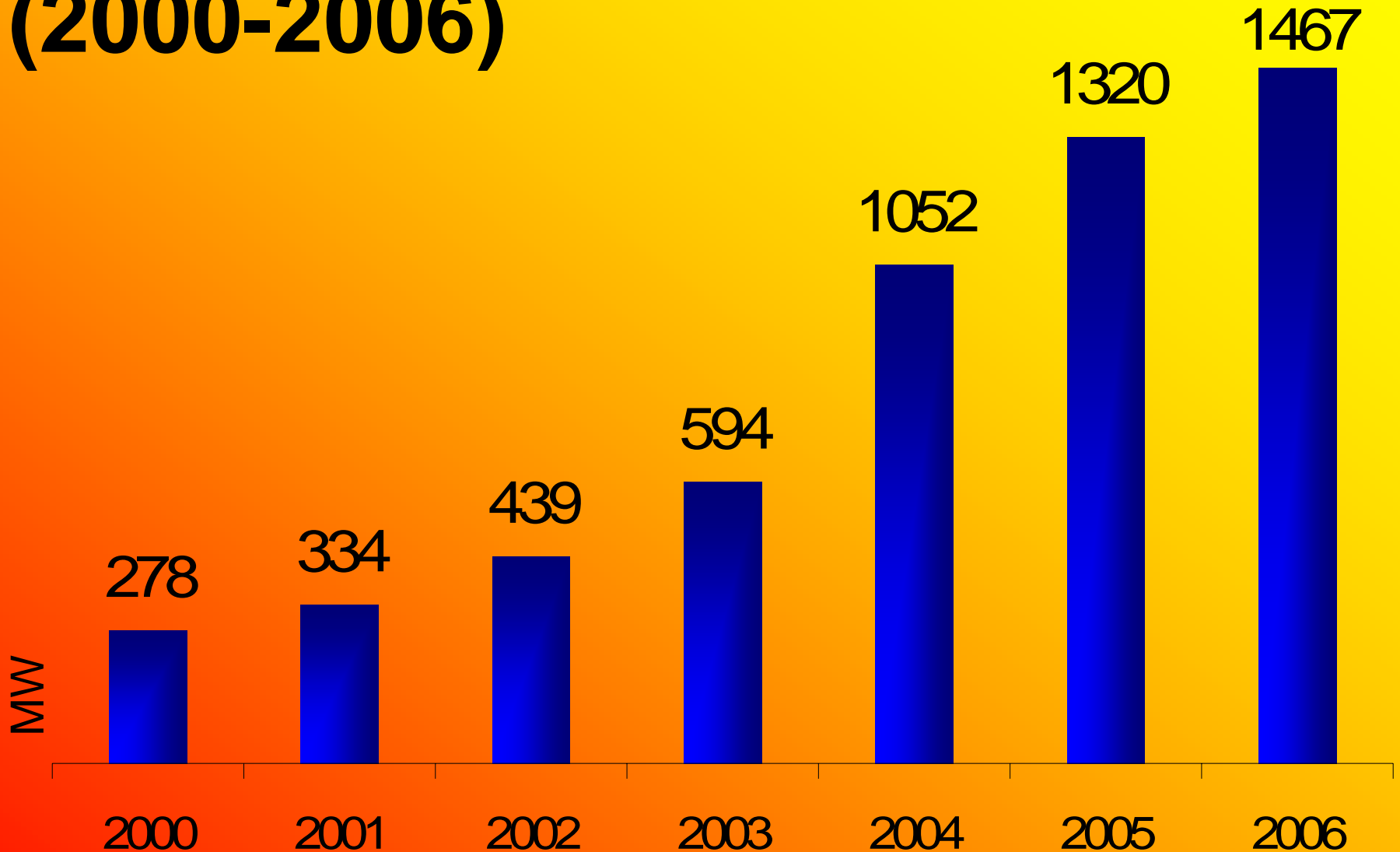
- Global Cumulative / Annual Markets by 2006
- TOP 5 Markets in 2006 and until 2010
- Global Cumulative / Annual Markets by 2010
- Global Markets by Applications
- CSP and Thin-Film Perspectives
- Moderate Scenario by 2020

Global Cumulative Market (2000-2006)

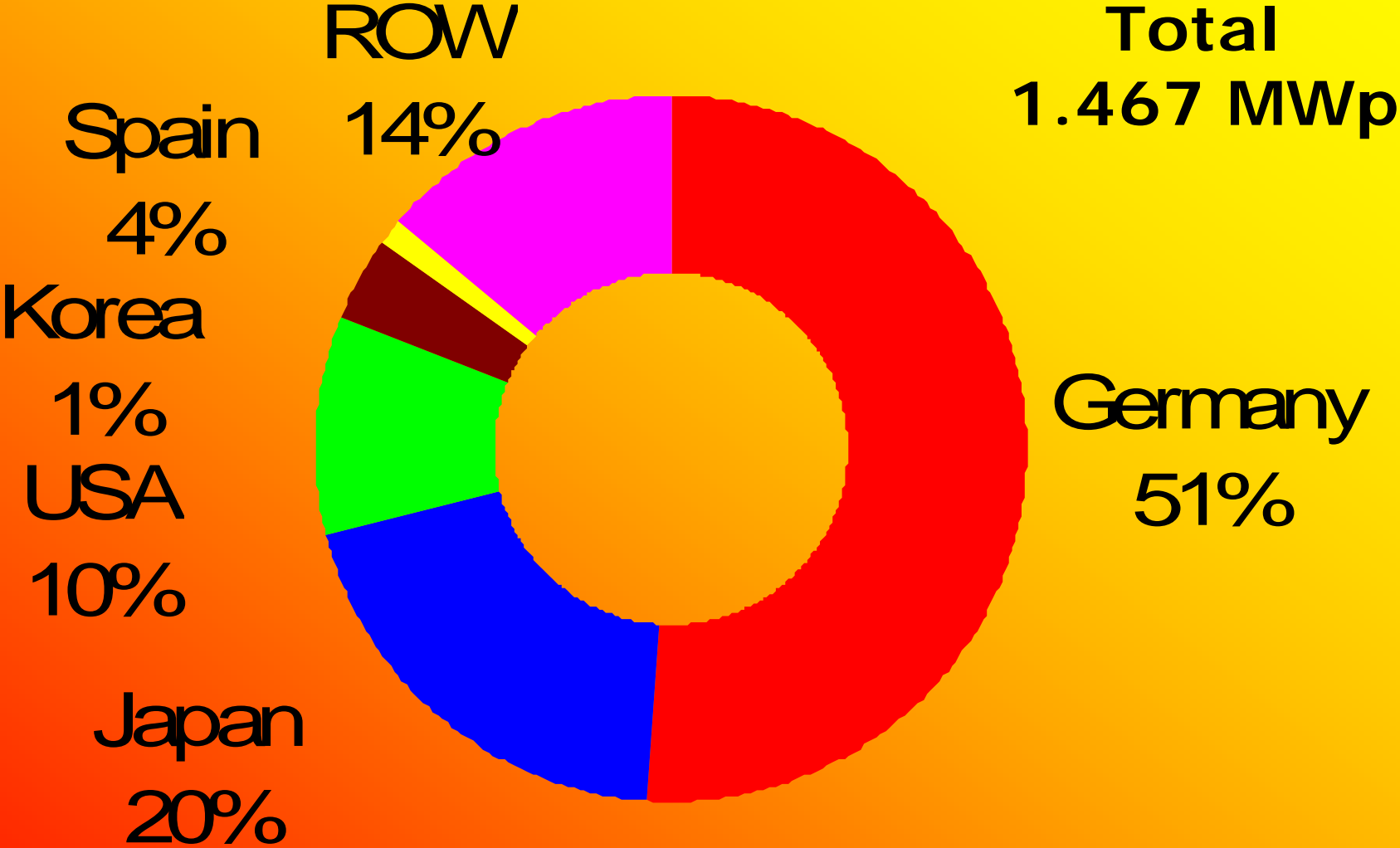


Sources: EPIA, Greenpeace

Global Annual Market (2000-2006)



TOP 5 Markets in 2006



Sources: EPIA, Greenpeace

German PV Market 2006

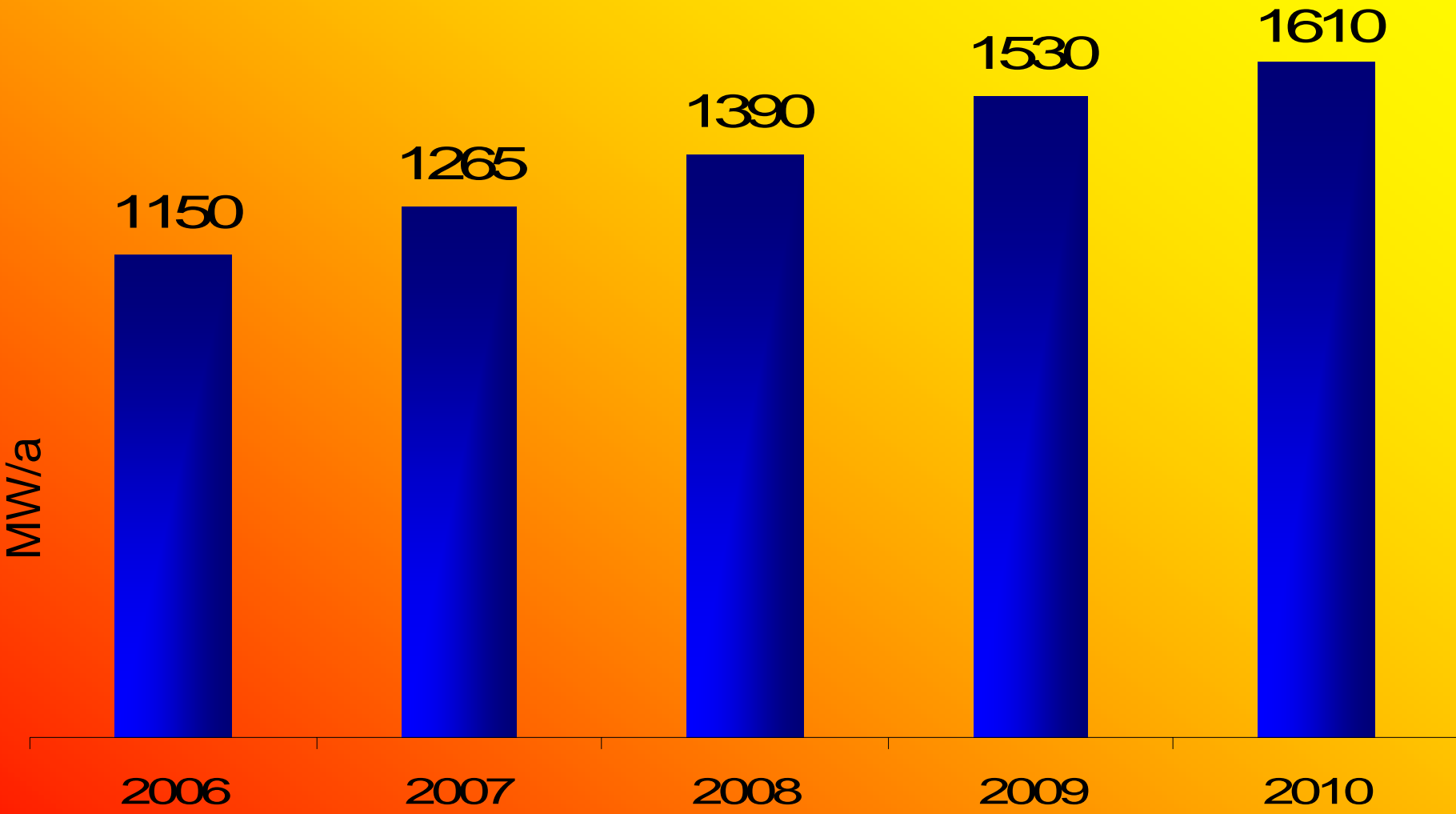
Newly installed power	1150 MWp (el) ^(e)
Newly installed solar area	6 750 000 m²
Total installed power	2 830 MWp (el)
Total installed solar area	22.8 Mio m²
No. of newly installed systems	90 000
No. of total systems installed	300 000
Turnover 2006	3 800 Mio €
Employees	35 000

(e) = estimated

12 MW Double- Tracker System

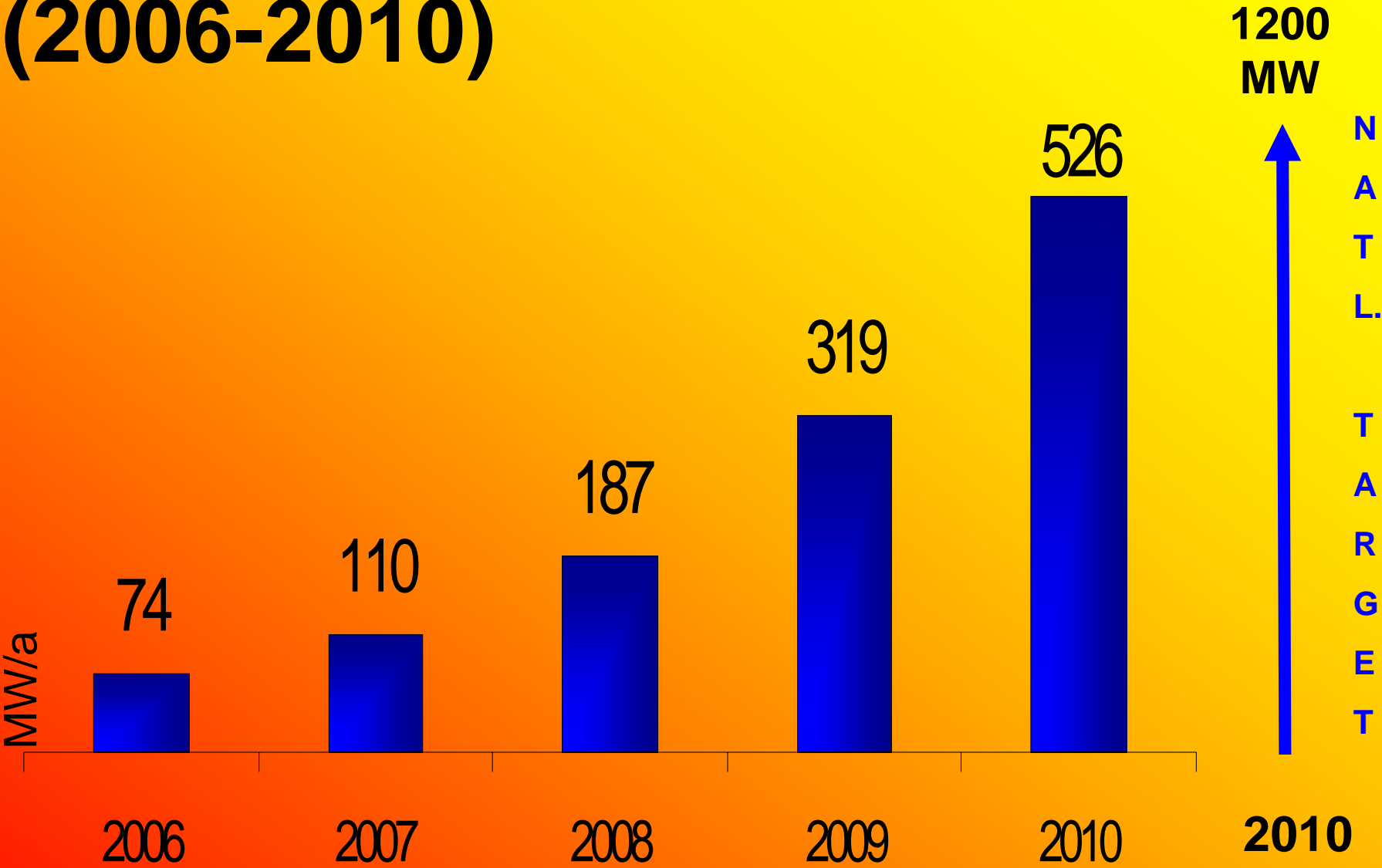


German Market Perspectives (2006-2010)



Sources: EPIA, UBS, Sarasin, New Energy

Spanish Market Perspectives (2006-2010)



Sources: EPIA, UBS, Sarasin, New Energy

Spanish CSP Projects

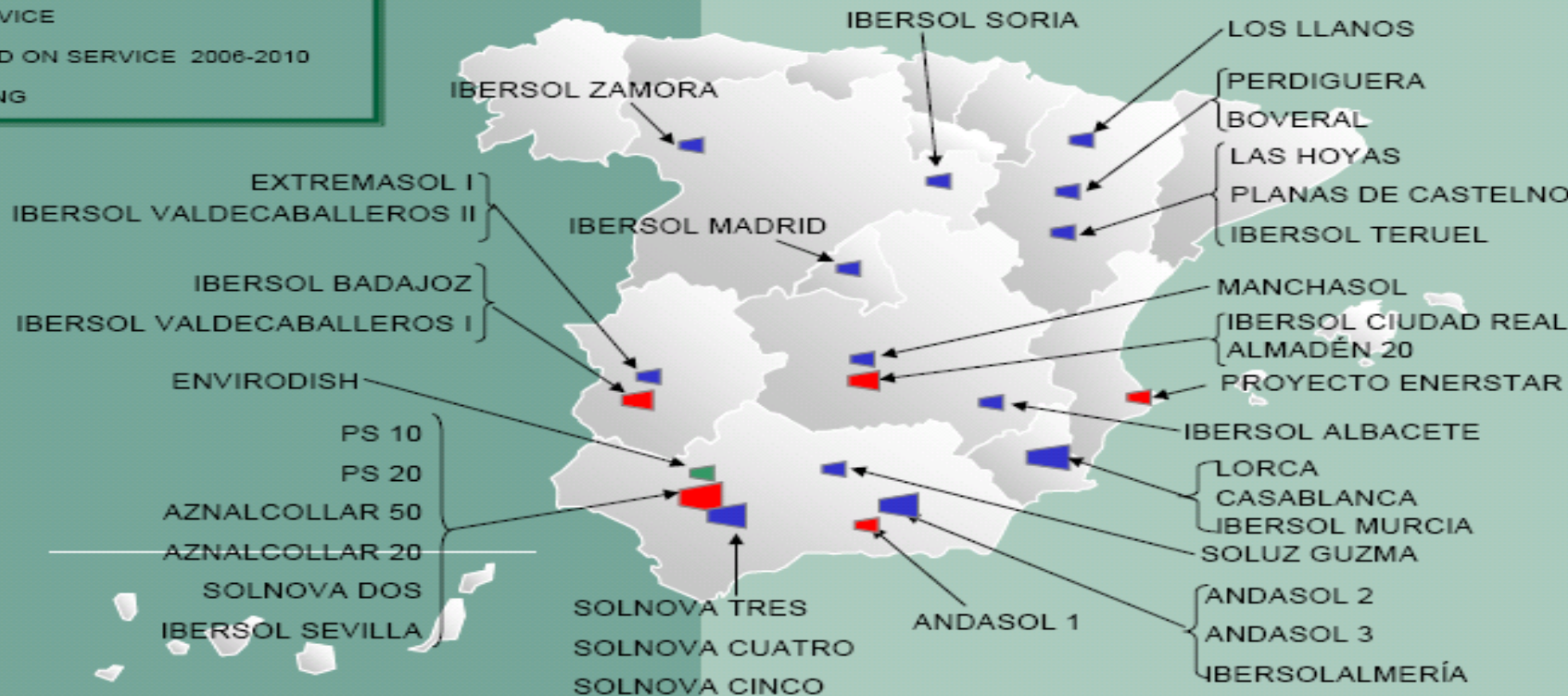
CONCENTRATING SOLAR POWER Towards the 7th European RTD Framework Programme

Brussels
27 June 2006

MARKET FORECASTS:

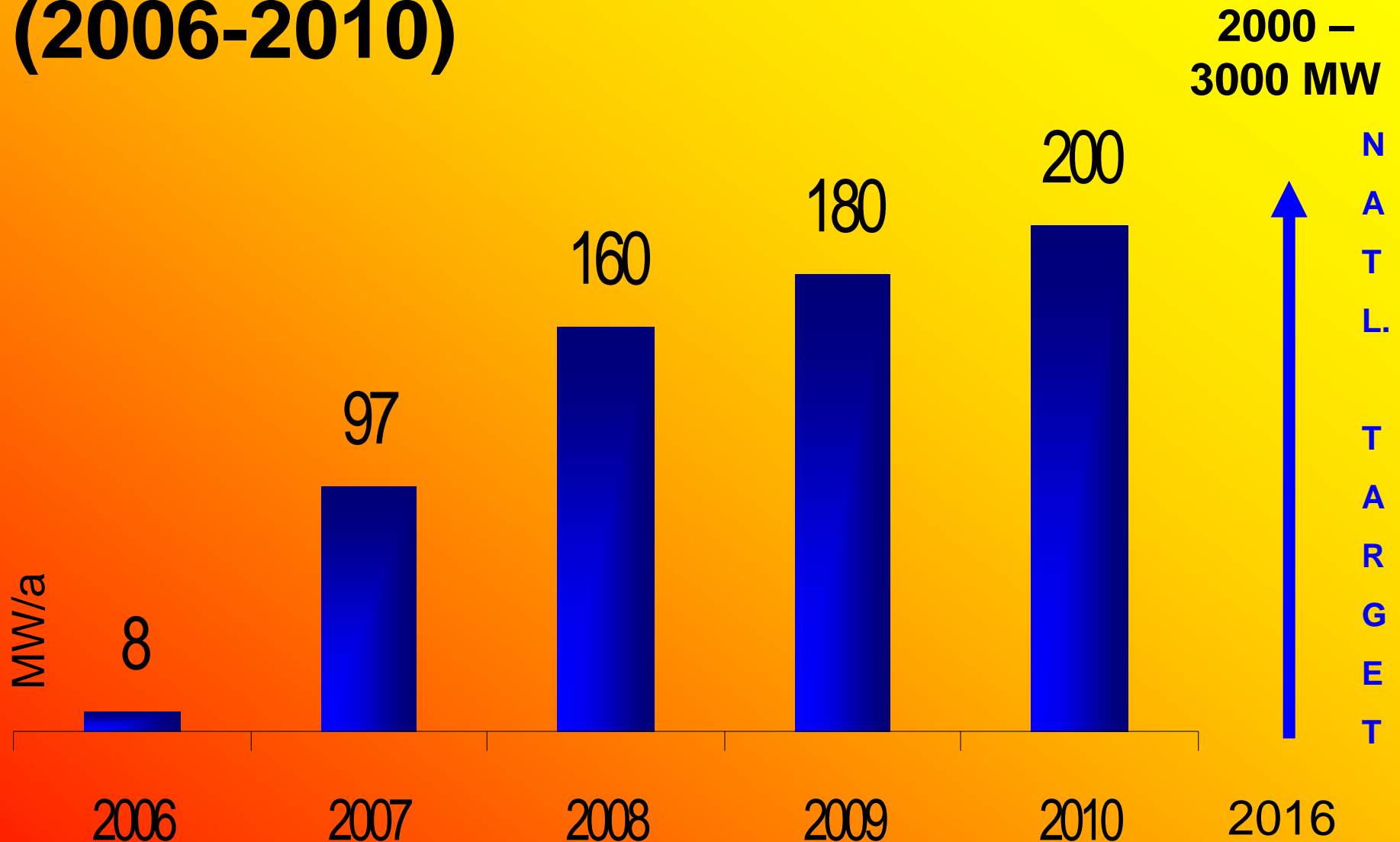
- ▶ ON SERVICE
- ▶ PLANNED ON SERVICE 2006-2010
- ▶ PLANNING

Status of project June 2006

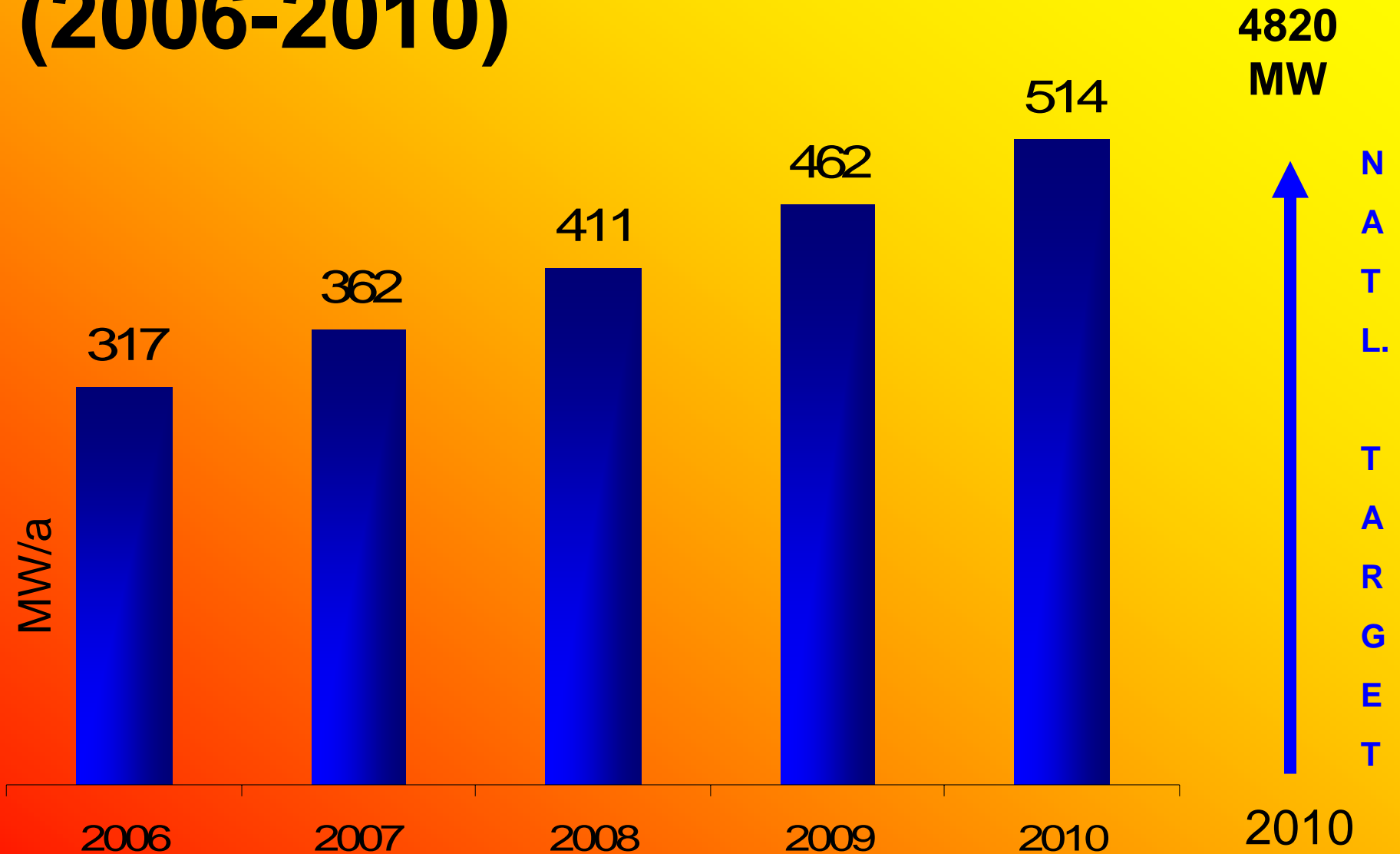


More than 1000 MW of CSP under construction / development

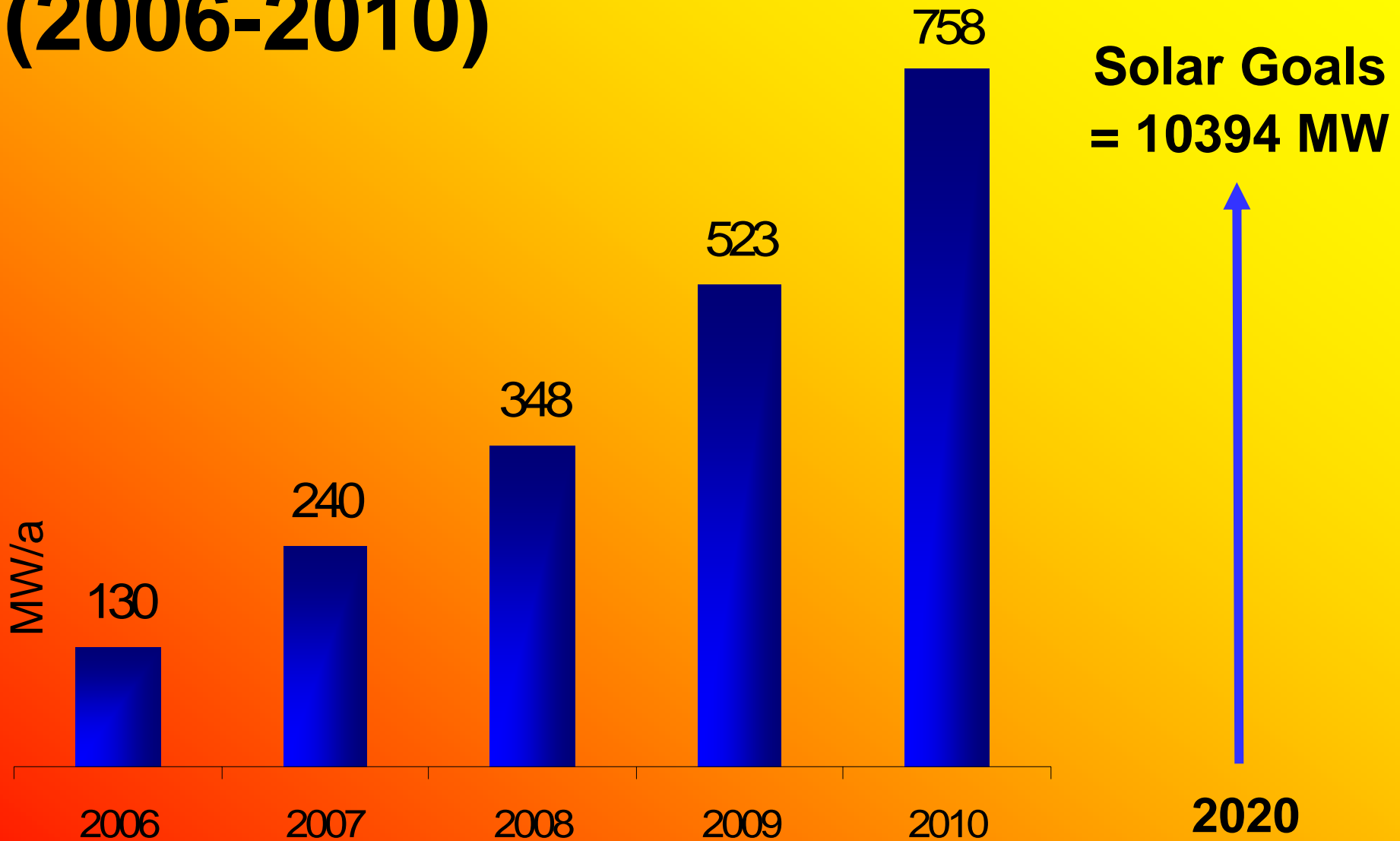
Italian Market Perspectives (2006-2010)



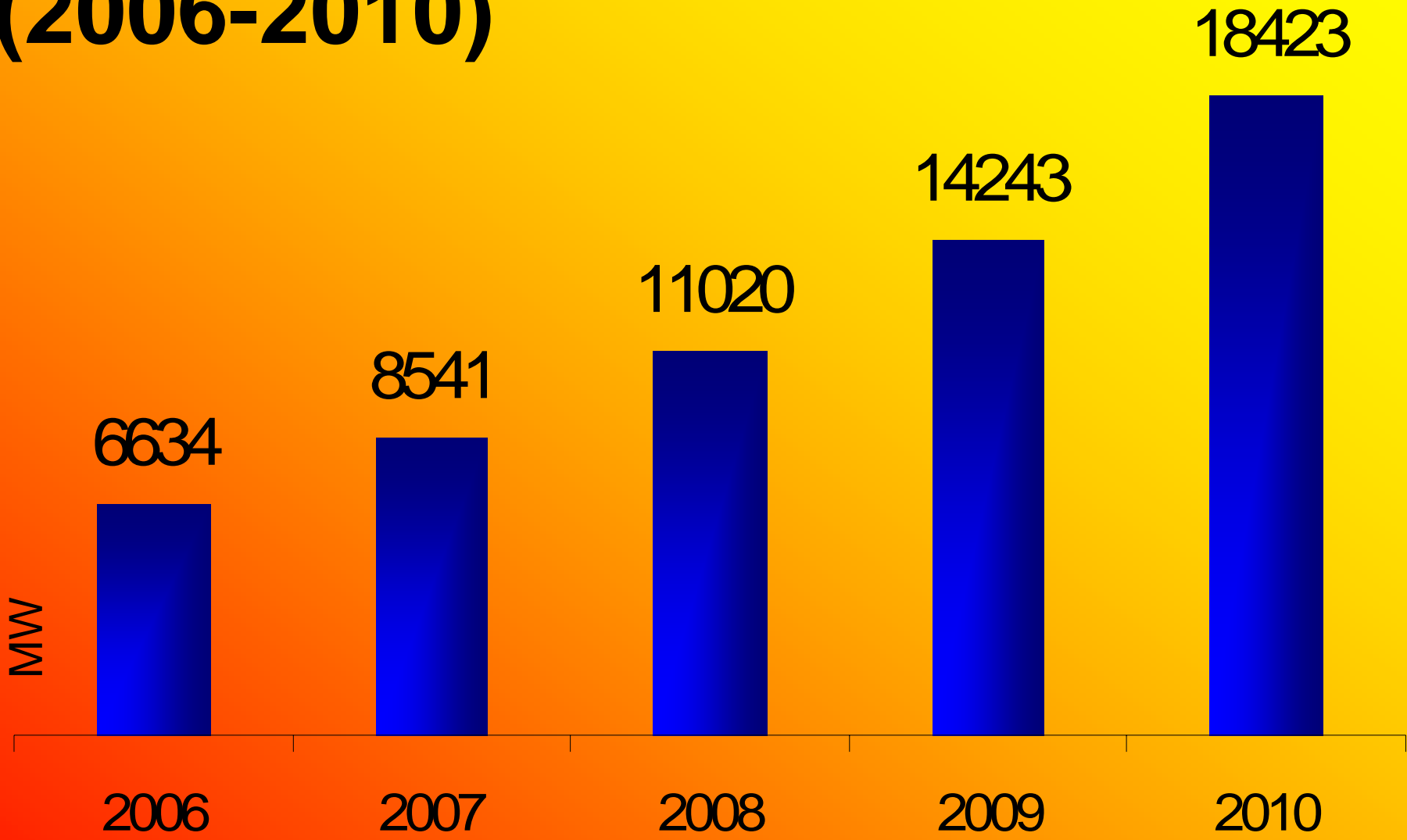
Japanese Market Perspectives (2006-2010)



USA Market Perspectives (2006-2010)

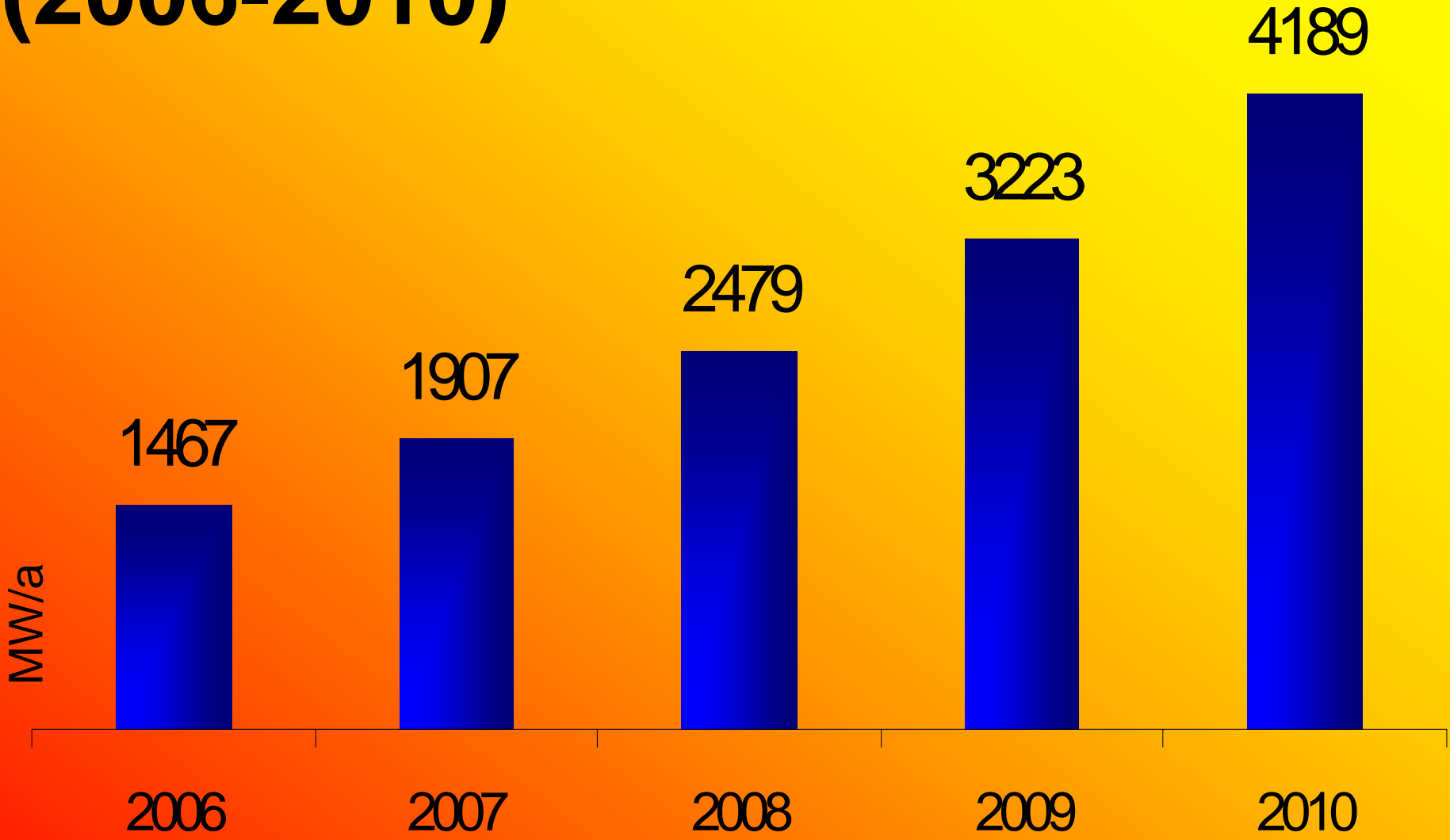


Global Cumulative Market (2006-2010)



Sources: EPIA, Greenpeace

Global Annual Market (2006-2010)

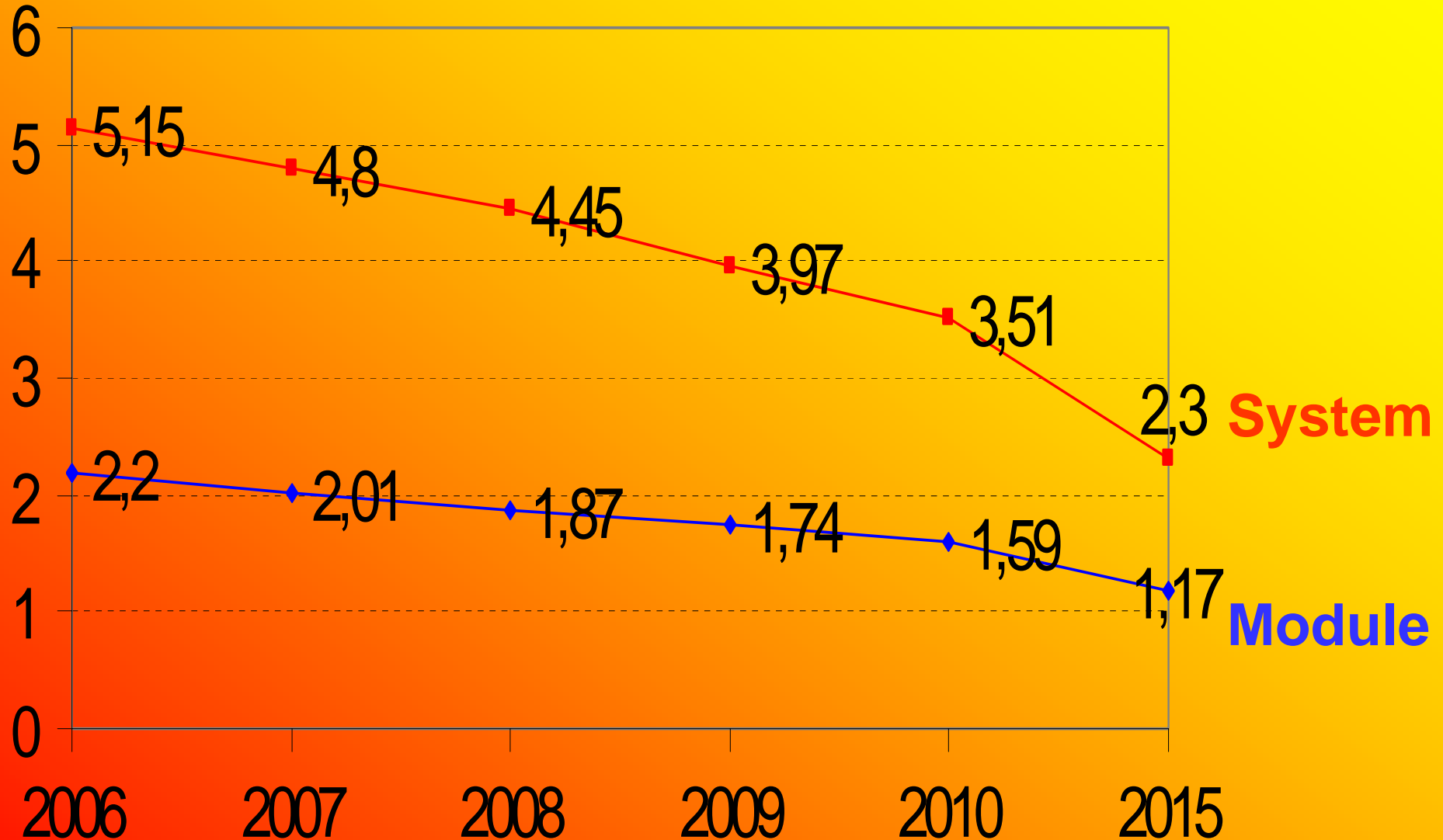


Sources: EPIA, Greenpeace

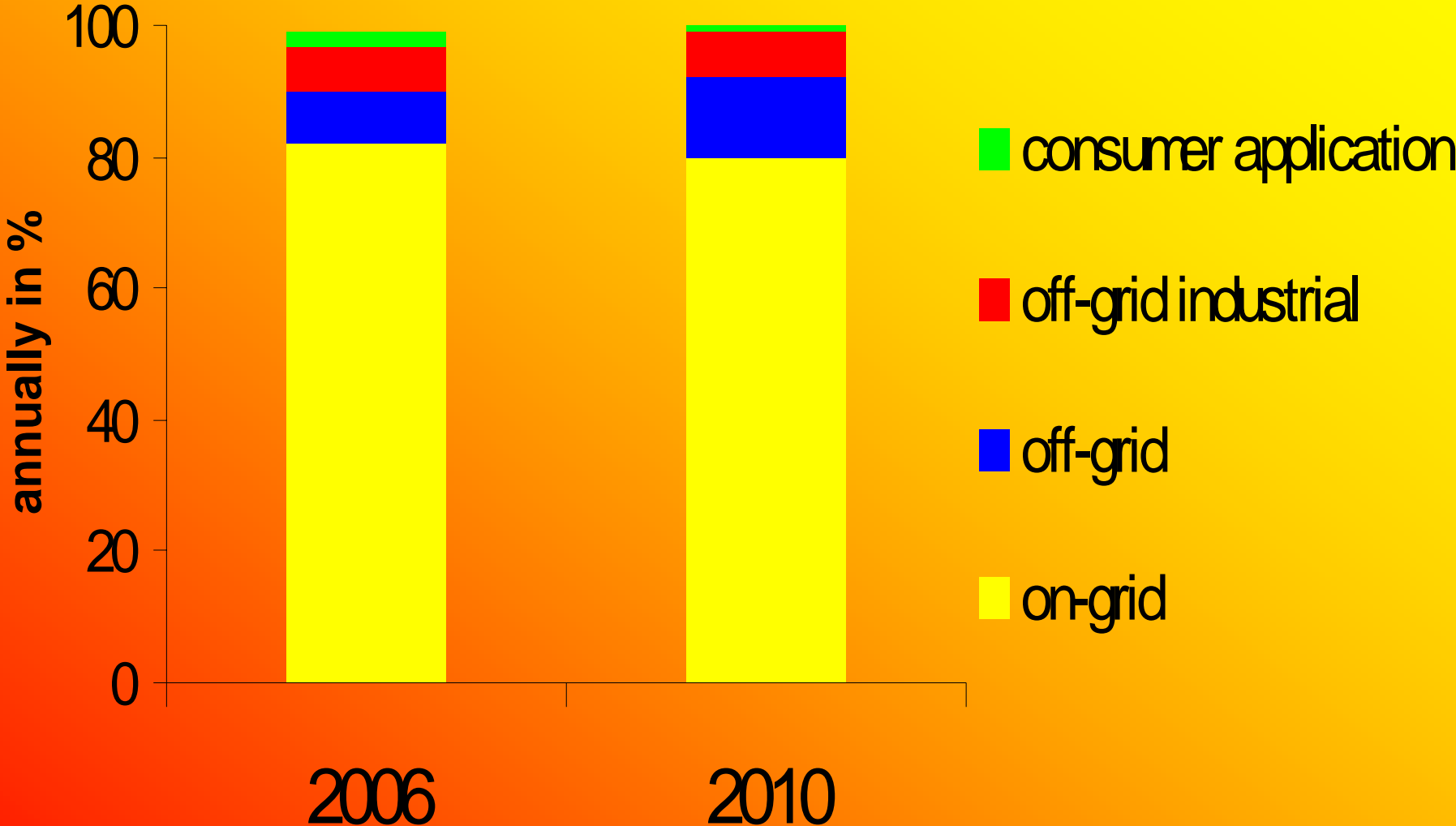
Global Demand vs. Global Solar Cell Production Capacities

Manufacturer	2006	2007e	2008e	2009e	2010e
Sharp (J)	600 (435)	820 (550)	800	1,150	1,500
Q-Cells (D)	336 (253)	432 (340)	500	775	1,100
Kyocera (J)	240 (180)	420 (250)	350	500	650
Sanyo (J)	170 (155)	260 (200)	300	450	600
Mitsubishi (J)	135 (111)	200 (150)	220	320	450
Schott (D)	132 (96)	148 (130)	200	280	400
Solarworld (D)	120 (90)	220 (150)	200	400	600
BP Solar (UK)	188 (86)	300 (150)	250	400	600
Suntech (C)	300 (160)	420 (265)	420	600	850
Motech (T)	200 (102)	300 (190)	280	390	500
Subtotal	2,421 (1,668)	3,520 (2,375)	3,520	5,265	7,250
Other manufacturers	1,049 (723)	2,152 (1,360)	2,815	4,565	7,010
Total	3,470 (2,391)	5,672 (3,735)	6,335	9,830	14,260

Cost Reduction for System & Module Price in €/W

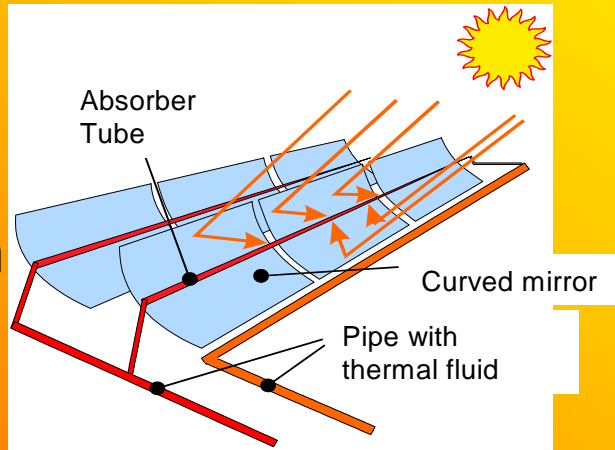


Global Markets by Application

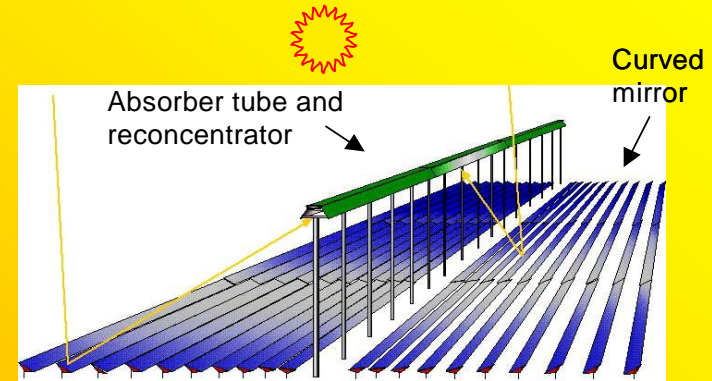


Global CSP Market Perspectives

Linear Concentration

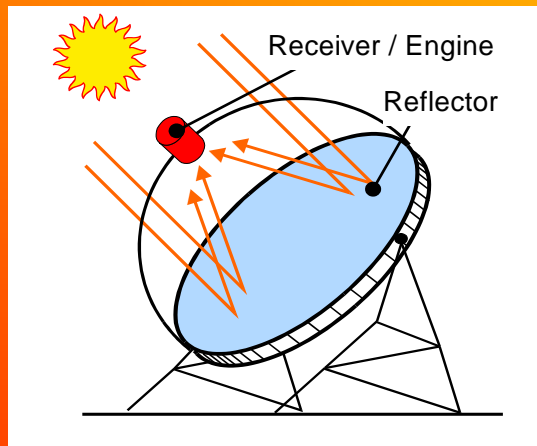


Parabolic Trough

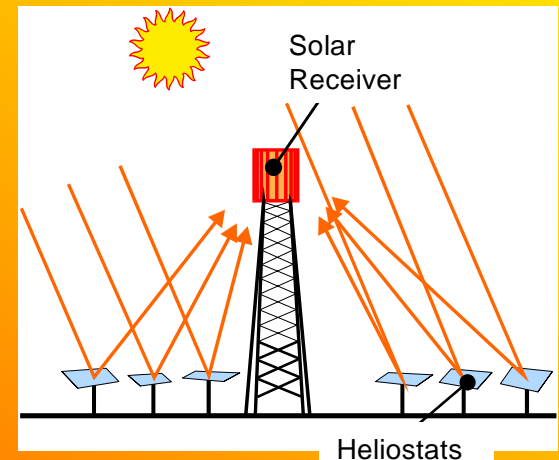


Linear Fresnel

Point Concentration



Dish/Engine



Central Receiver

CSP - Current Intl. Projects

SEGS 350 MW, California



Planta Solar 10 MW,
Sevilla, Spain



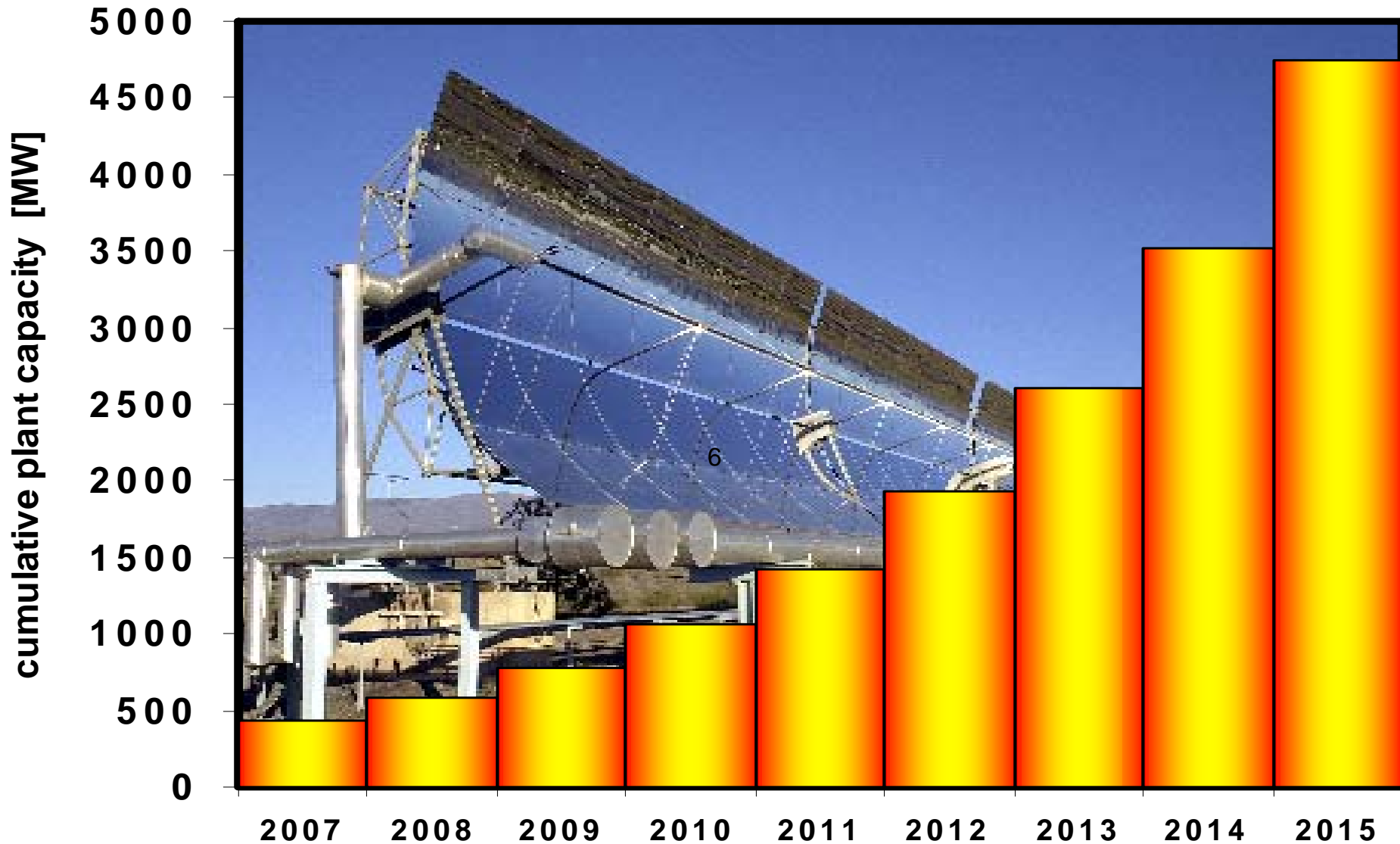
Nevada Solar I, 64 MW



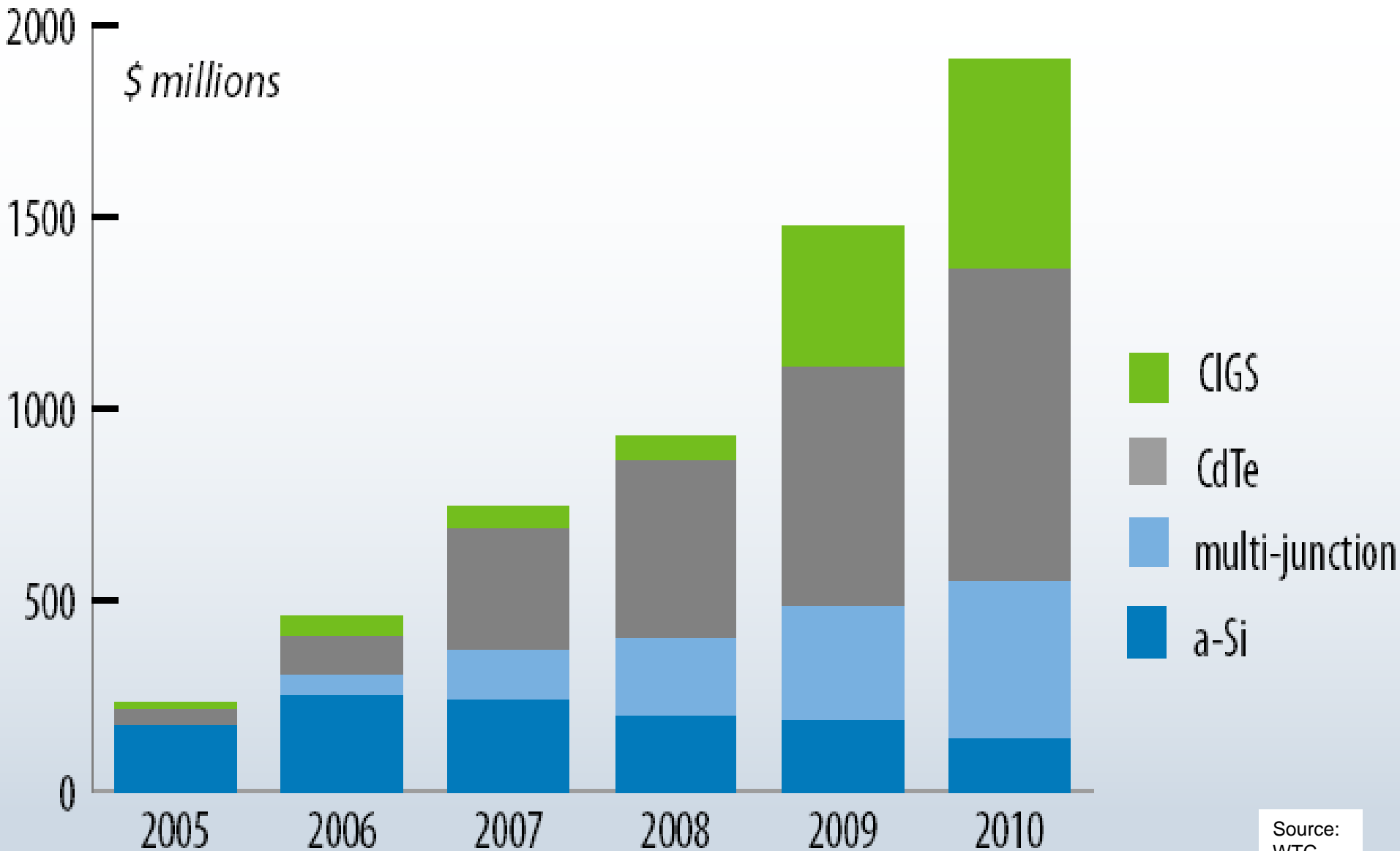
Andasol 3 x 50 MW, Guadix



Global CSP Market Perspectives



Global Market for Thin-Film Cells

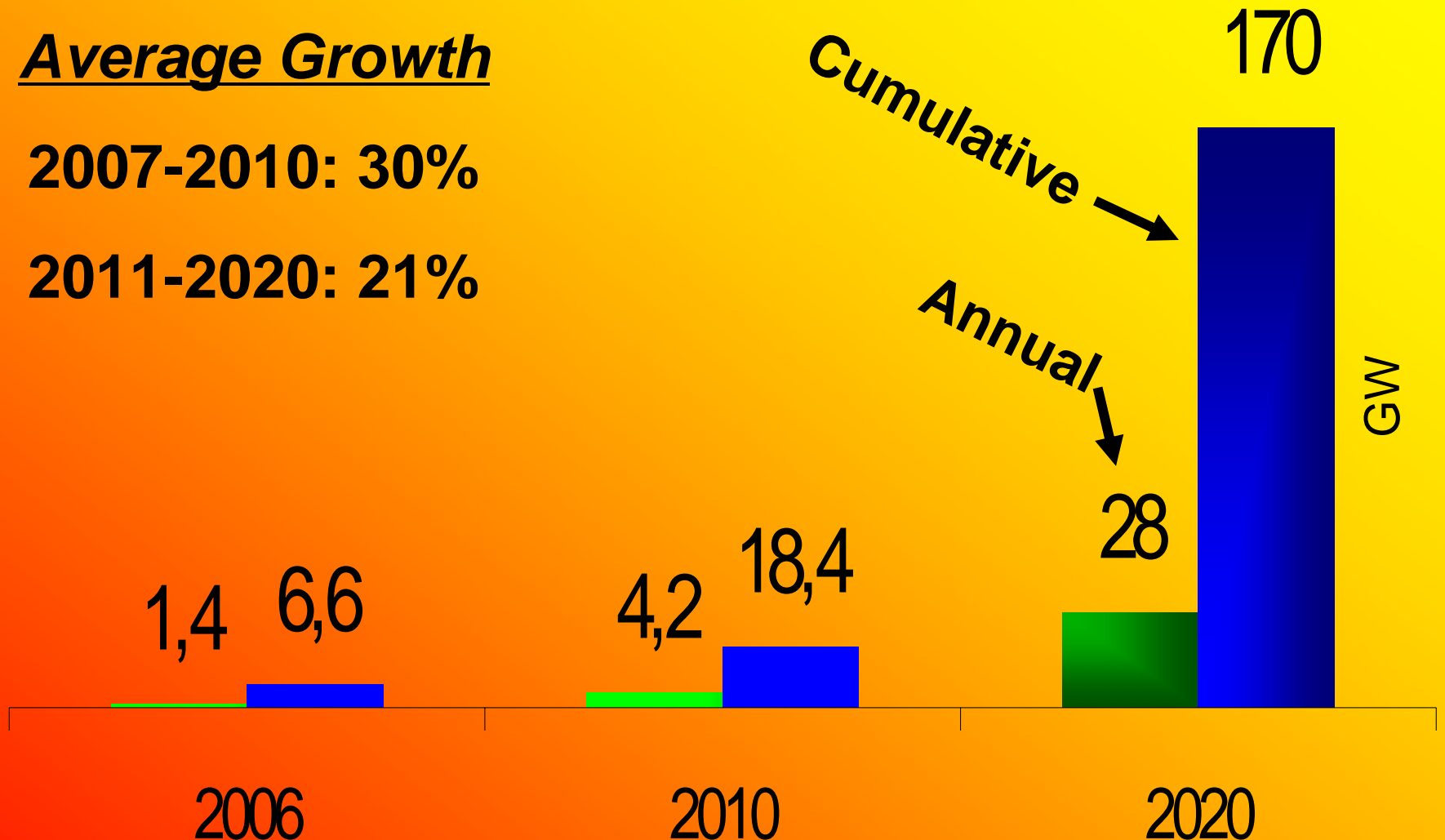


Moderate Scenario (PV) until 2020

Average Growth

2007-2010: 30%

2011-2020: 21%



Thank you for your attention !

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