# The pressing need for a feed-in law

Jeremy Leggett

All Energy, Aberdeen
May 2007

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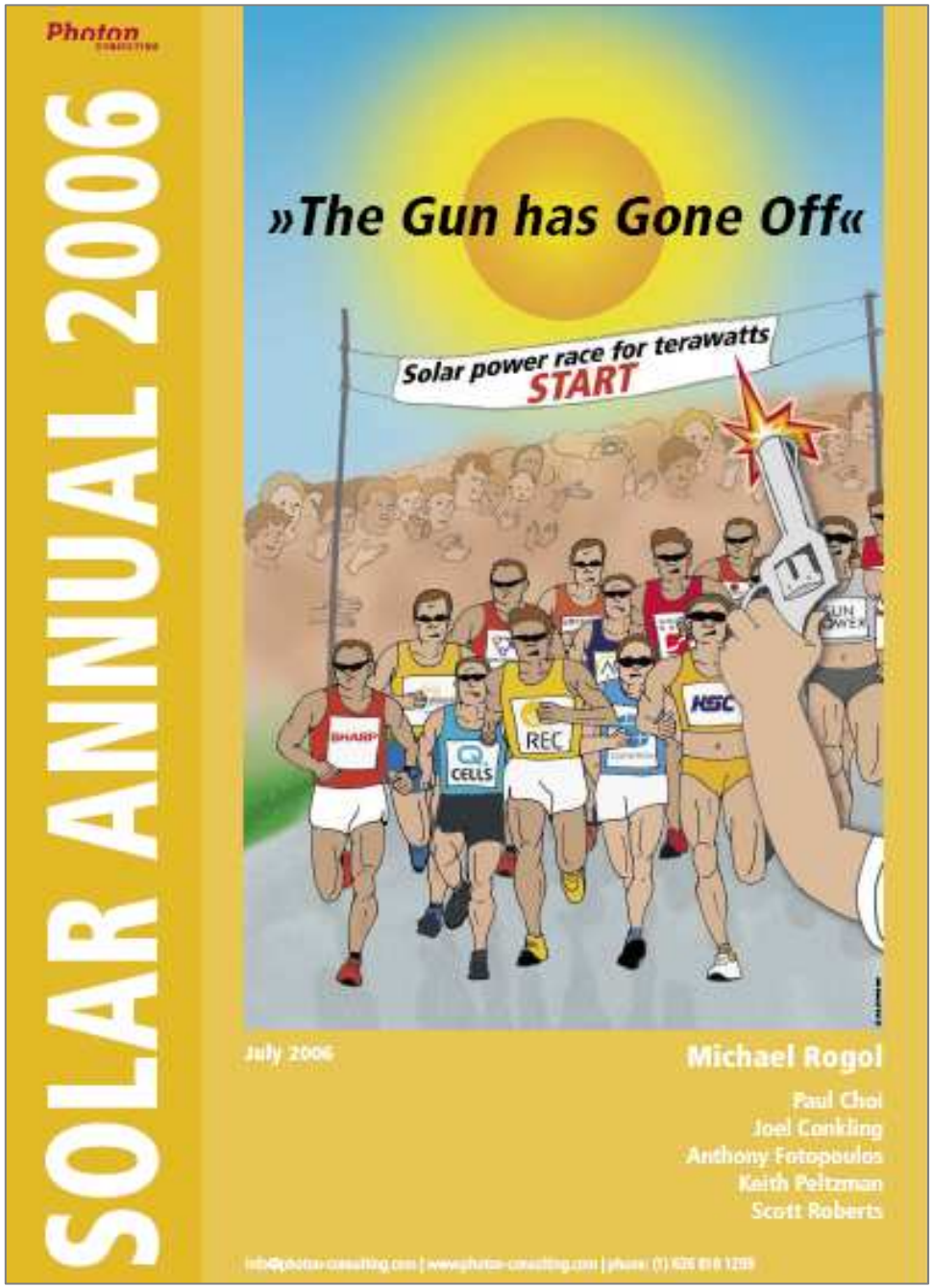
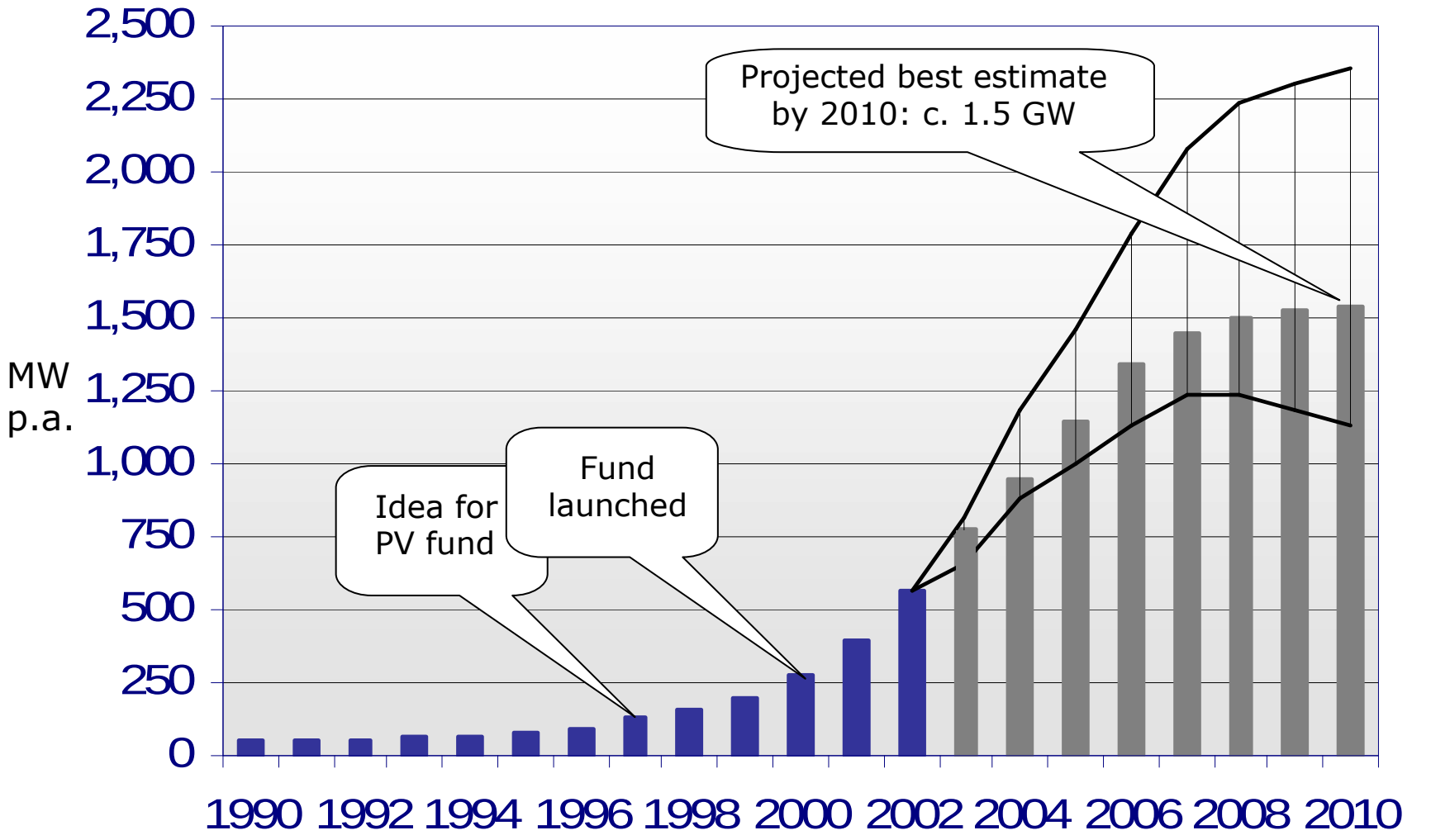


# Growth of global PV production: expectations of the world's first PV private equity fund in 2002




Bank Sarasin New Energies Invest projections, 2002

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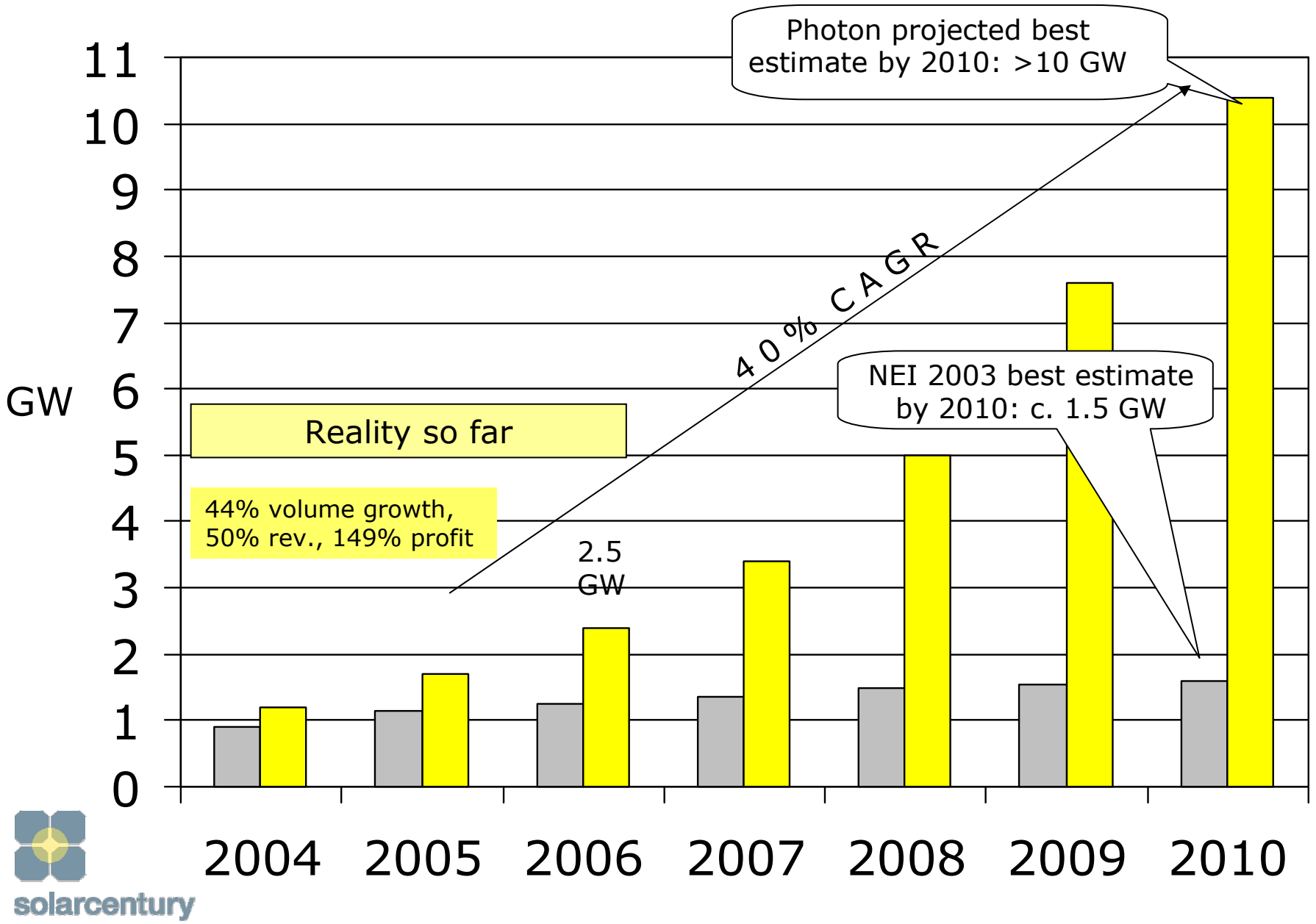
# NEI 2002 expectations of production versus reality & ’06 projections

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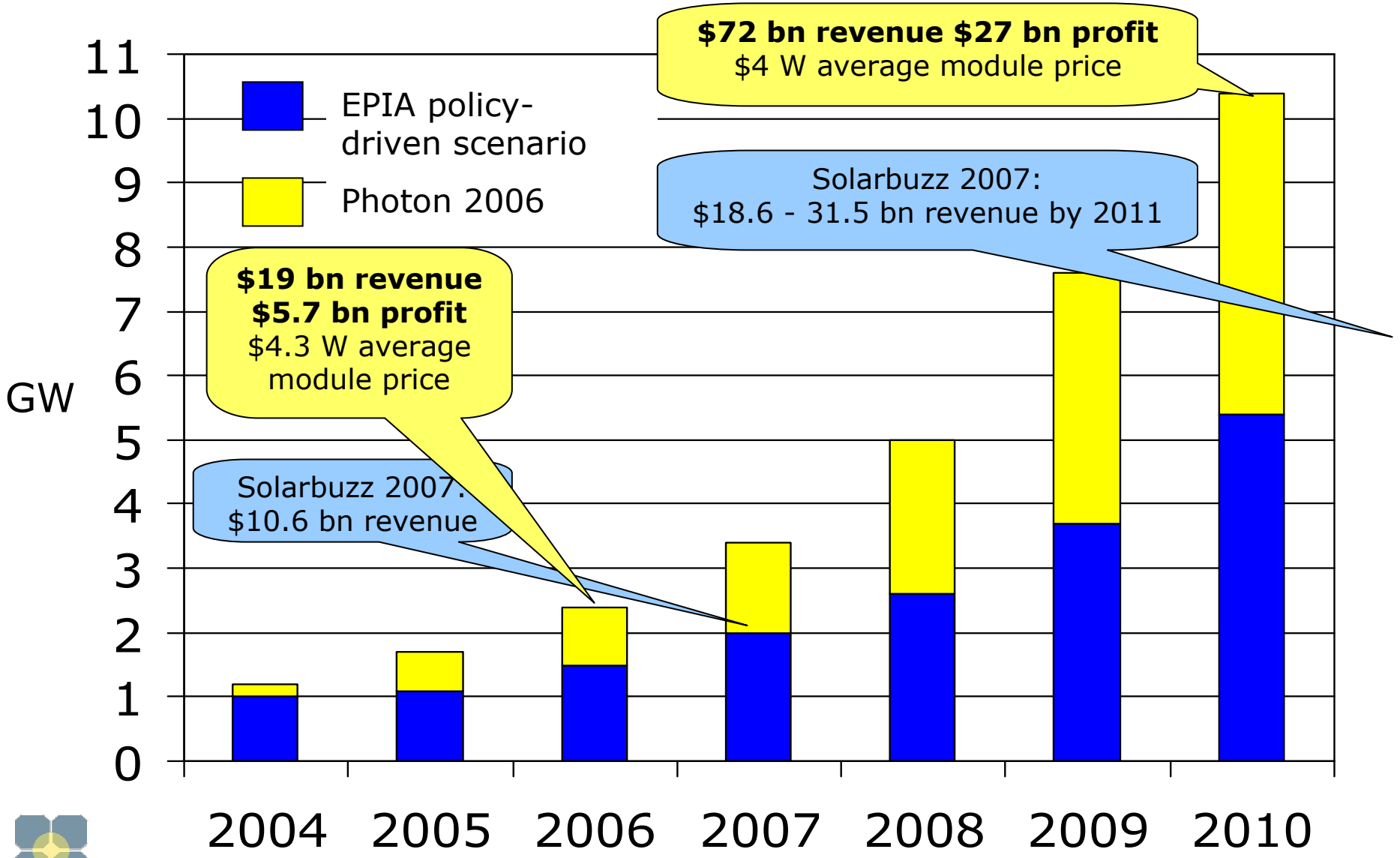
# Global industry growth: bullish and conservative views

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# National policy: Feed-in laws

Small levy on the rate-base used to pay guaranteed premium prices for solar electricity, now underway in 17 European countries:

- **Germany:** 0.379 €/kWh for plants to 0.46 for rooftops, 20 years, decreasing 6.5% pa
- **Spain:** 0.44 €/kWh (<100kW) and 0.41 (>100kW) up to 371 MW, 25 years
- **Italy:** 0.49 €/kWh (1-3kW BIPV) to 0.36 €/kWh >20 kW ground-mounted), up to 1,200 MW.
- **Portugal:** 0.32 **-** 0.52 €/kWh depending on size
- **Greece:** 0.40 €/kWh (<20 kWp), 0.36 €/kWh (>20kW), approved by Cabinet
- **France:** 0.55 €/kWh for building-integrated. Target 160 MW by 2010.

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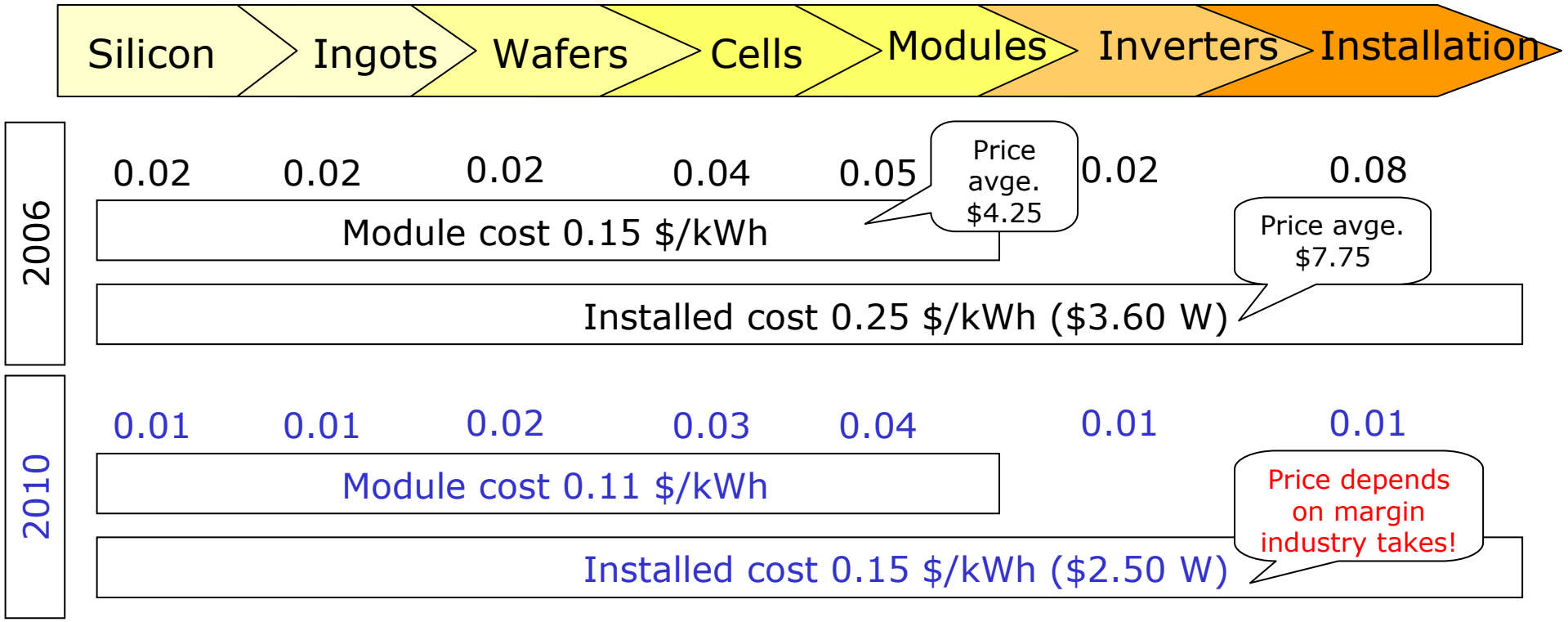
# Costs and price: the bullish view




…cost parity with 5-10% of OECD electricity grid price in 2006 ...150-300 GW

…cost parity with >50% of OECD electricity grid price in 2010….c 1,200–2,000 GW

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**This is two orders of magnitude bigger than the projected production of the solar PV industry in 2010**

Source for figures: Photon 2007

eFOCUS
international renewable energy magazine

## Solar is most popular energy source in UK

**LONDON, England, August 16, 2006 (Refocus Weekly) Solar power is the preferred choice of UK residents to produce future energy, followed by wind power.**

Solar was identified by 79% of the 1,031 adult respondents to a survey by ICM Research for GMTV, followed by wind at 76%. More efficient coal and gas-fired power stations were identified by 50% while nuclear was the choice of 38%.

In May, prime minister Tony Blair endorsed construction of new nuclear reactors, noting that the pressure of climate change and energy security "put the replacement of nuclear

# Do the maths: sun panels make sense

ROBERT BUDDEN
SERIOUS MONEY

David Cameron's got one. So should I have one too? No, I'm not referring to a chauffeur-driven car to carry my briefcase. I mean a wind turbine, of course. Or even a solar panel.

You can now walk into a B&Q store and walk out with a wind

government grants to the size of the solar panels being installed (bigger systems are more cost-effective and should therefore give a better yield).

The most expensive Currys system should provide about 4,900 kilowatt hours a year, according to Sharp, possibly more if you live in a sunny area and less if you live in the north of Scotland (the Energy Saving Trust reckons the average three-bedroom house consumes 3,300 kilowatt hours a year).

The Currys' scheme uses photovoltaic panels which produce electricity. So, if the sun is shining, and your TV, kettle and other

# Soaring energy costs make solar power a bright idea

Ashley Seager

What was once a rich eccentrics' foible now makes economic sense

They say every cloud has a silver lining. With the hefty rises in electricity and gas prices over the past year, the lining is that solar power, for most of us, is now a realistic, cost-effective option.

Until recently the expense of putting solar panels on the roof meant only a few eco-warriors with money were doing it. Anyone else concluded that the government grant roughly equalises the cost to the consumer per unit of energy generated by each type of system.

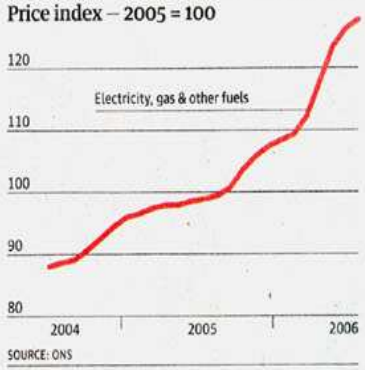
A typical solar thermal system can often generate all the hot water needed in the summer and 20% in the winter, so 50%-60% year round.

So what you will save? Panels of about 2 sq metres claim to save the equivalent of about 1,100 kilowatt-hours (kWh) a year. The savings depend on what you heat your water with. If you are off the national grid and using oil or liquefied petroleum gas, Department of Trade and Industry (DTI) figures show you could save about £150 a year. For mains gas, which is an efficient way to heat water, the saving is smaller, at about £50 a year.

As a return on the cheapest system I was quoted for (£3,100, fully installed, including the standard £400 grant), the yield ranges from 1.6% to 4.25% – the latter easily beating most savings rates.

You also save from using your boiler less. Many people with thermal panels do not use the boiler between May and October. That means servicing the boiler

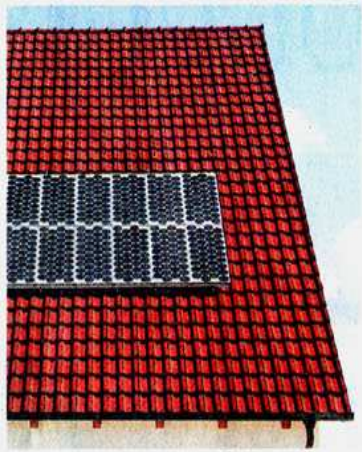
**Energy costs shooting up**




SOURCE: ONS

for showers. So you can save only 10-15% of domestic energy use a year. You may also have to fit a new hot tank and intrusive plumbing from the roof panels.

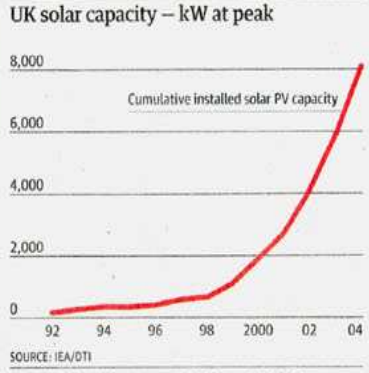
For these reasons, PV is gaining in popularity. An installed 1kW system costs about £3,500 (after a 50% grant), rising to £9,000 for 3kW. They are often guaranteed for 25 years – manufacturers



on the installation cost of £6,200 (my best quote so far) of 4.7%. Not bad.

Although there are not the boiler cost savings of thermal, PV systems are "fit and forget" with few maintenance costs. And they save money when you are not at home – you can sell the excess generated back to the utility companies. Older electrical meters will actually turn

**Growth of solar power**




SOURCE: IEA/DTI

can make," he says. If they do fall, your return falls too. But then you can enjoy doing your bit for the environment and that, one might say, is priceless.

So is the solar market about to boom? The experts think so. Richard Cockayne of yourwelcome.co.uk, a retailer of energy-saving technology, says: "You have got to be from Mars if you don't see

# Conclusions

1. "*Solar power companies ….will hit cost structure that allow them to underprice the grid in many geographies. …..a class of top solar companies is likely to emerge with combinations of scale, cost structures and other competitive advantages that will be hard to top.*" (Photon 2007)

2. With the *possible* exception of solarcentury (because of activities in overseas markets) none of these will be British, on current trends.

3. UK plc is about to miss out on the next great business revolution.

4. A feed-in law would give us a chance of changing that.

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