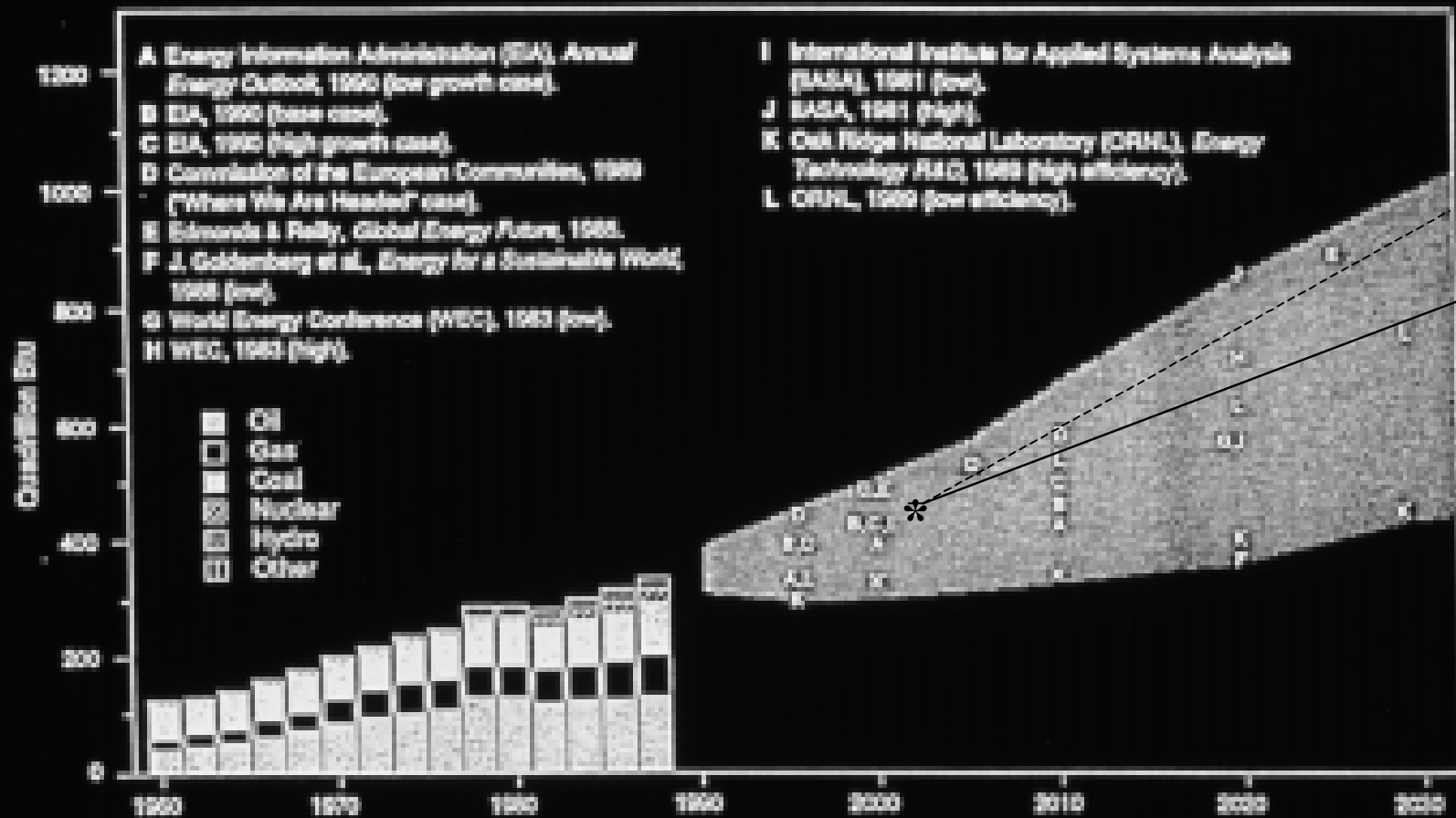


# Transitioning to a Renewable energy Future

D. Yogi Goswami

President

International Solar Energy Society



Note: Differences in projections are caused, in part, by varying assumptions concerning energy prices, economic growth, consumer and producer behavior, and rates of technological change, including replacement of capital stock. The shaded area represents an envelope bracketing these differences.

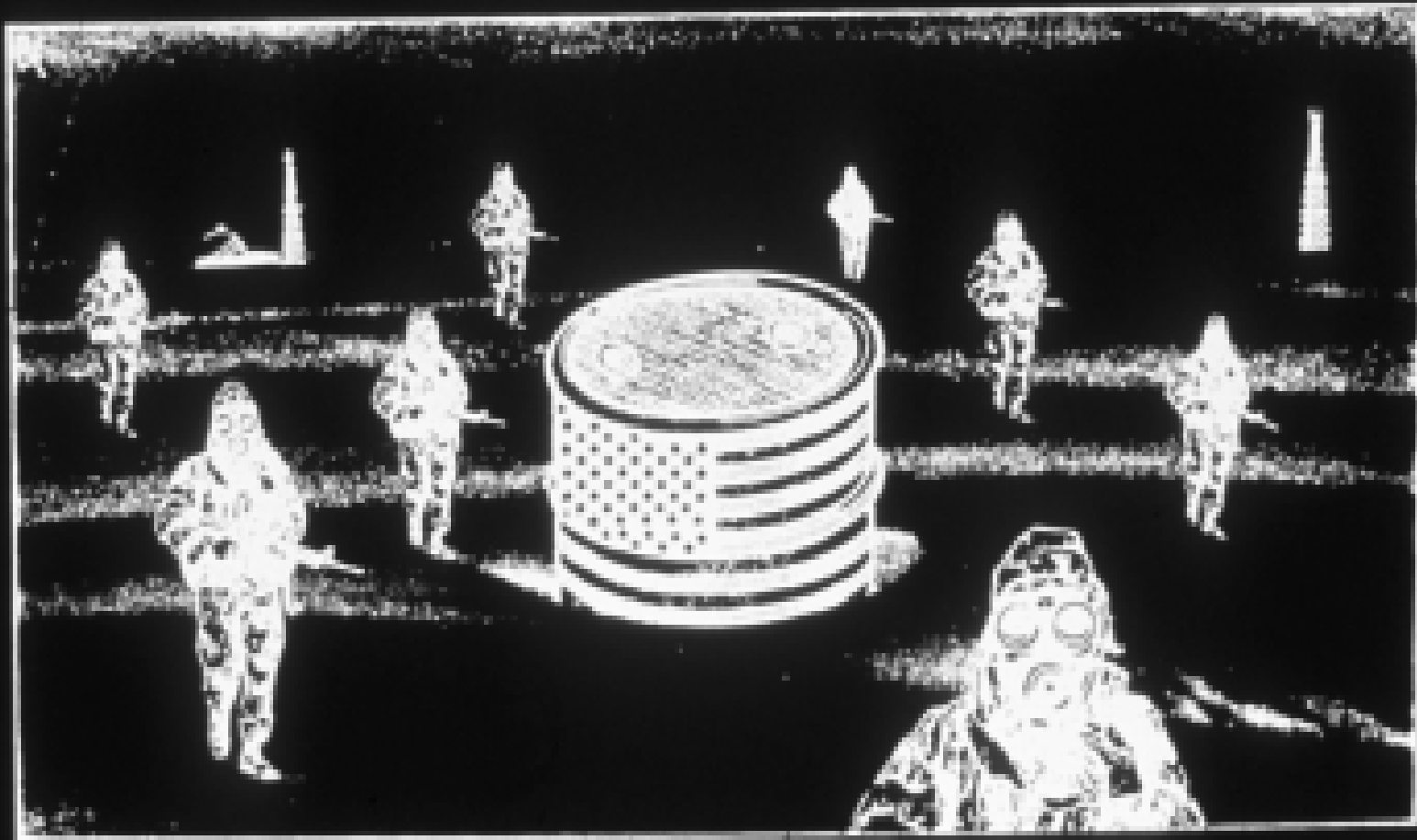
Figure 1. Historical and Projected World Energy Consumption, 1970-2030.





# Energy policy

MORAL EQUIVALENT OF WAR

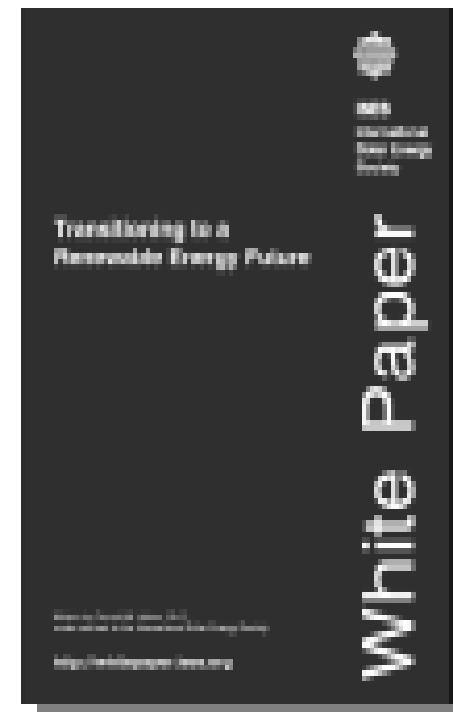


$\pi$  The fossil fuel period is a short era,  
 $\pi$  not an age

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$\pi$  Therefore the transition to sustainability  
 $\pi$  must start now!

$\pi$  Technologies exist to  
 $\pi$  support that transition  
 $\pi$  economically and safely.





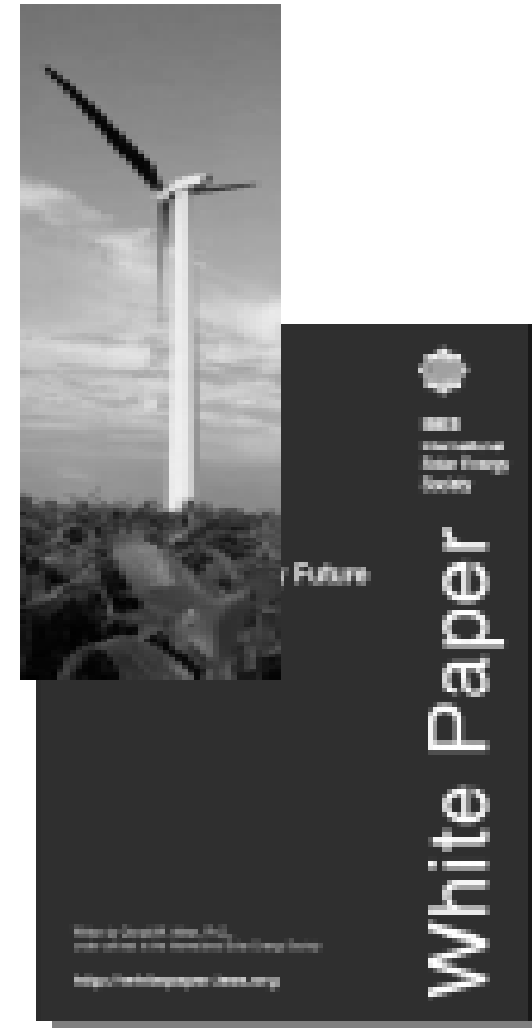
# White Paper – supports aggressive governmental policies to 2020 and beyond

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## Wind Power

Over 32,000 megawatts installed capacity in 45 countries by the end of 2002.

A goal of 12% of the world's electricity from wind power by 2020 is within reach.





# White Paper – supports aggressive governmental policies to 2020 and beyond

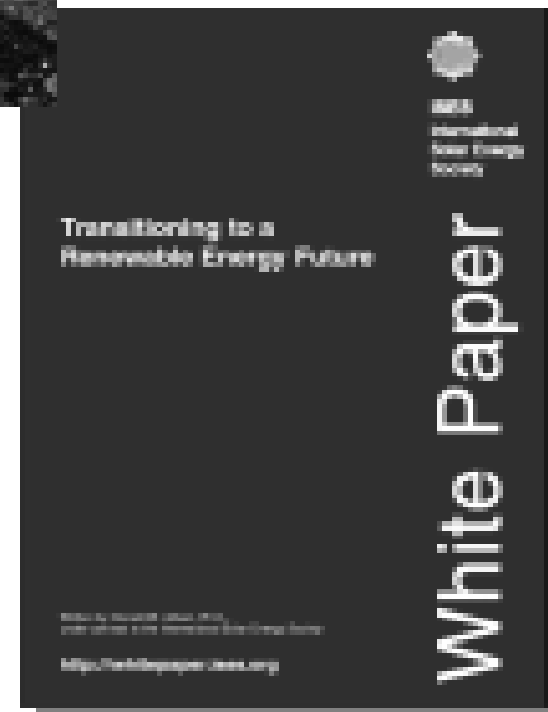
## Bioenergy



11% of world

energy use from biomass today is only 18% of what it could be

World bioenergy potential in 2050 could equal total world primary energy use today.

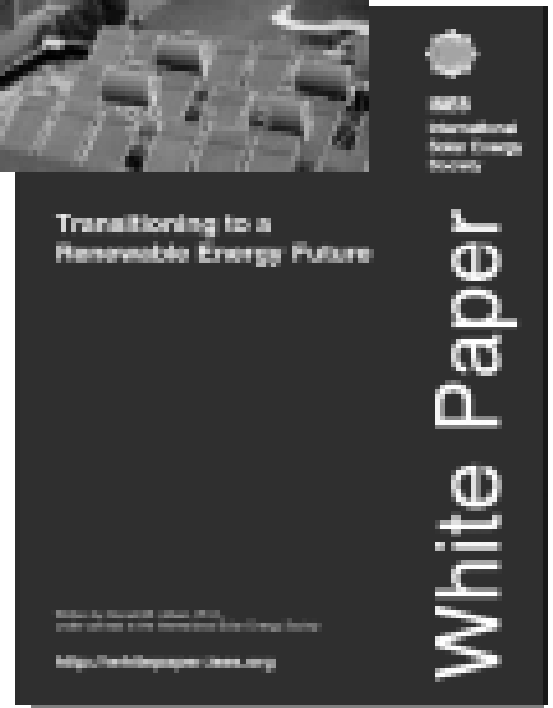


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# Solar Water Heating



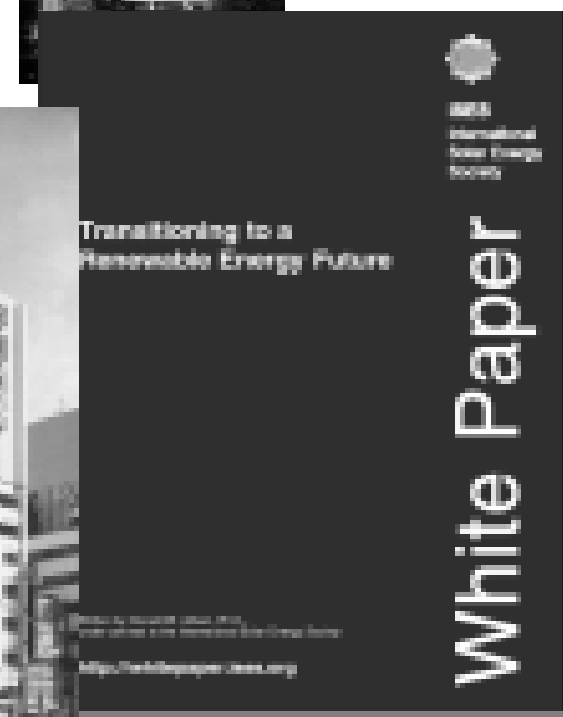
A worldwide goal of several hundred million new square meters of solar water heaters by 2010 is appropriate to the state of the technology and the economics.



# Solar Photovoltaics (PV)

It is an industry that is doubling every two years

Worth \$3.5 billion in 2002, it can grow to \$27.5 billion per year by 2012.



# Solar Thermal Electric Power



A worldwide goal of 100,000 MW of solar thermal power by 2025 is an achievable goal.

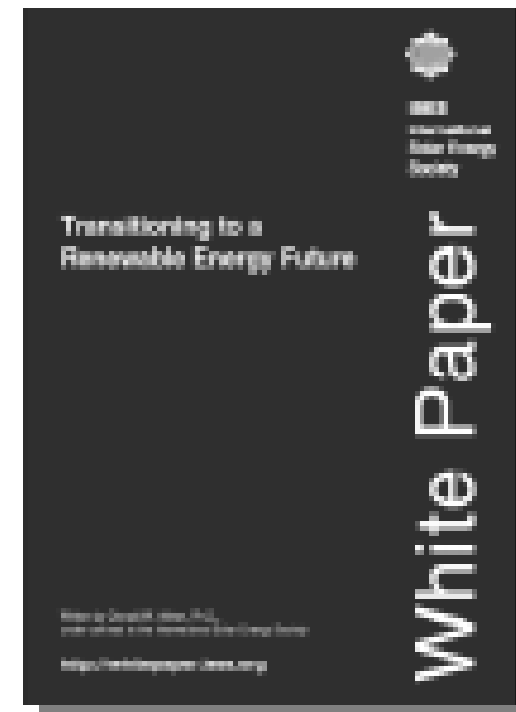
# White Paper reveals

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**π Policies to accelerate the rate of  
π renewable energy deployment**

**π Market-based incentives to attract  
π private investment to support  
π governmental goals**

**π Examples of Comprehensive Policy  
π Models**



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$\pi$  Policies and long-term  
 $\pi$  government commitments  
 $\pi$  are the keys

$\pi$  Enormous benefits to those  
 $\pi$  countries that start early and  
 $\pi$  aim high

$\pi$  Enormous negative consequences  
 $\pi$  for those countries left behind

