



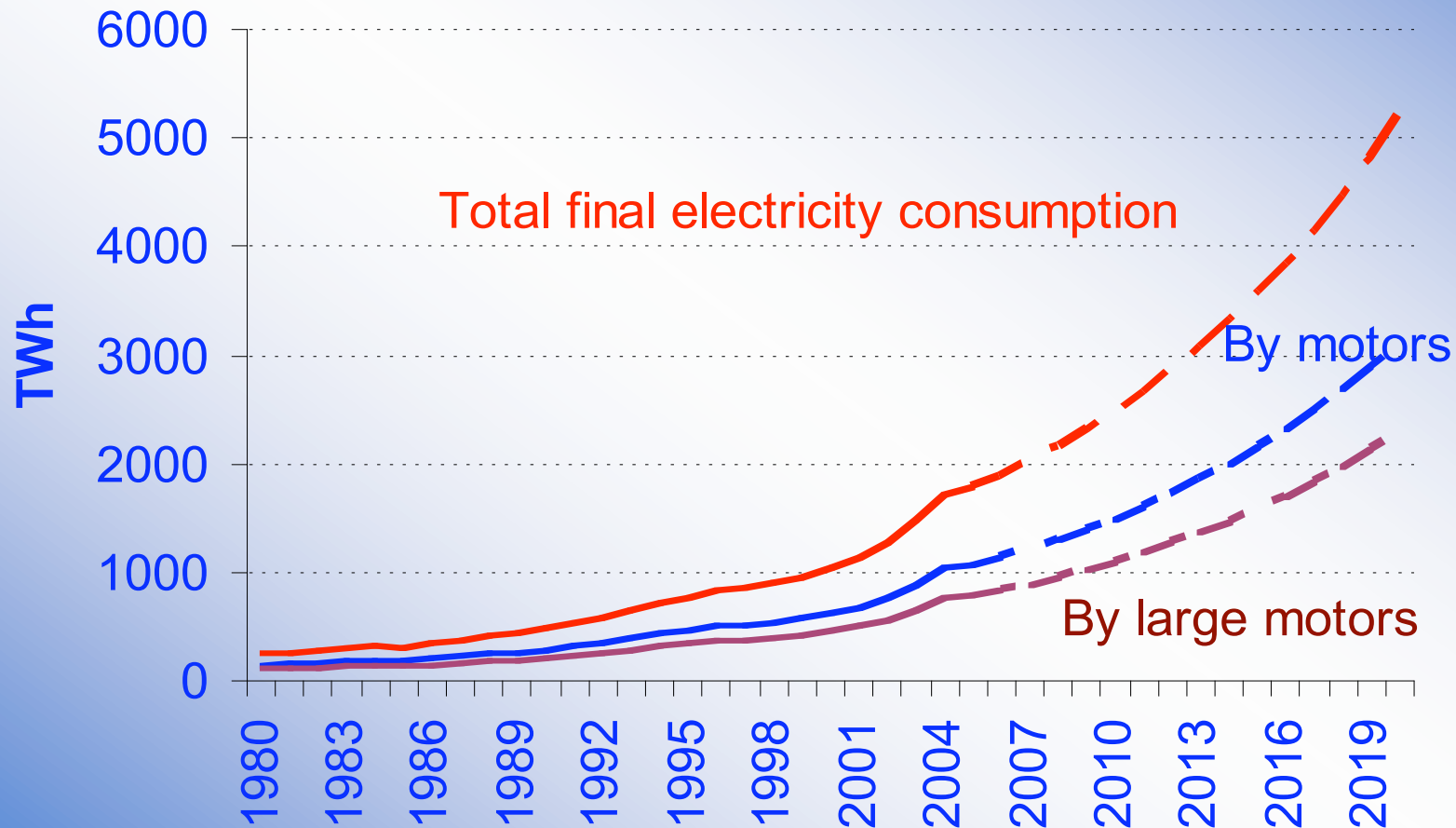
Raising China's Electric Motor Efficiency

Ming Yang

**eceee Summer Study
June 2007**

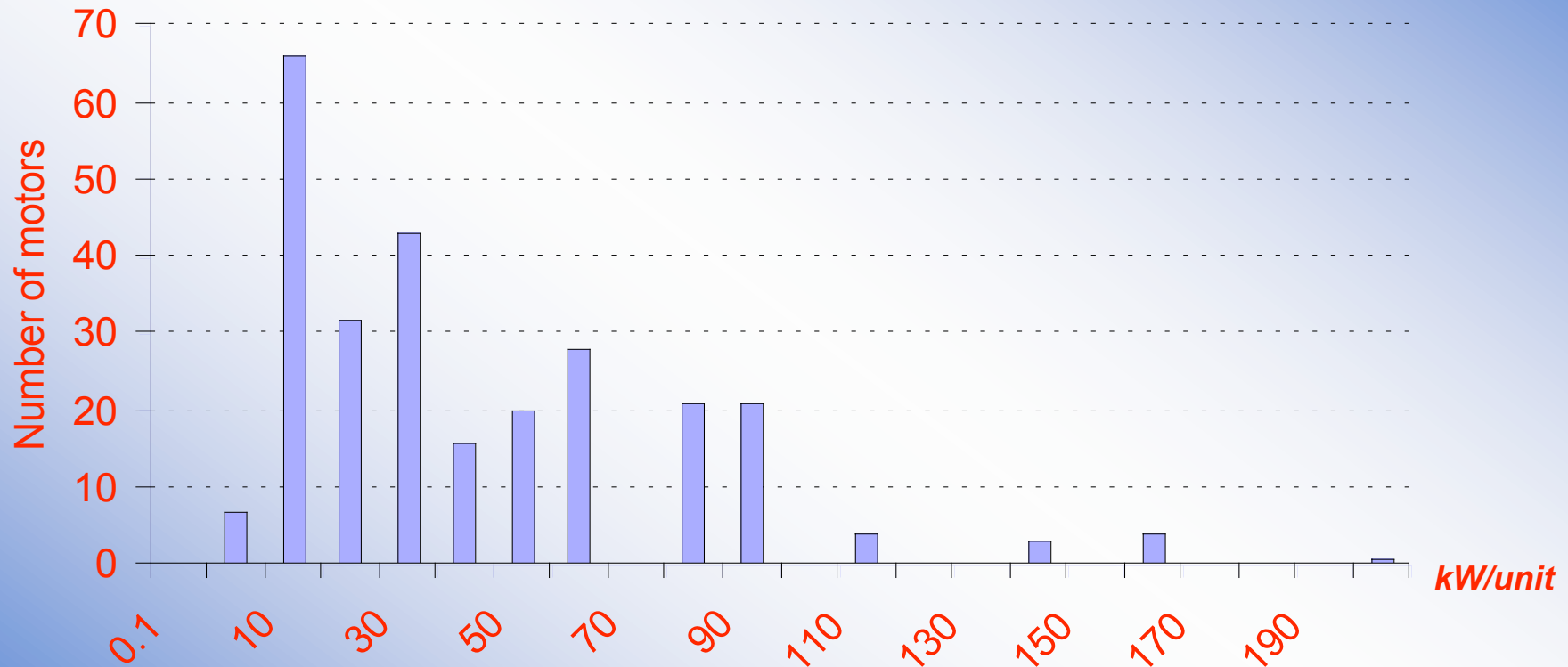


Electricity demand by motors in China





Motor capacity distributions in China (total sample No: 266)



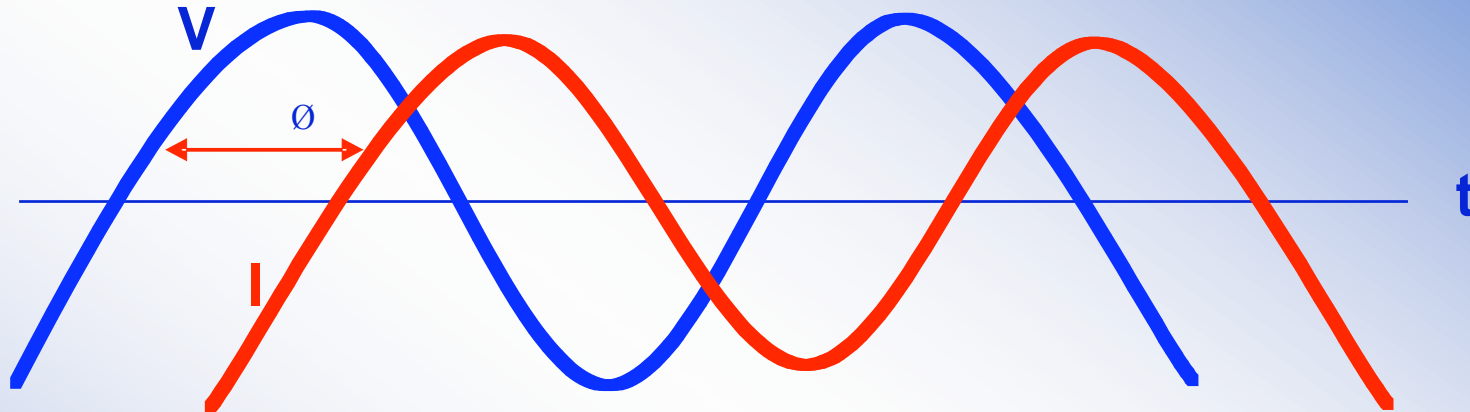
Over 70% of the motors in China have capacity between 10 and 200 kW/unit

Source: Calculated from Danish Energy Management 2005

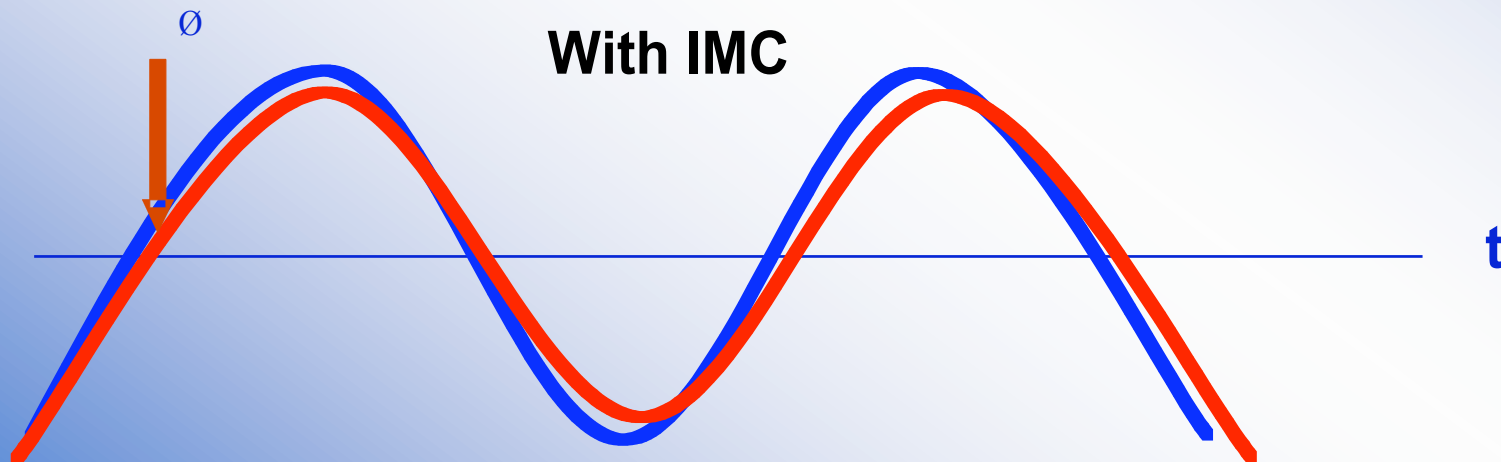


Technology: Intelligent Motor Controller

Without IMC

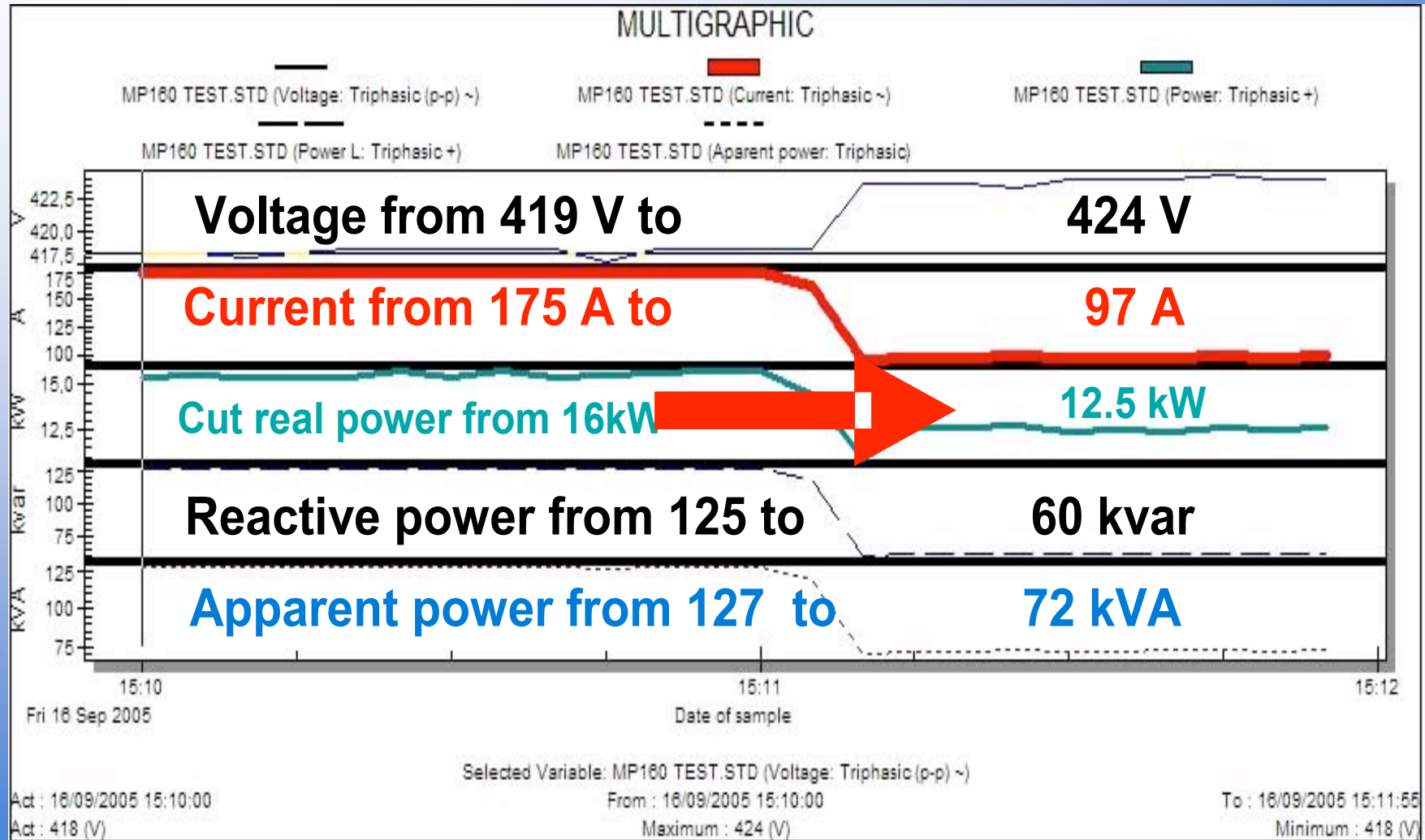


With IMC



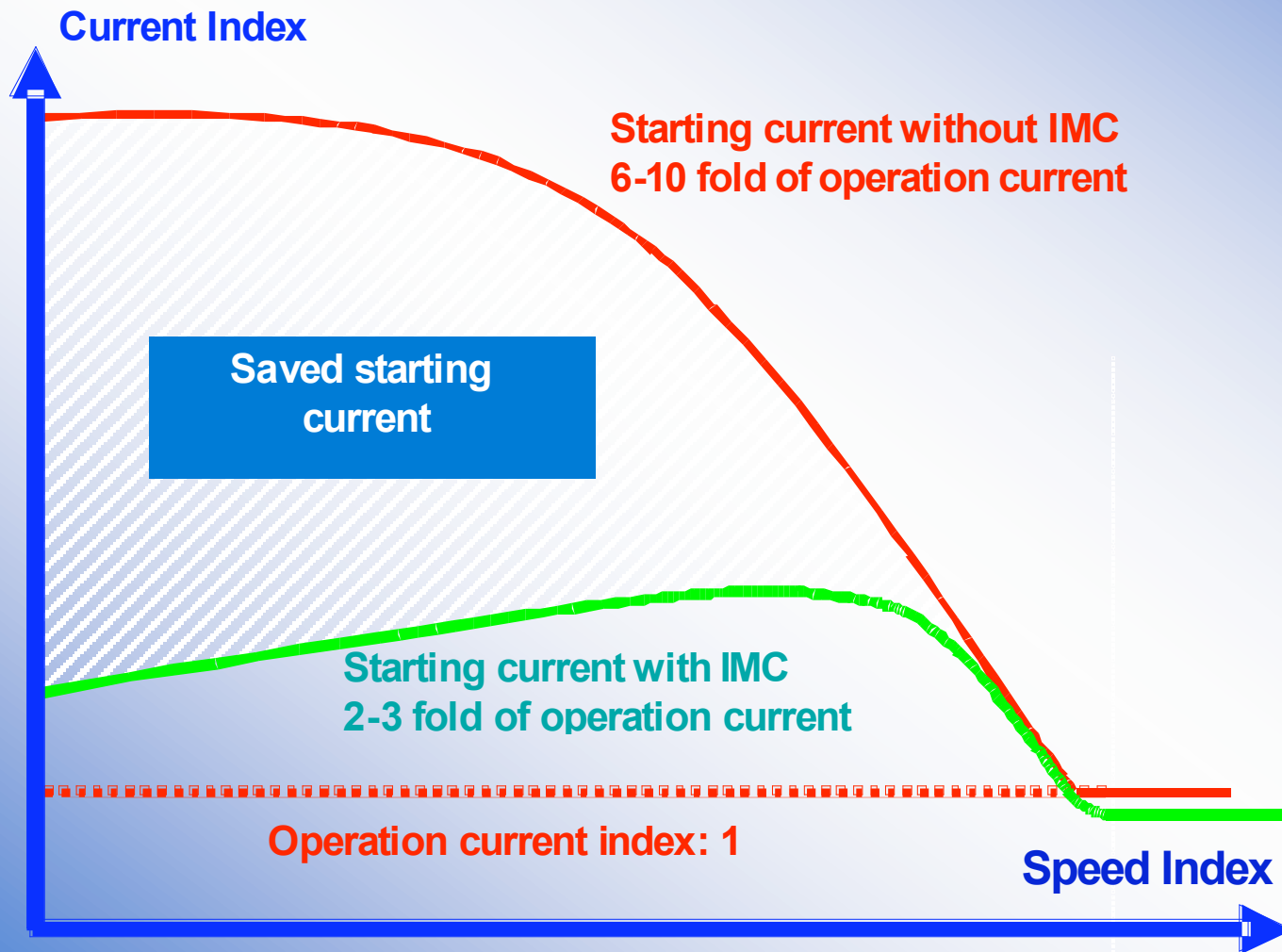


IMC savings in operation





IMC savings at starting





Scenario Assumptions

BAU scenarios:

Efficiency 60%, load factor 60%.

By 2020, 0.1% motors with IMC

EE policy scenario:

By 2020, 9% of large motors with IMC

Each IMC saves 20% of power

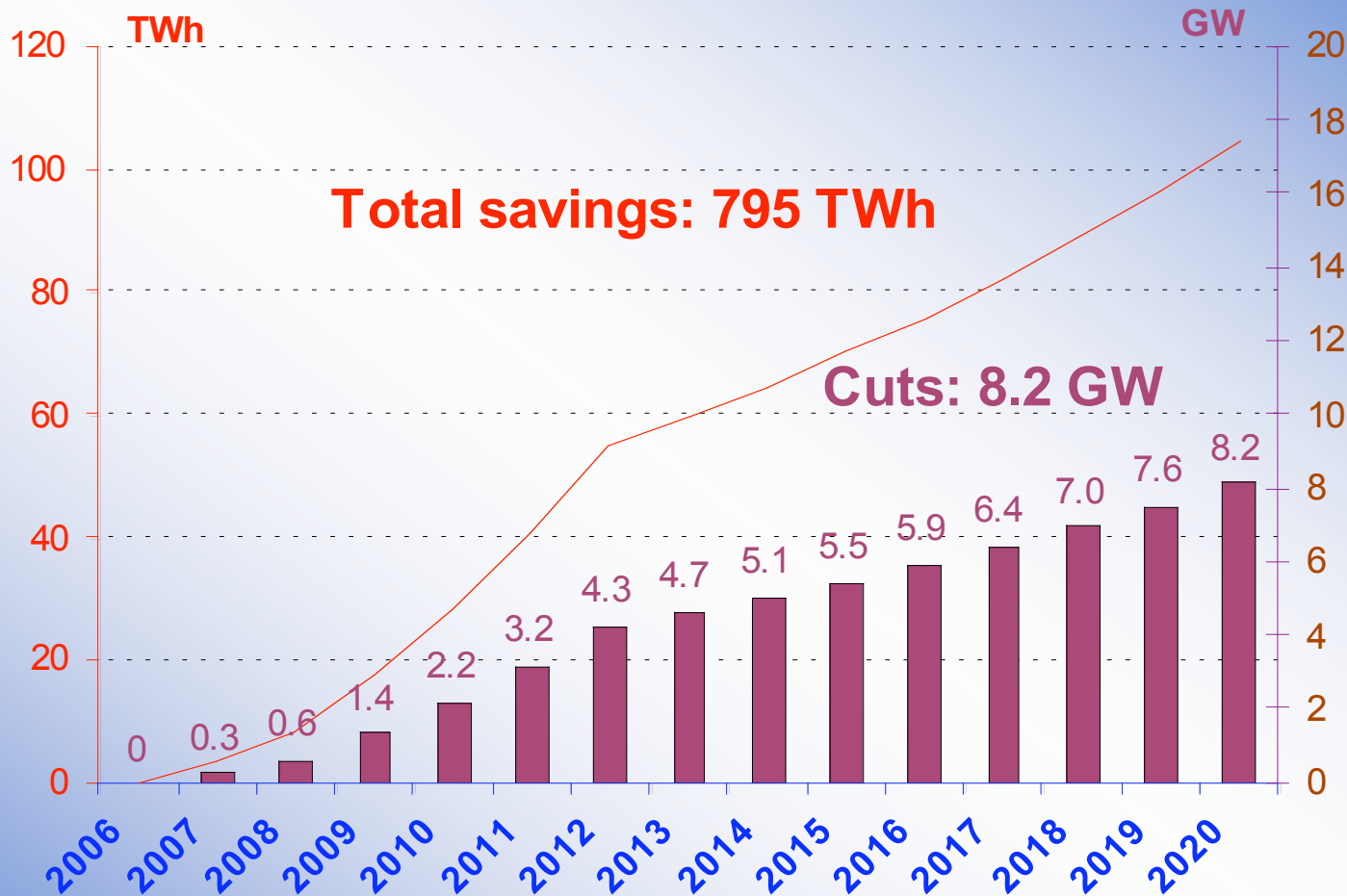
Marginal cost of an IMC is USD2,925

O&M cost is 5% of the capital, growing 3%/Yr up to 2020

Government new standards on board for IMC



Power savings by using IMC

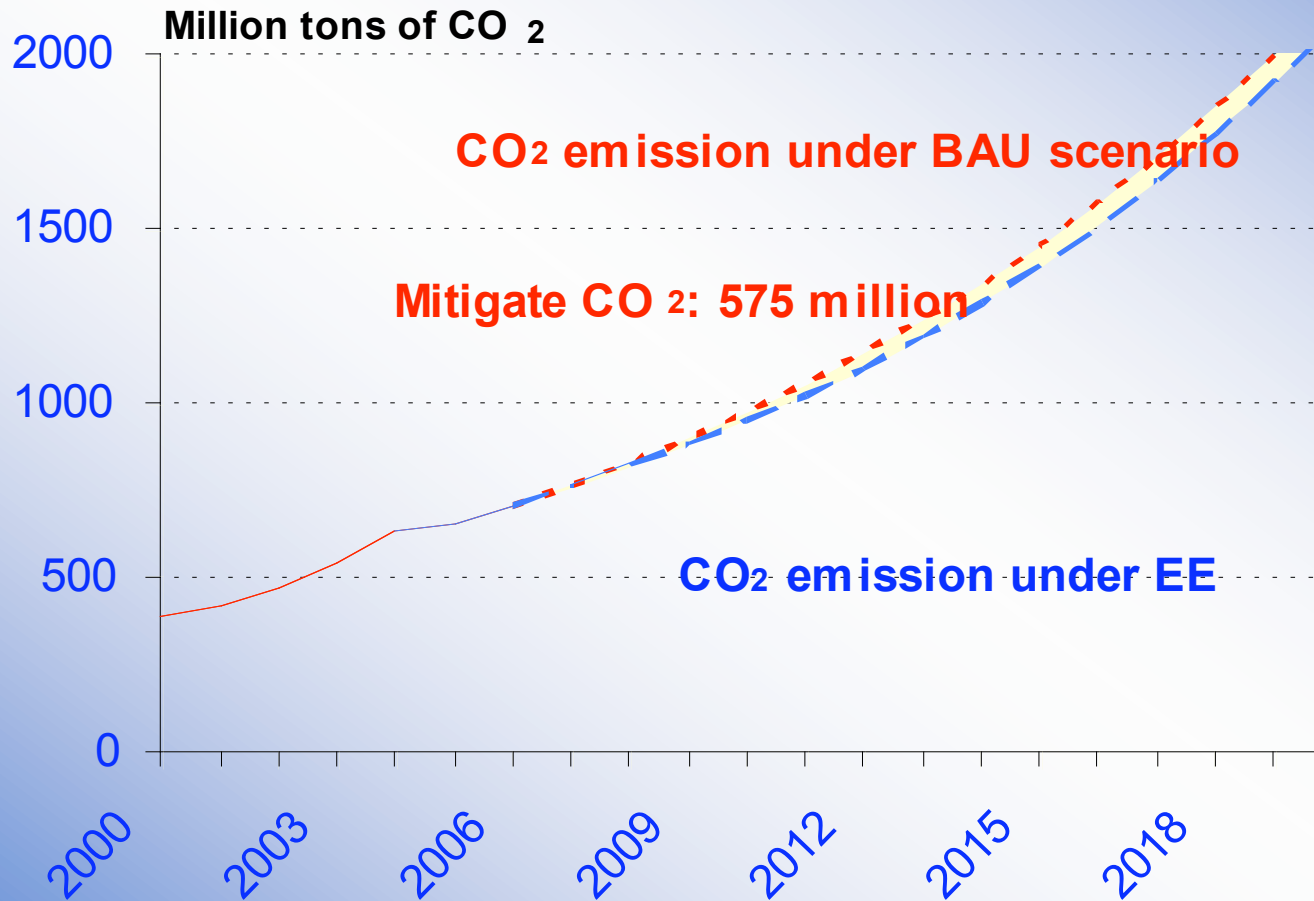


By 2020, avoid 8.2 GW

or increase about a 1/2 Three Gorges Hydro Power Capacity



Emission reduction in China by using IMC





Thank you

For more information, contact

Ming Yang

Energy Efficiency and Environment Division

International Energy Agency / OECD

ming.yang@iea.org