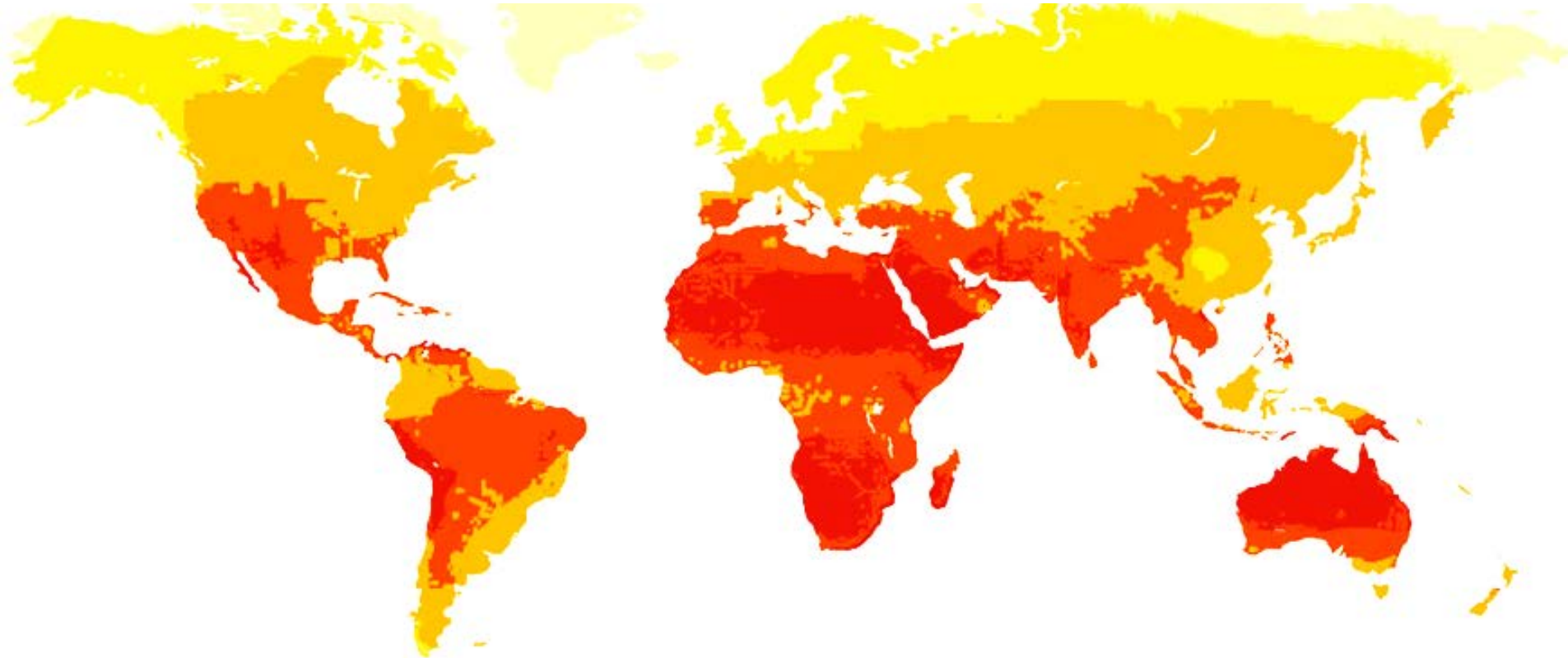





Sustainability vs. Reliability

The Need for a Balanced Approach to Power Generation

Association of Power Utilities of Africa
July 12-15, 2017




**Of the 10 countries with the most sunshine,
seven are in Africa ...**

An aerial photograph showing a large array of blue solar panels installed on a raised metal structure in a rural, arid environment. The panels are arranged in several long, parallel rows. In the background, there are small, simple buildings and sparse trees under a clear sky. A white text box is overlaid on the middle of the image.

... making solar power a sustainable and sensible solution for rural electrification.

**With Africa's vast river network,
continued development of hydropower ...**





**... will provide a lasting stream
of sustainable power generation.**

Despite the benefits of renewables,

sustainable power

is not necessarily

reliable power.

Sustainable power needs
a reliable partner:
mobile fast-track power.



Solar hybrids combine benefits of renewables and security of back-up gensets.





Gensets and turbines can inject large blocks of power to stabilize hydroelectric grids.

Best of all, this cost-effective solution can be available in as fast as 60-90 days.



© Tamer Elsharkawy


But even with
mobile fast-track power
to support

intermittent renewables ...



... Africa needs a balanced approach to power generation for sustainable growth.





Introducing: Bridge to Permanent Power

Mobile power is fast
and cost-effective

but it's also

Temporary.

Now there's a cost-effective
power solution that's

Fast and Permanent.

Bridge to Permanent Power

Customers no longer need to wait for years for installed power

**Temporary Bridging Power
in as fast as 60-90 days**



**Permanent Combined Cycle
in 1-3 years**



Project Developer
APR Energy

**Equipment
Supplier**
GE Fast Power

Project EPC
APR Energy / GE

How Bridge to Permanent Works

A seamless solution at a tiered or levelized cost for power

- Implementation:
 - **Bridging Power:** 2-3 months installation followed by 1-3 years of operation
 - **Permanent Power:** 1-3 years construction followed by 10-20 year PPA
- Pricing
 - **Tiered** – Customer pays same price for generation throughout the PPA and gains substantial fuel savings when permanent plant goes commercial
 - **Levelized** – Customer pays the same cost per kWh (generation and fuel) throughout the PPA regardless of technology



Bridge to Permanent Power with LNG and LPG:

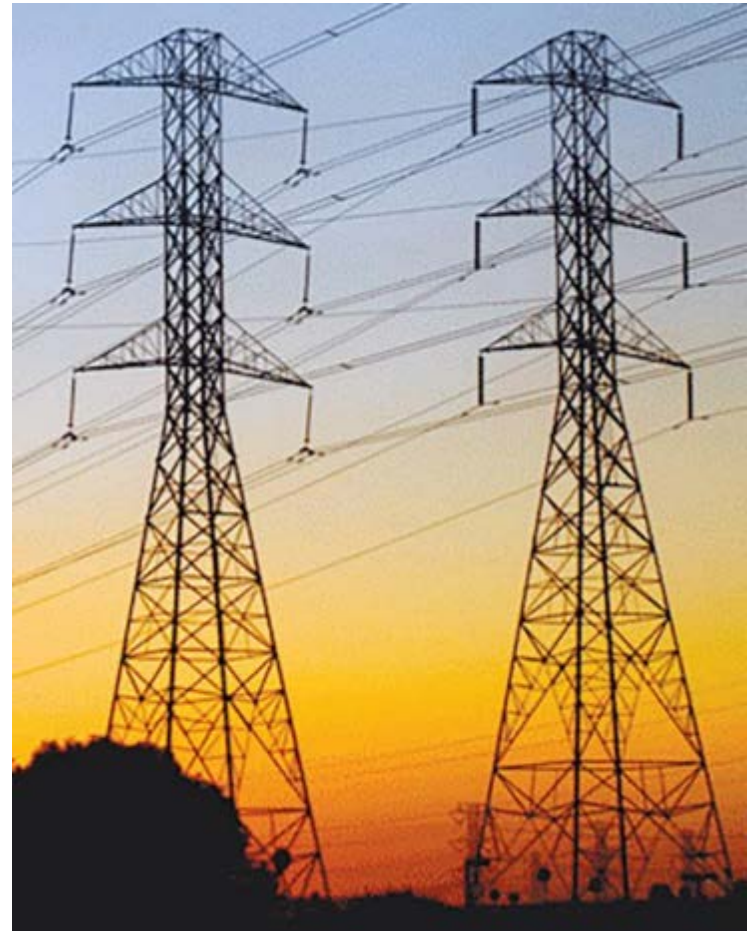
Advantages

- ✓ Lower-cost fuels compared with diesel and HFO
- ✓ Increasing fuel availability in Africa
- ✓ Lower emissions vs. coal, diesel and HFO

Advantages of Bridge to Permanent

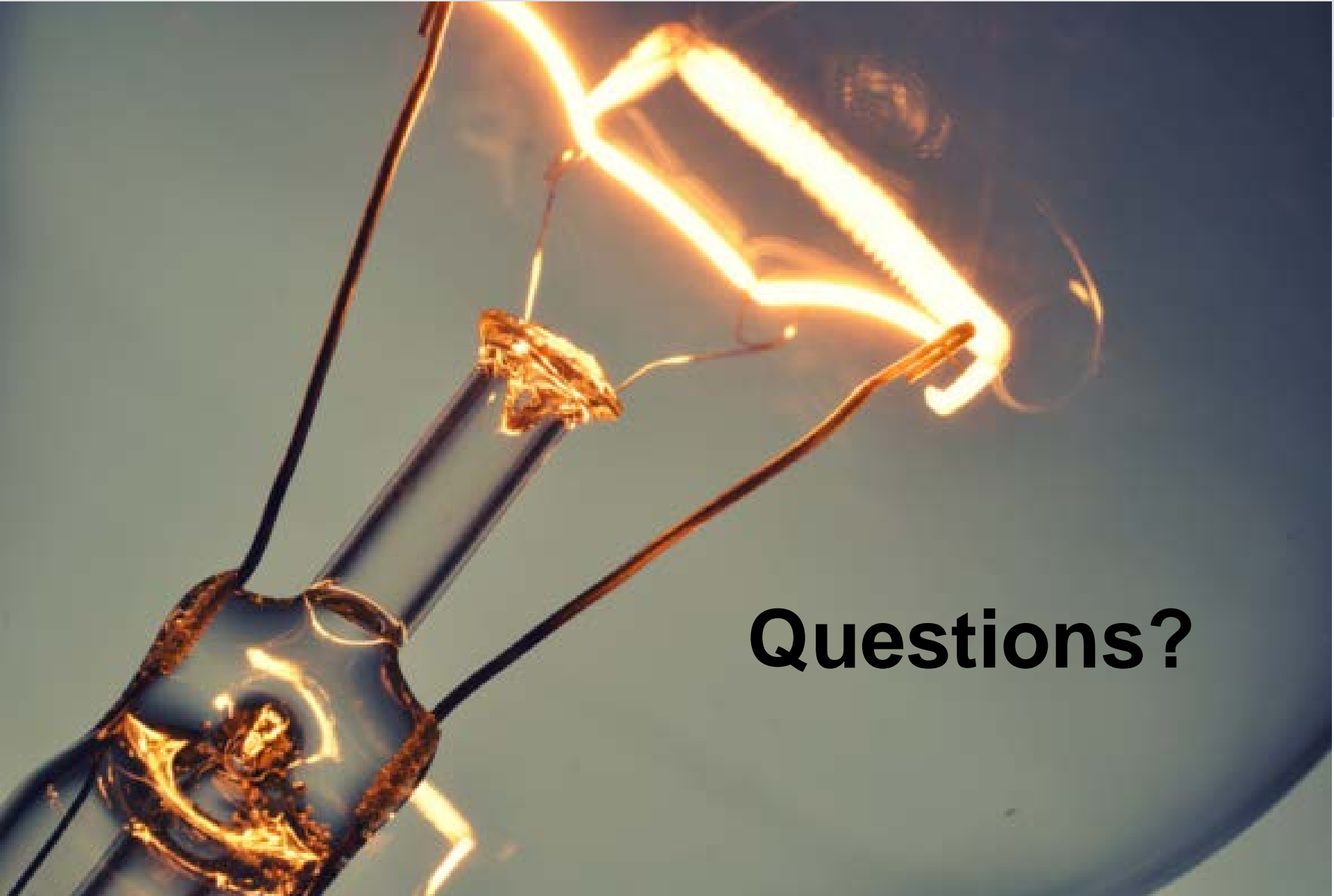
The power to grow Africa's economy – now and for years to come

- Provides electricity now with a parallel path to a highly efficient and cost-effective permanent power solution
- Ideal balance between speed and price
- No up-front payment by customer
- Flexibility of turbines to accommodate a range of fuels



With a cost-effective solution that offers
fast and permanent power,

why wait?



Questions?



APR
ENERGY®

Powering your progress®