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**Promoting International Technology Transfer for Renewable  
Energy in ACP Group of States**

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**INFORMATION SESSION ON RIO+20 SUSTAINABLE  
DEVELOPMENT CONFERENCE**

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# Outline of Presentation

- **Introduction**
- **Transfer of technology: Case of Solar energy**
- **Potential RET transfer**
- **Promoting RET transfer at the international level**
- **Conclusion**



**“Technology and innovation policies are the key drivers that can promote and facilitate the development, acquisition, adaptation and deployment of RET to support sustainable development and poverty reduction in developing countries and LDCs”**

**TIR 2011, UNCTAD**



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## **Key Questions?**

**How to transfer reliable and appropriate RET to developing countries and LDC to ensure sustainable development?**

**Where do companies in ACP countries search and inform themselves of appropriate RETs for technological acquisition?**



# 1. Introduction

- **Technology transfer of RET is a key component in improving energy consumption and productivity of ACP countries.**
- **Energy access is directly to income and poverty and development.**
- **Lack of educational and testing centres to validate the appropriateness of technologies in renewable energy to ACP countries.**
- **Lack of skills in transfer of renewable energy technologies to ACP countries.**
- **Linking funding organizations, NGOs. etc to testing and education centres to ensure that appropriate technologies are transfer to ACP countries.**

# Links between access to energy and human development index <sup>1</sup>.

- [the big picture](#)
- [GDP/cap Vs Poverty ratio](#)
- [Life expectancy of each cluster](#)
- [Labour productivity Vs Energy](#)
- [Energy productivity Vs Prosperity](#)

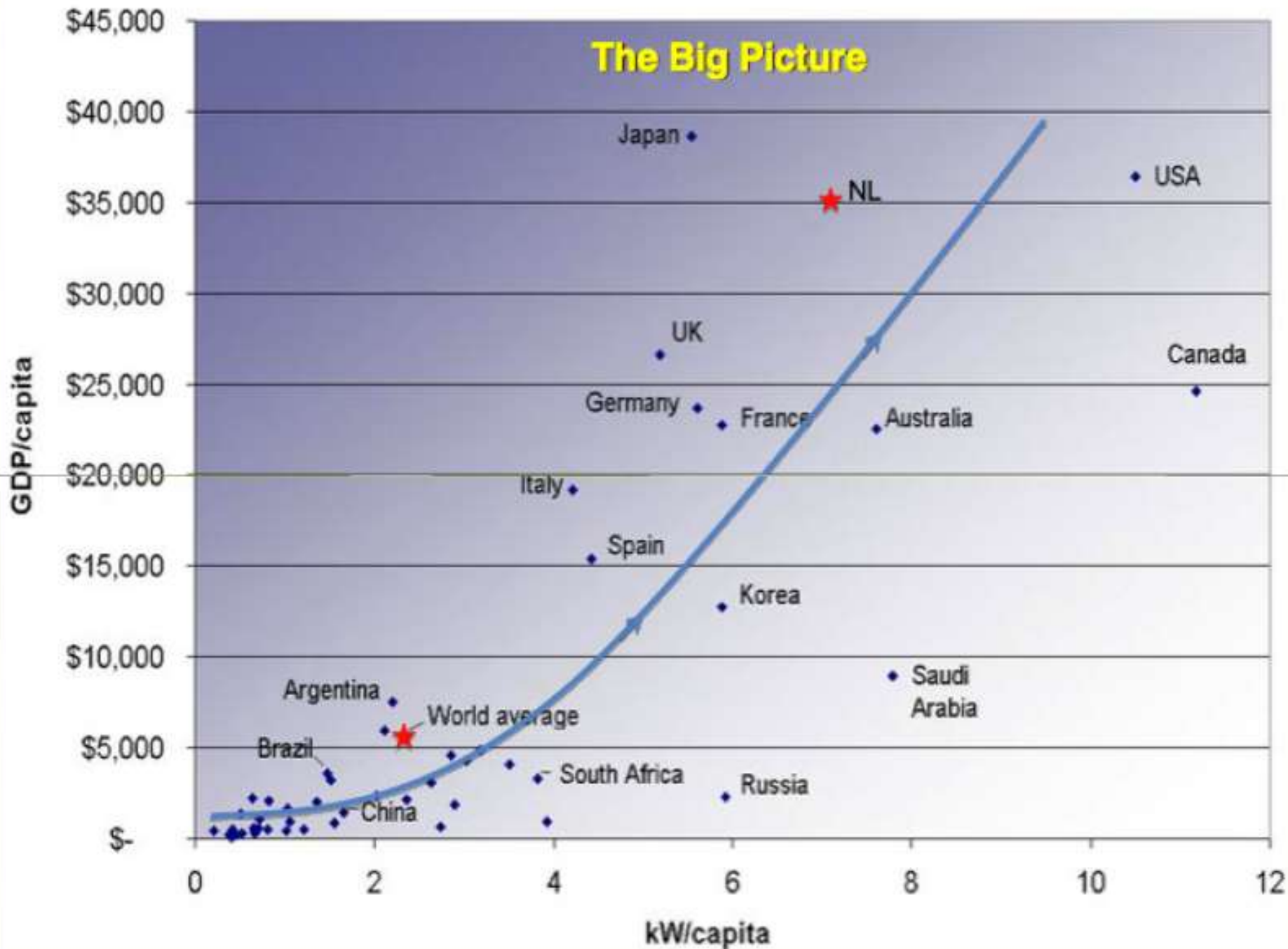
<sup>1</sup> Prange and Berkhout (2011). The future of biomass export Green for Green.

Paper presented at Biomass Energy Central and West Africa Congress in Ghana, November 24-25



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# The Big Picture



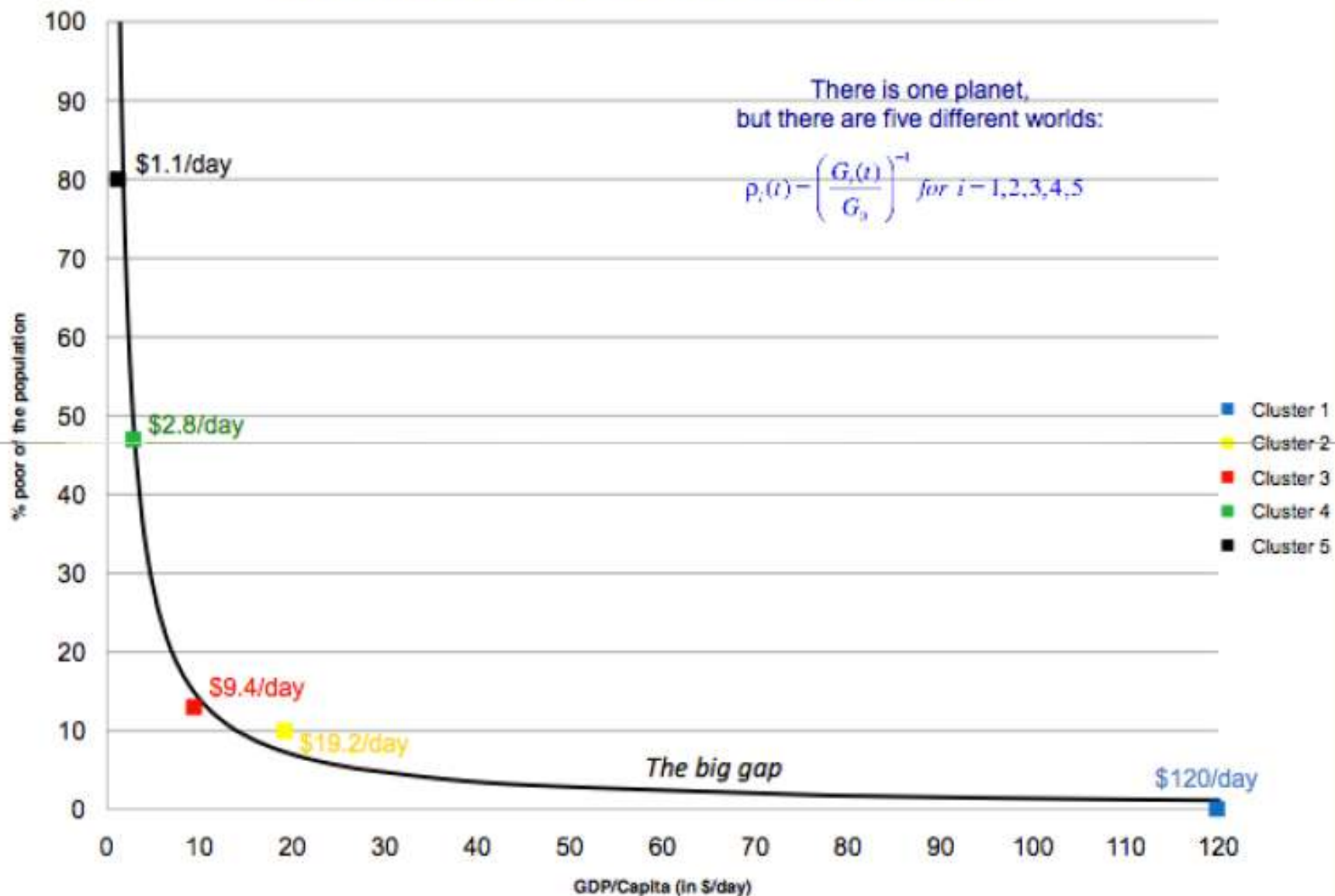
# Links between access to energy and human development index.

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## GDP/cap vs poverty ratio: *GPR*-curve

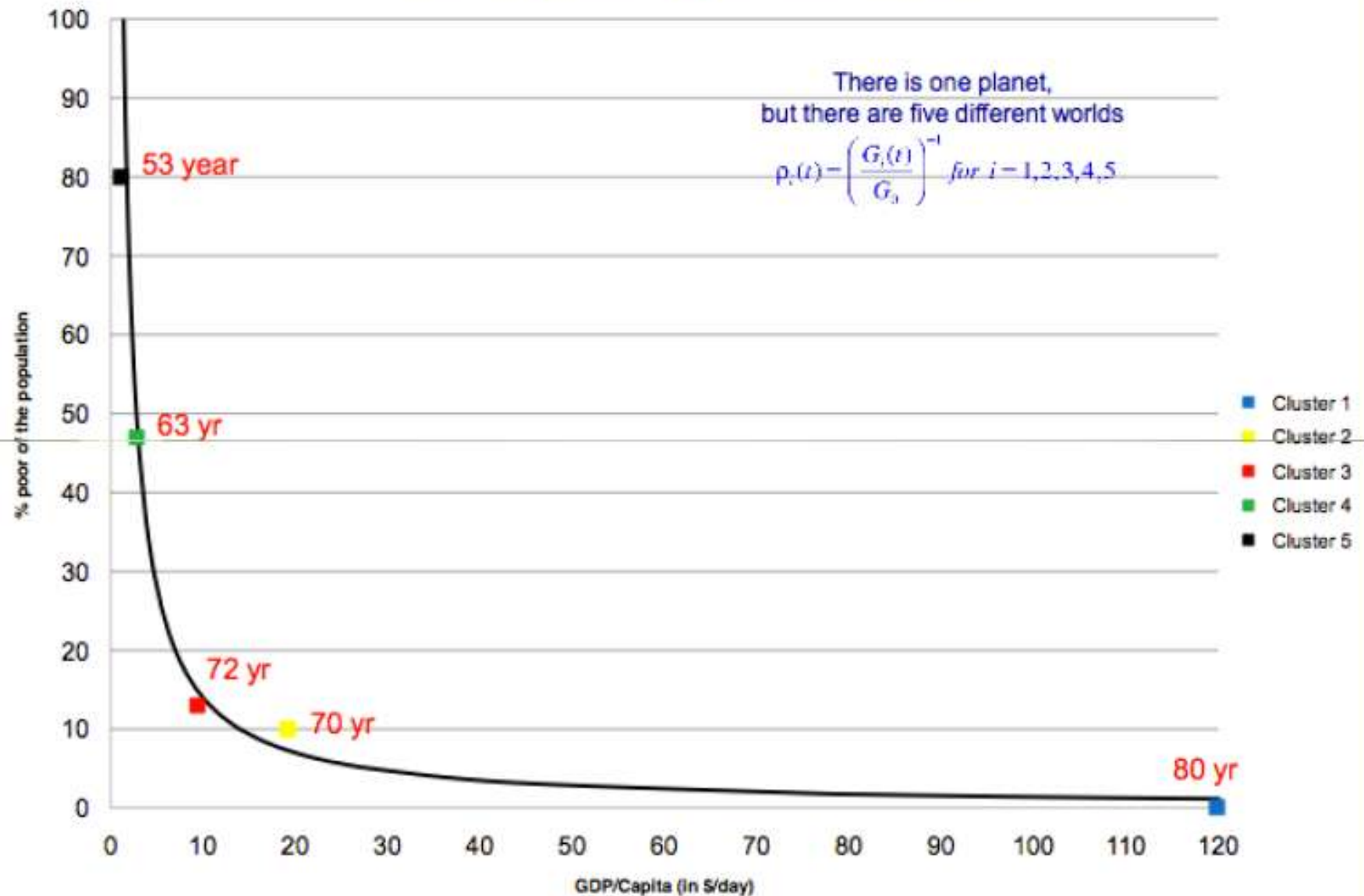


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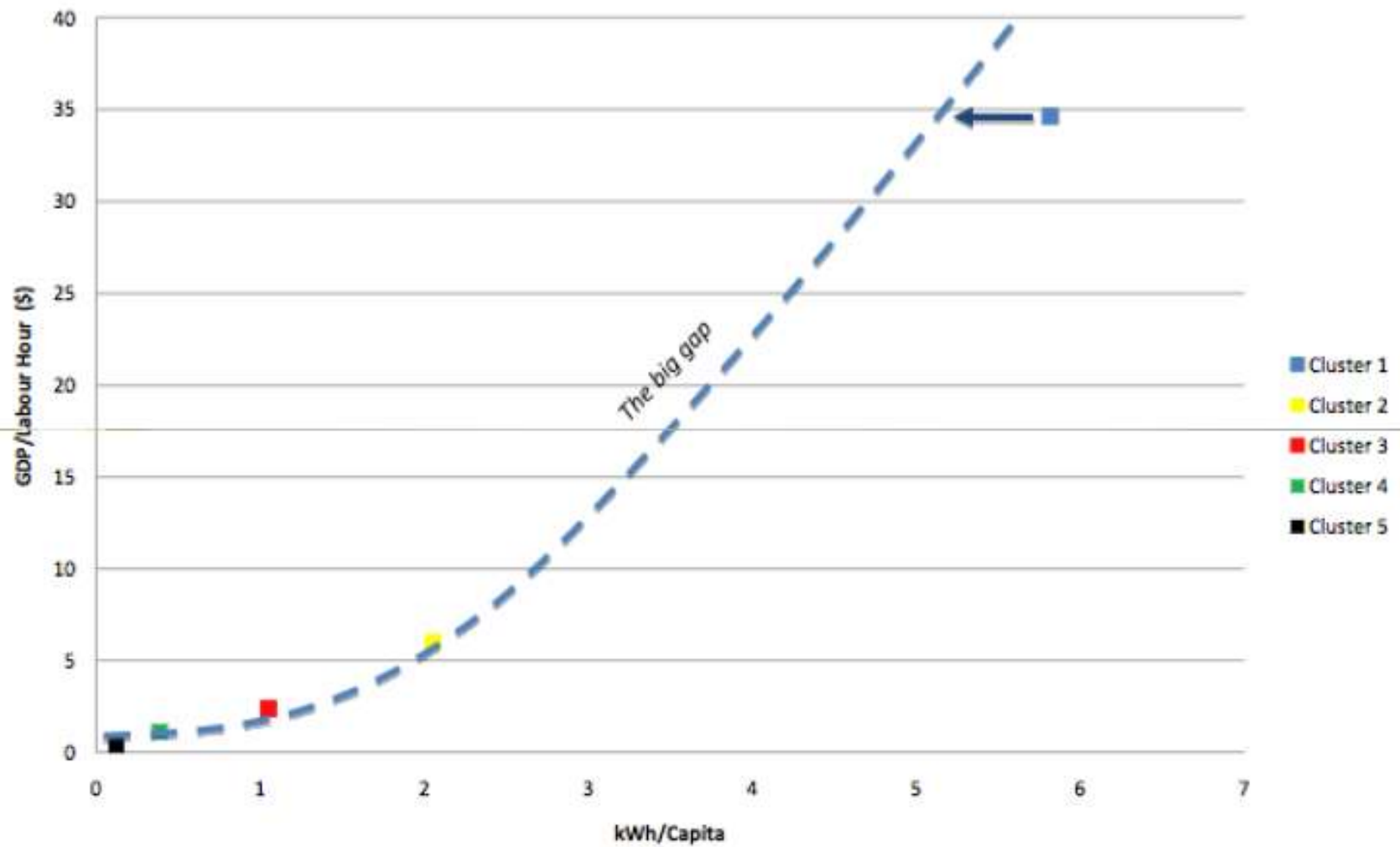
## Life expectancy of each cluster



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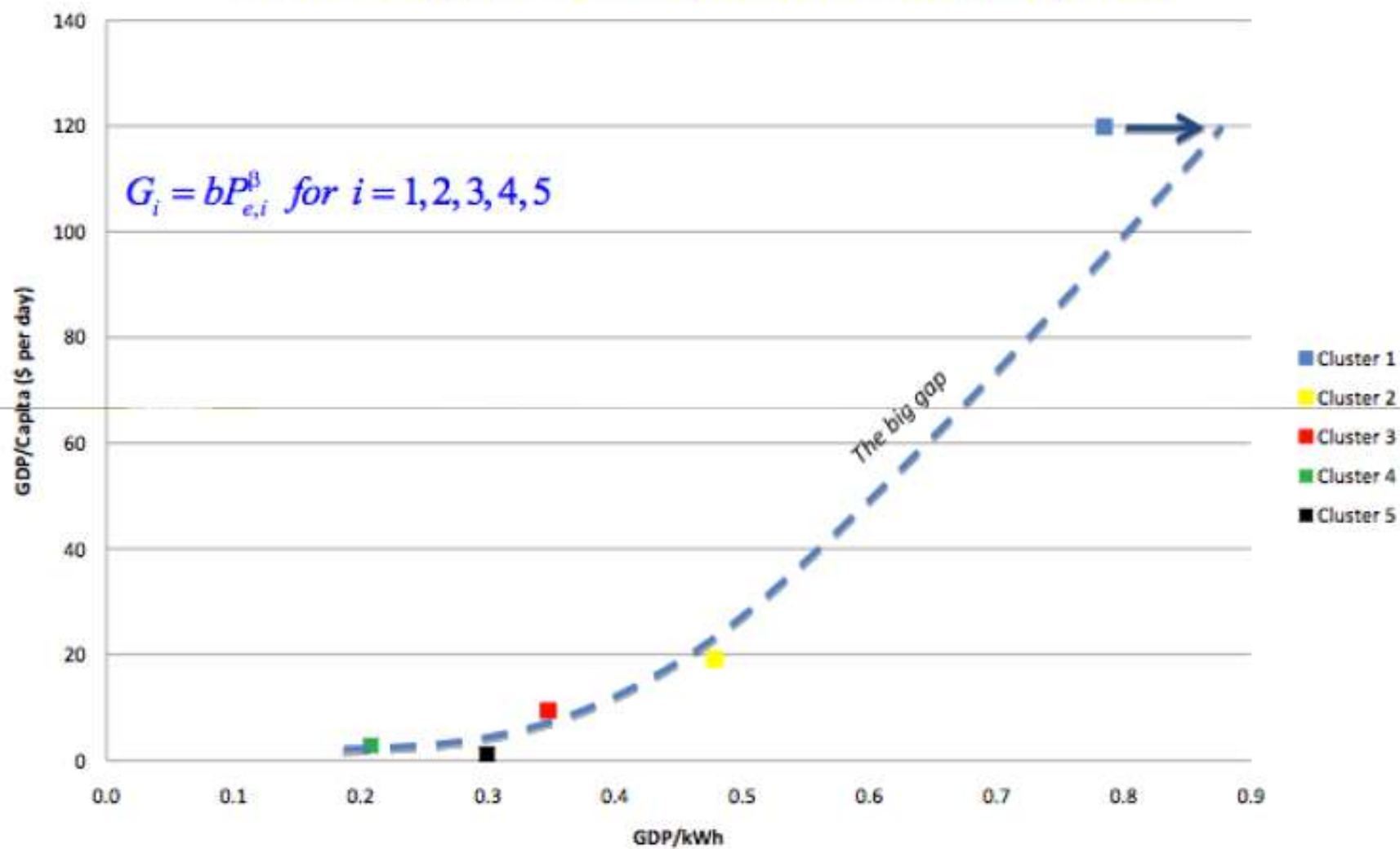
## For higher labour productivity we need much more energy



# Links between access to energy and human development index.

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## More energy productivity leads to more prosperity



## 2. Transfer of Technology: Case of Solar Energy

- Pilot solar assembly plant in Ghana.
- Potential to replicate in other ACP countries.
- [Video presentation](#)



## 2.1 CASE Solar Panel Component Works in Ghana



Solar panel component works



## 2.2 Assembling of Solar street light



Solar Street light installation training



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## 2.3 Demo-Solar street light



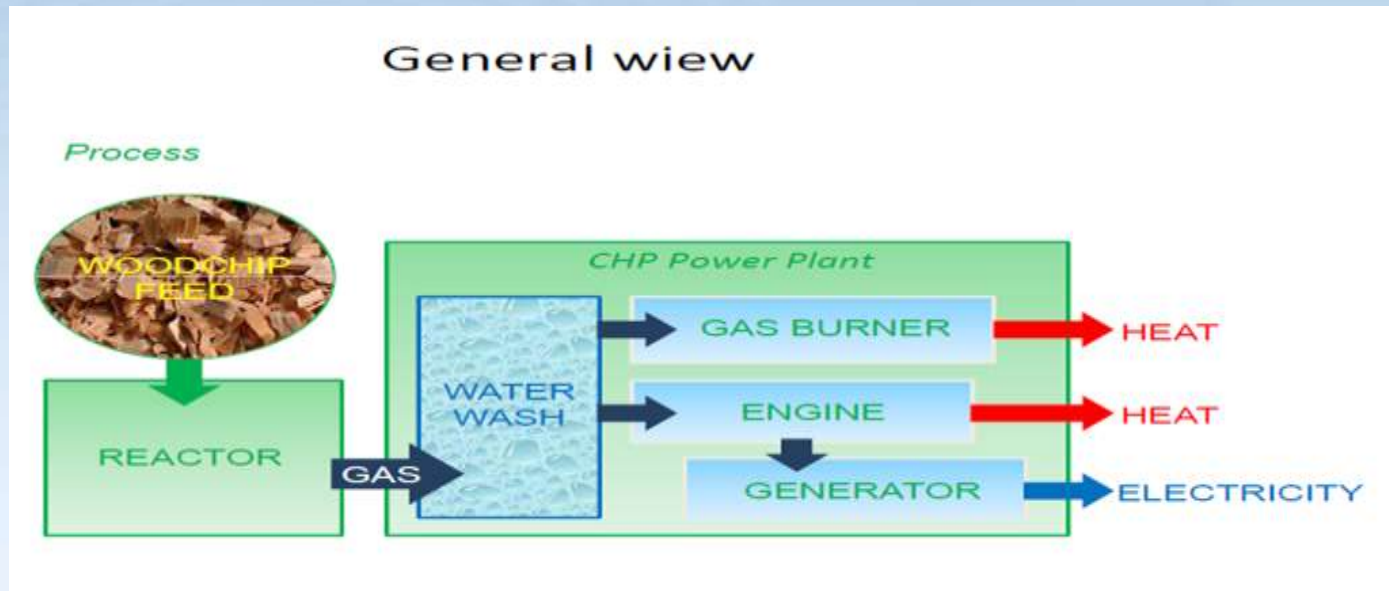
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### **3. Potential RET projects for transfer of technology**



## 3.1 Potential bioenergy technology transfer

- 50 kW to 150 GASEK product for community based electrification.
- Bioenergy entrepreneurship (bioenergy education and testing centre).





# BIOMASS GASIFICATION TECHNOLOGY

The 150kW wood gas container and wood chip storage



Gas cleaning systems

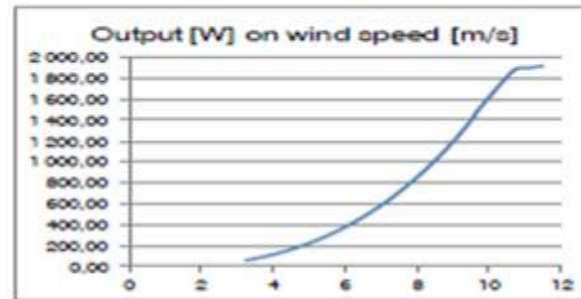
Gen-set



## 3.2 Potential Wind Energy Technology Transfer: 2 kW for rural and peri-urban areas



Preliminary picture.



Estimated wind speed to power curve.

### Technical data (preliminary)

Wind turbine type:	Downwind HAWT, off-grid battery connected
Output power:	1.9 kW @ 10.7 m/s (estimated)
Rotor diameter:	4.3 m
Blade material:	Glass fiber reinforced wood
Number of blades:	3
Generator type:	Permanent magnet generator
Generator output:	400 V Y / 3.2 A, 20.5 Hz, altered to have a battery connection i.e. 12 ... 48 VDC
Maximum allowed rotation speed:	300 rpm
Tower type:	Guy-wired tilting tower
Tower height:	10.8 m (1.2 + 6 + 3.6 m, latter can be altered from 3.6 to 6 m)
Braking of turbine:	Passive control with electrical brake



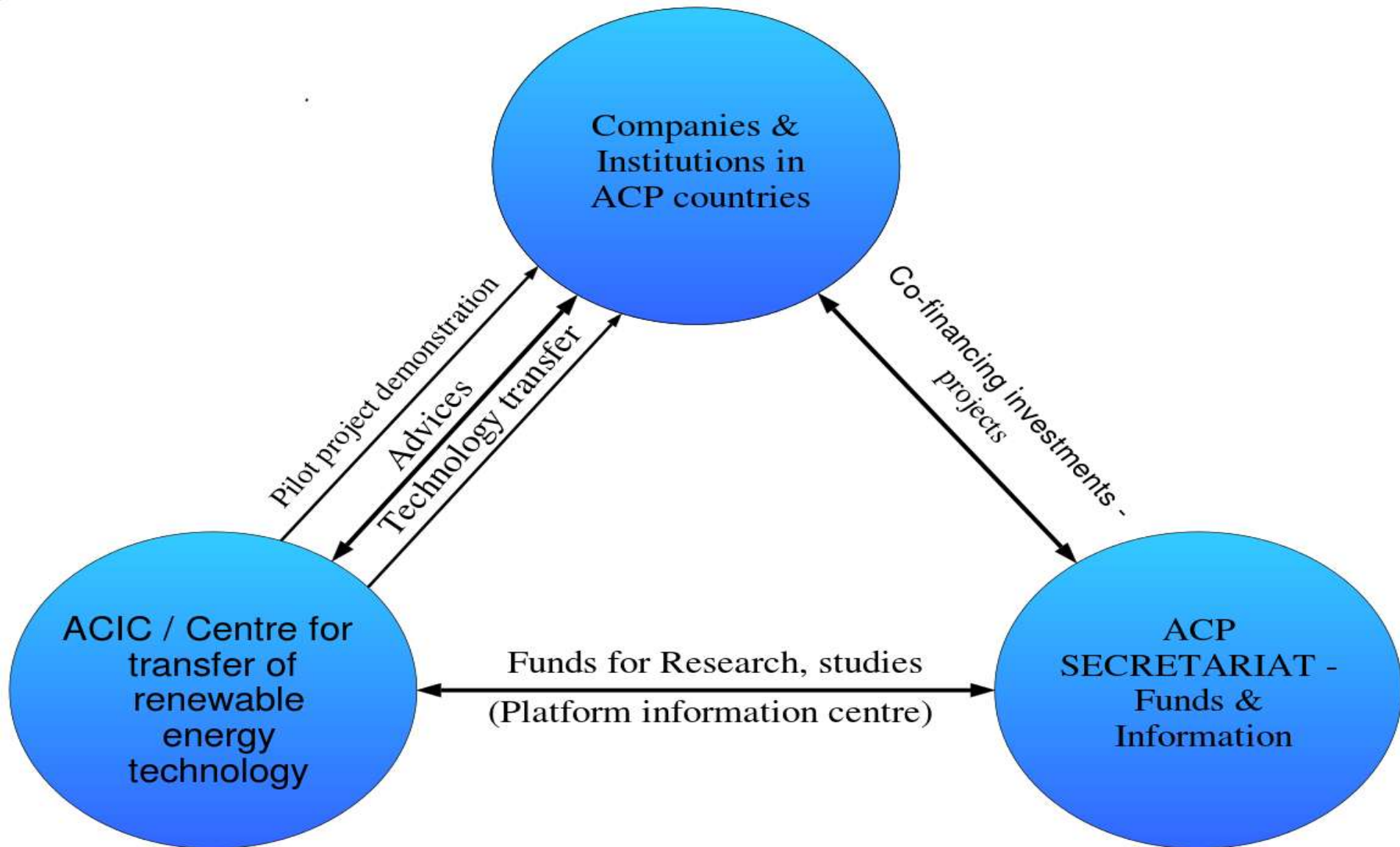
## **4. Promoting RET Transfer at the International level (TIR 2011)**

- **An international innovation network for ACP countries with a RET focus.**
- **Global and regional funds for RET deployment**
- **An international technology transfer fund for RETs**
- **An international training platform for RET**





## 4.1 ACIC-ACP Framework



## **4.2 ACIC-ACP Center of Technology Transfer for Renewable Energy**

- ACIC-ACP partnership can promote projects, technologies, and business models that will a focus on RET that can contribute to the improve energy access and development in ACP countries.**
- ACP can be the vehicle for securing international technology transfer fund for RET for ACP countries and their regional bodies.**



## **4.3 Components of Technology Transfer**

**The ACIC-ACP partnership will create a sustainable transfer of technology in the field of renewable energy;**

- promoting reliable technologies**
- disseminating information,**
- building capacities**
- developing and supporting businesses in ACP Group of States**
- facilitation of appropriate financing solutions**



## 5. Conclusion

- **Potential cooperation with ACP secretariat in technology transfer in renewable energy in member countries (e.g., renewable energy innovation centre with ACP secretariat)**
- **Potential cooperation with ACP secretariat in piloting demo-projects in renewable energy production and technologies in member countries**
- **Partnership with ACP secretariat in capacity building in renewable energy production and technologies in member countries.**
- **Partnership with ACP secretariat in assisting in innovative funding mechanism for the development of renewable energy.**

**THANK YOU FOR YOUR ATTENTION**  
**Q & A**

