



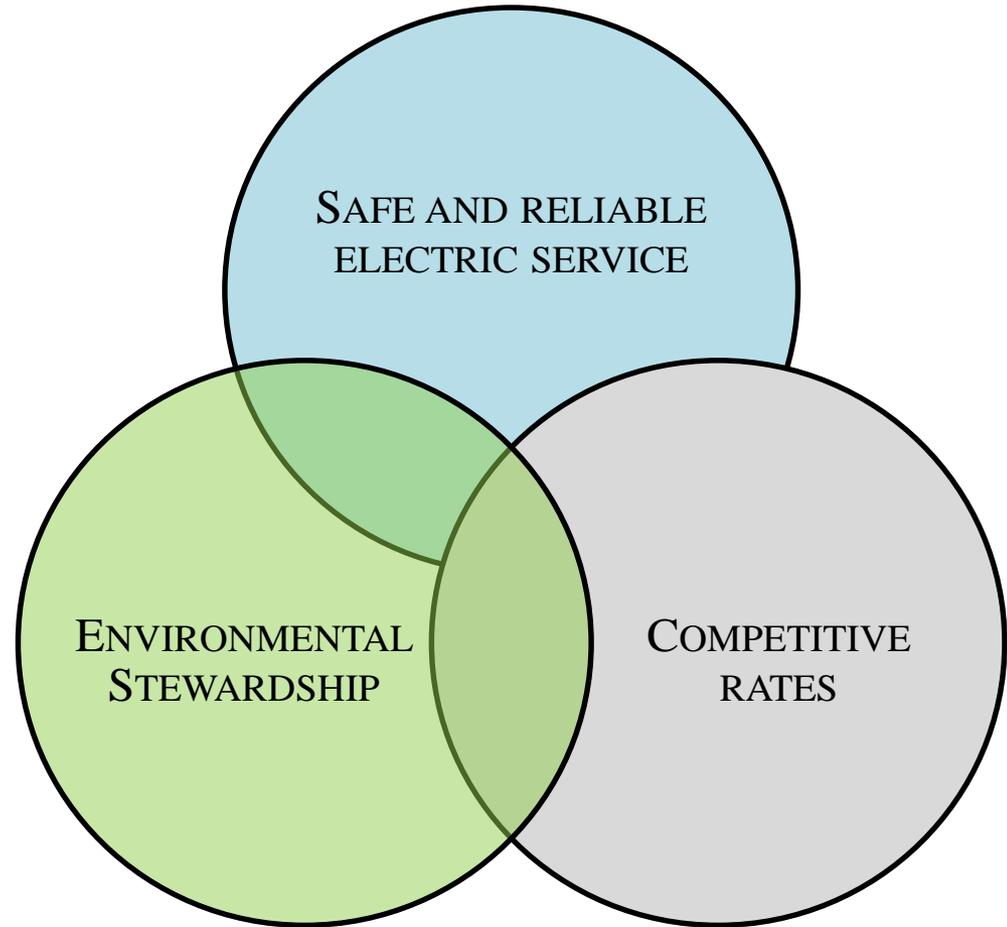
LA 100%

**THE CITY OF LOS ANGELES 100% RENEWABLE ENERGY STUDY
UVIG 2018 Spring Technical Workshop**

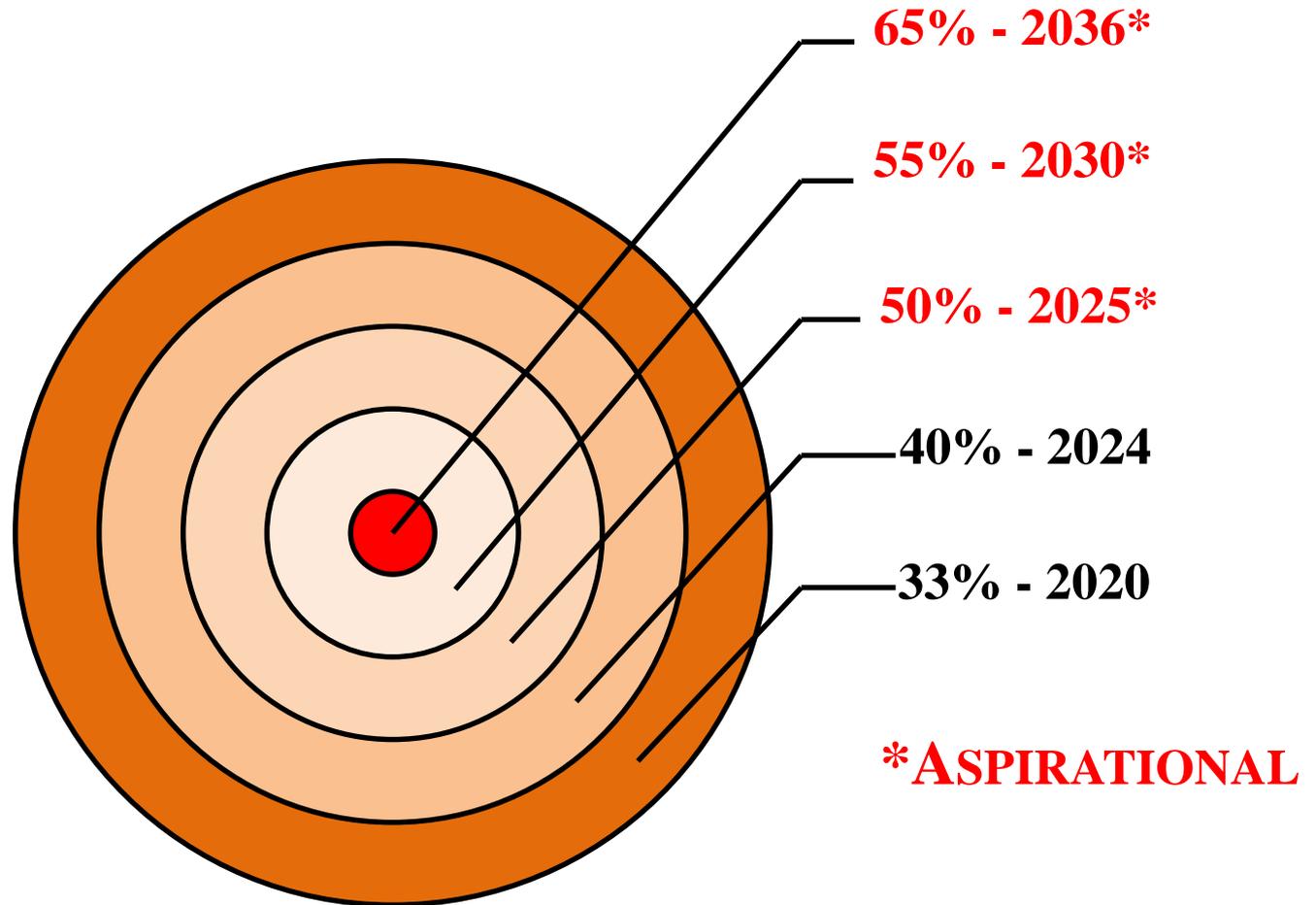
Putting Customers First   

Power System Objectives

The Los Angeles Department of Water and Power (LADWP) provides our customers and the communities we serve safe, reliable and cost-effective water and power in a customer-focused and environmentally responsible manner.



Eye On The Target



100% RENEWABLE ENERGY MISSION STATEMENT

Develop and implement a research partnership that will utilize technical, academic, and policy experts, as well as experts from the utility industry, to study what investments should be made to achieve a 100% Renewable Energy portfolio for the Los Angeles Department of Water and Power.

STUDY CONSIDERATIONS

- Maintaining system reliability
- Types/availability of clean energy resources
- Role of Distributed Energy Resources (DER) and Energy Imbalance Market (EIM)
- Developing technologies
- Necessary infrastructure upgrades
- Impact to local economy
- Impact to rate payers

CURRENT TECHNOLOGIES AND PROGRAMS

- **Energy efficiency**
- **Clean electricity generation**
 - (geothermal, hydro, solar PV, wind)
- **Energy storage**
 - (batteries, pumped storage, CAES)
- **Transmission**
- **Electric vehicles**
- **Demand response**

Clean Energy Building Blocks

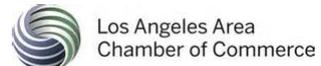
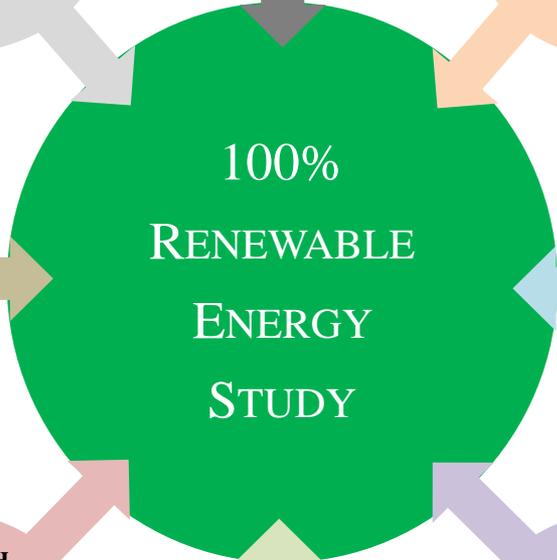


100% RENEWABLE ADVISORY GROUP

The 100% Renewable Advisory Group will provide necessary leadership and strategic guidance to working teams. The Advisory Group will be comprised of two individuals from each represented organization, one primary member and one alternate member. The Advisory Group will meet at least quarterly.



ADVISORY GROUP PARTICIPANTS



Implementation Challenges

- Maintaining system reliability while increasing renewable resources
- Regulatory mandates
- Transmission line and local distribution upgrades
- Maintaining cost effective rates
- Change Management

RESEARCH PARTNERSHIPS

Examine the potential for high quality careers and equitable local economic development, including local hiring programs for work that must be performed to modernize the electric system infrastructure within the City to increase efficiency, install energy storage, add distribution-connected renewable generation and otherwise enhance the electrical grid within Los Angeles.

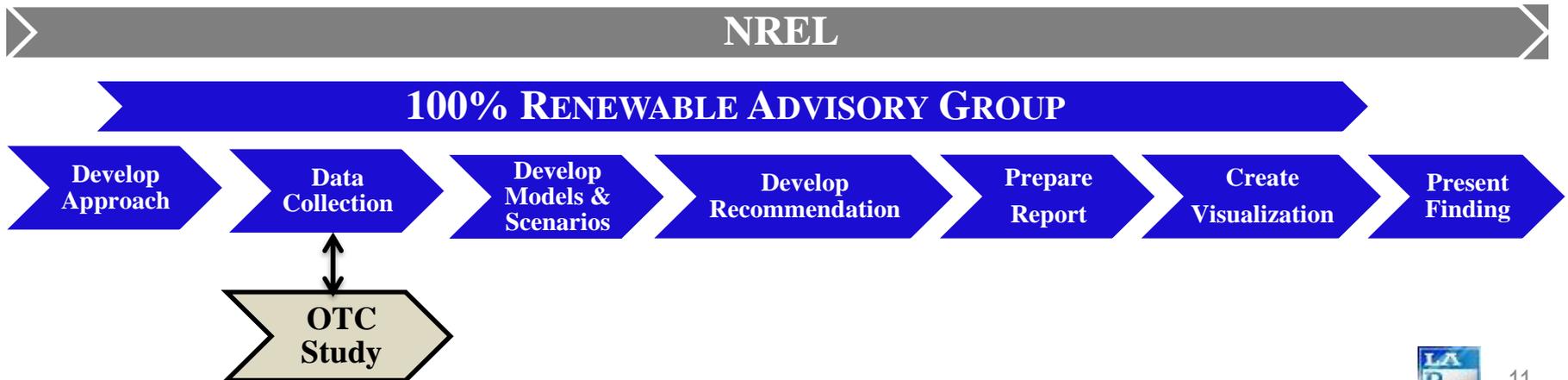
– **Macroeconomic impacts:**

- Near-term stimulus associated with the new infrastructure construction and labor.
- What is the impact on the Los Angeles economy as a whole?

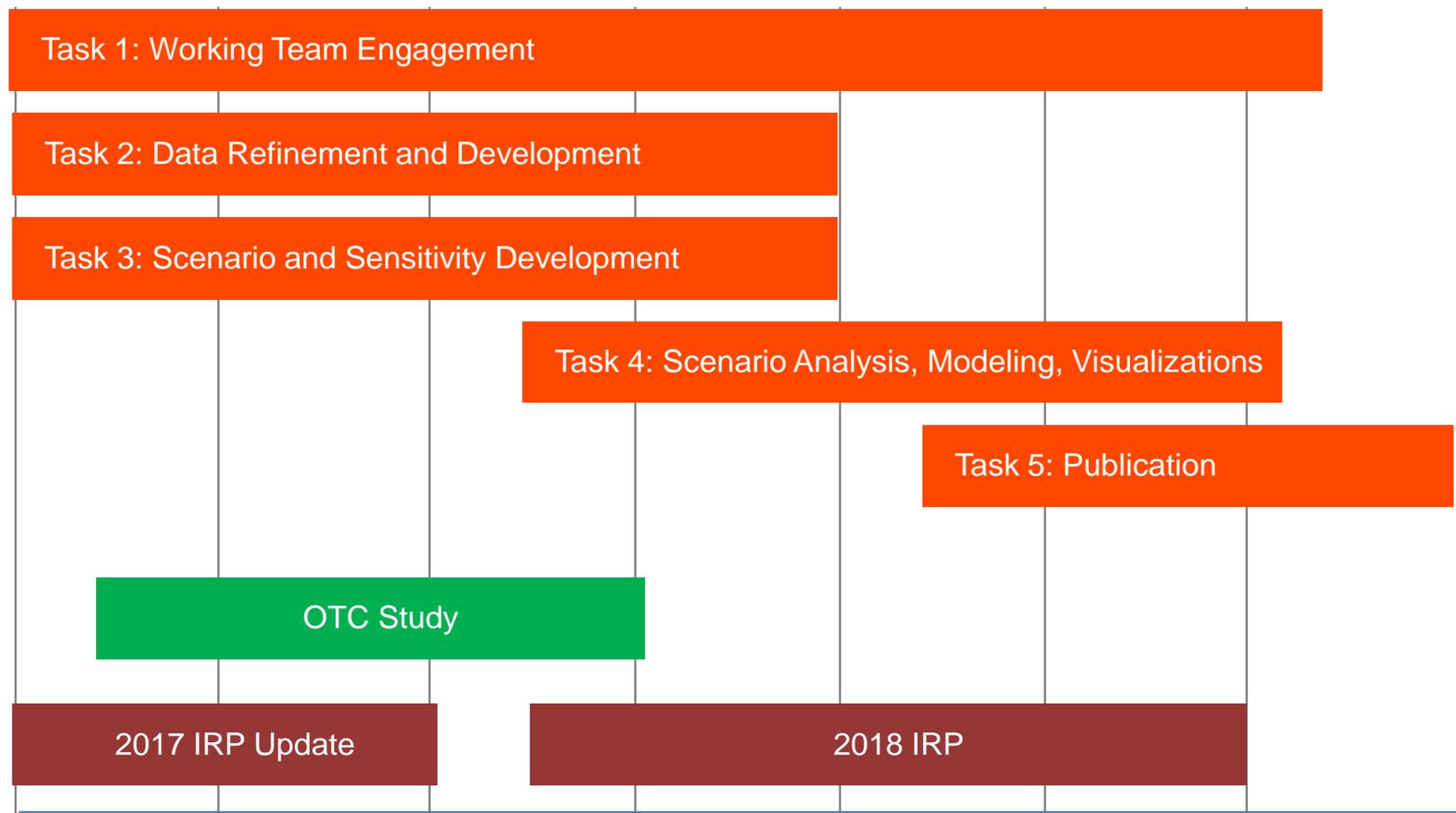
– **Environmental justice impacts:** what are the impacts on local air quality, and how does that impact local communities?

STUDY STEPS

- Develop Approach
- Data Collection
- Develop Models & Scenarios
- Develop Recommendation
- Prepare Report
- Create Visualization
- Present Finding



STUDY MILESTONES



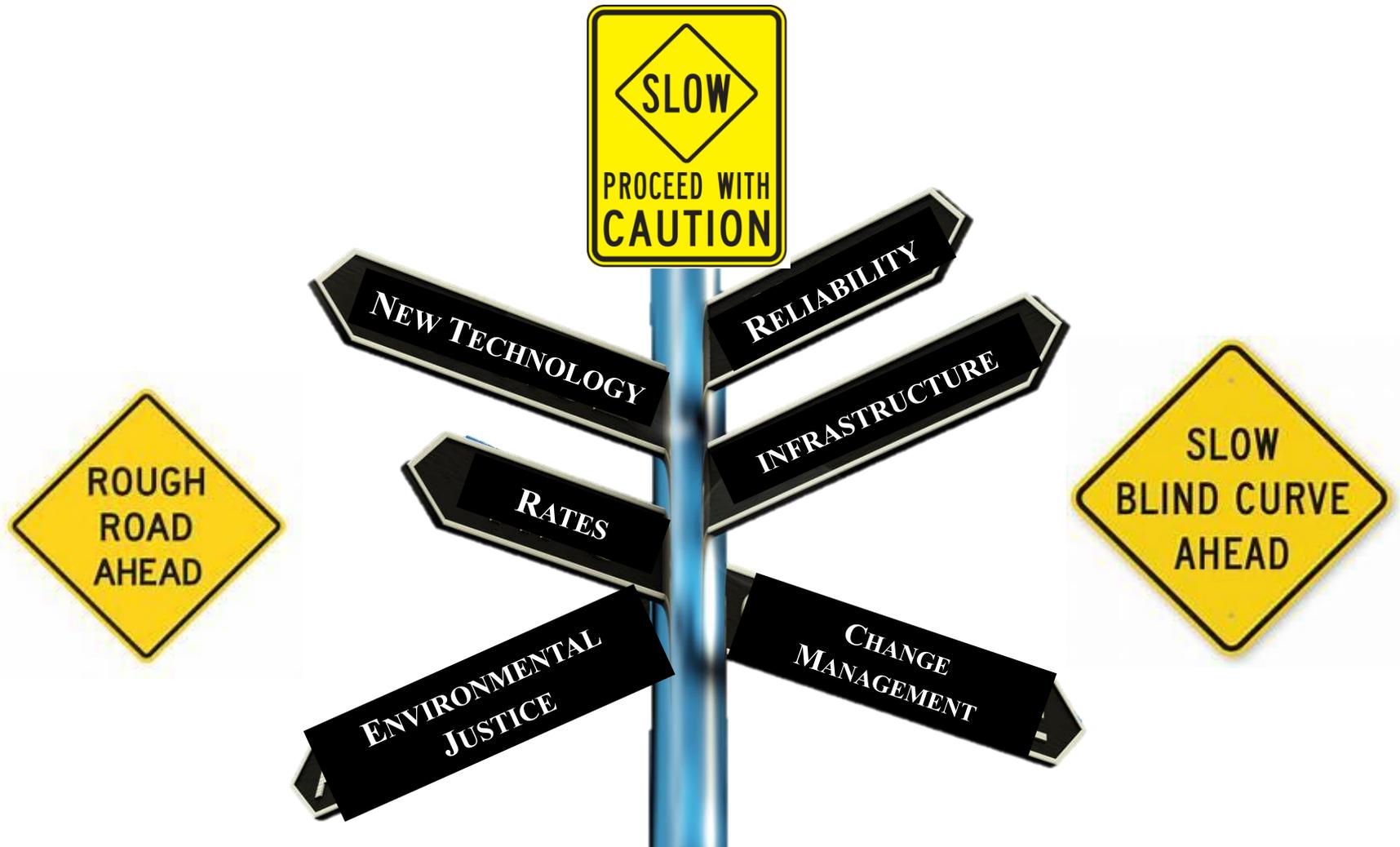
Jul 2017 Oct 2017 Jan 2018 Apr 2018 Jul 2018 Oct 2018 Jan 2019 Apr 2019



Change Management



Putting It All Together



LA's Clean Energy Future

https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-power/a-p-cleanenergyfuture/a-p-renewableenergystudy?_afLoop=498012372489986&_afWindowMode=0&_afWindowId=ix9dpo7dk_14#%40%3F_afWindowId%3Dix9dpo7dk_14%26_afLoop%3D498012372489986%26_afWindowMode%3D0%26_adf.ctrl-state%3Dix9dpo7dk_43

<http://www.myladwp.com/>



Questions?

