

Los Angeles



Department of Water & Power



**LA 100%**

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

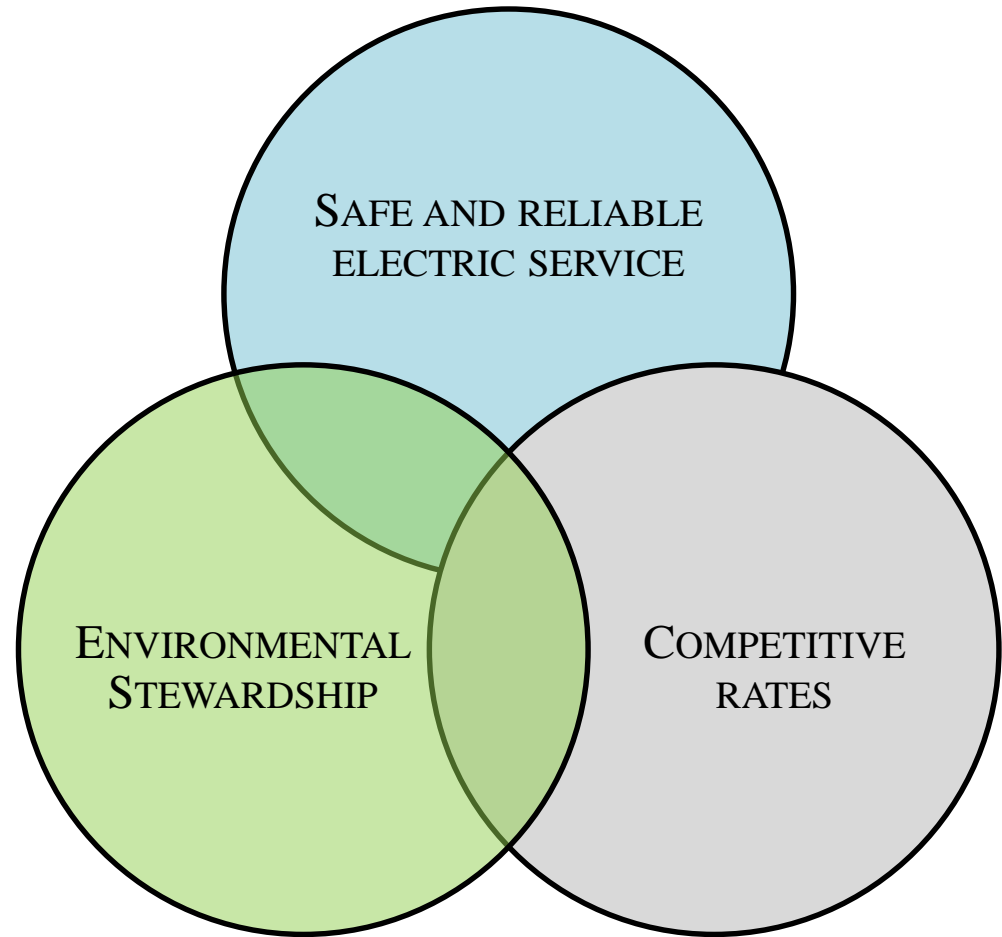
**Putting Customers First**



# Power System Objectives

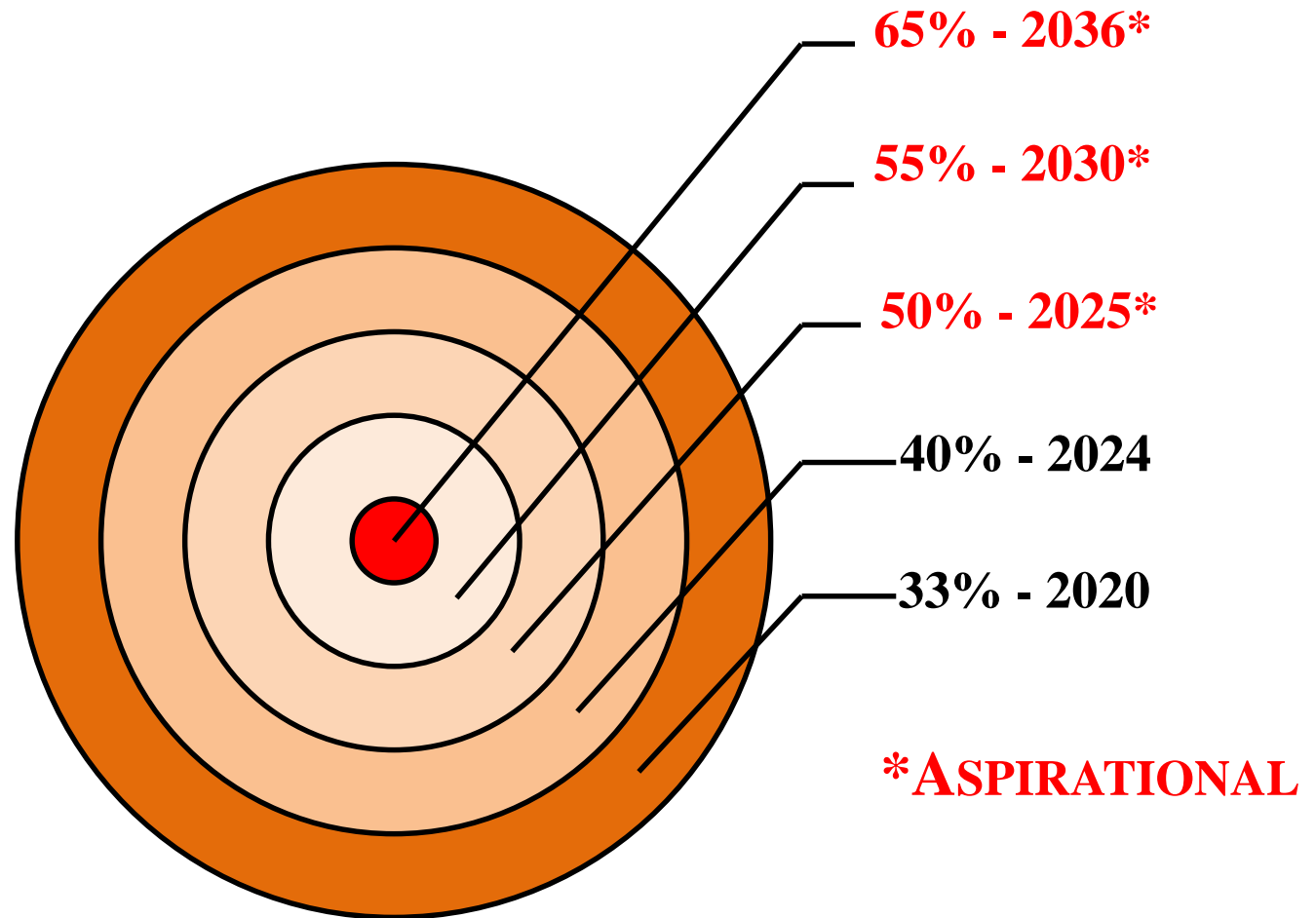
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The Los Angeles Department of Water and Power (LADWP) provides our customers and the communities we serve safe, reliable and cost-effective water and power in a customer-focused and environmentally responsible manner.



# Eye On The Target

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# 100% RENEWABLE ENERGY MISSION STATEMENT

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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

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- 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

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- **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



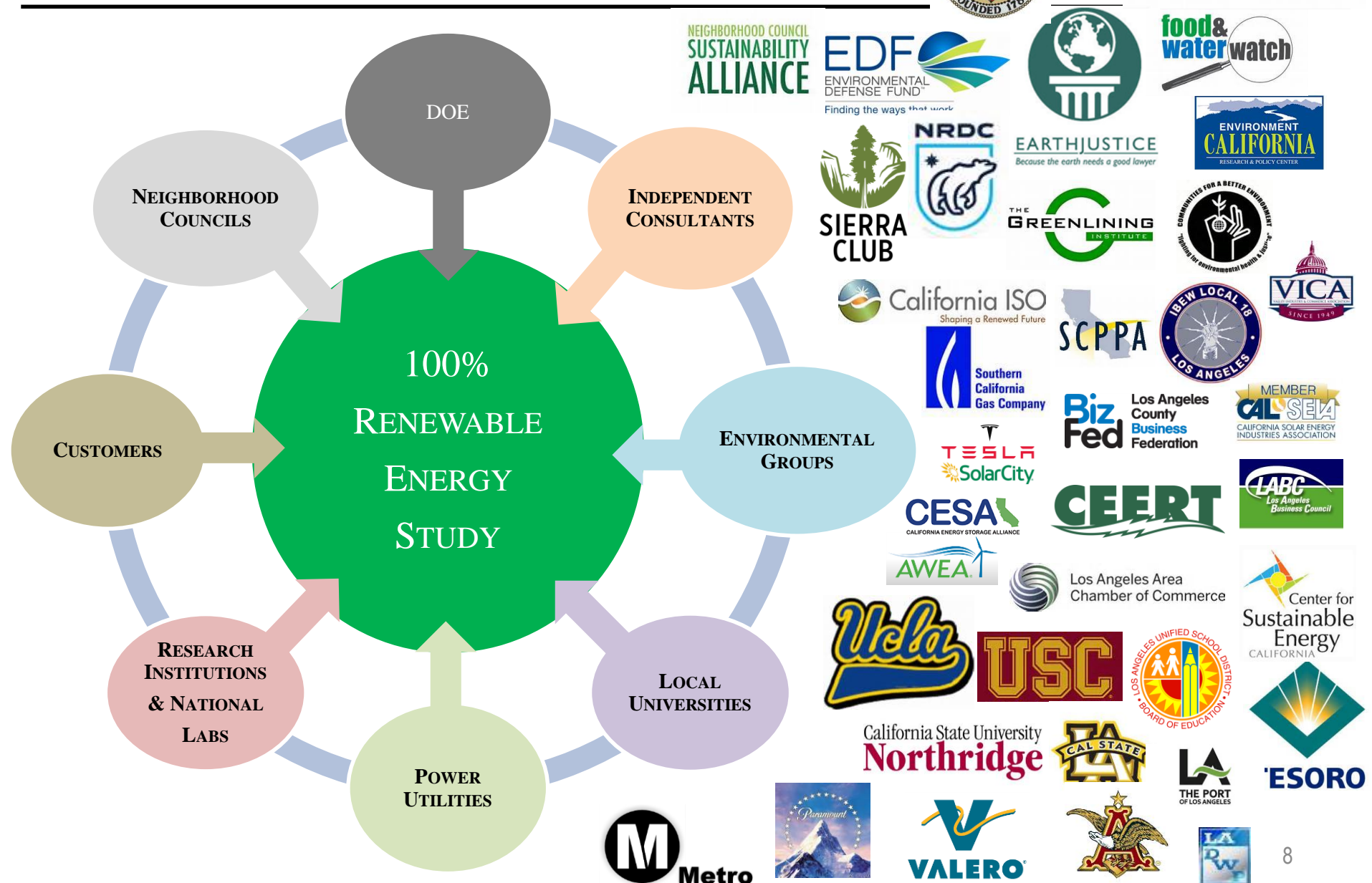
# 100% RENEWABLE ADVISORY GROUP

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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

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

# RESEARCH PARTNERSHIPS

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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:**

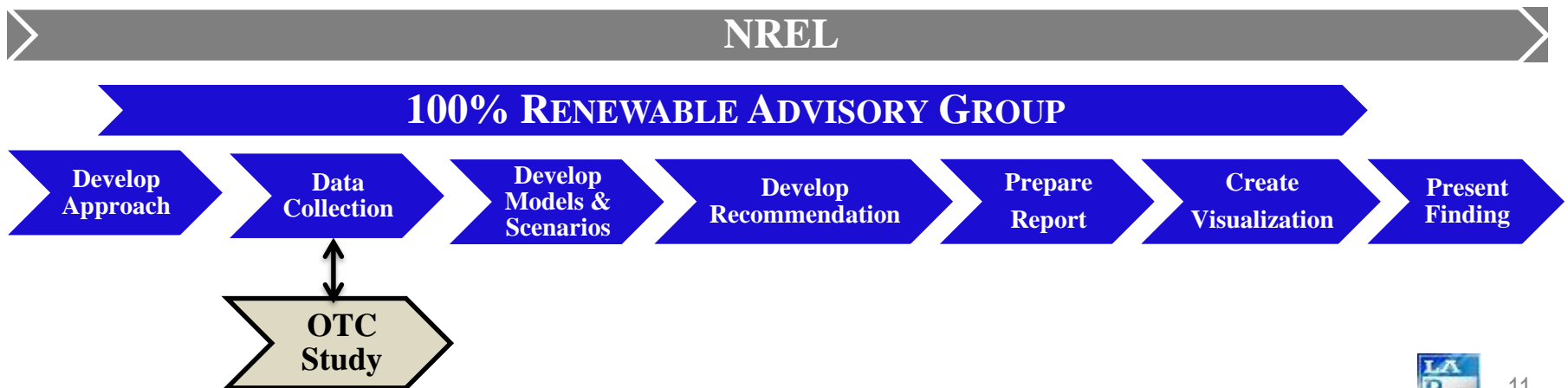
- Near-term stimulus associated with the new infrastructure construction and labor.
- What is the impact on the Los Angeles economy as a whole?

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

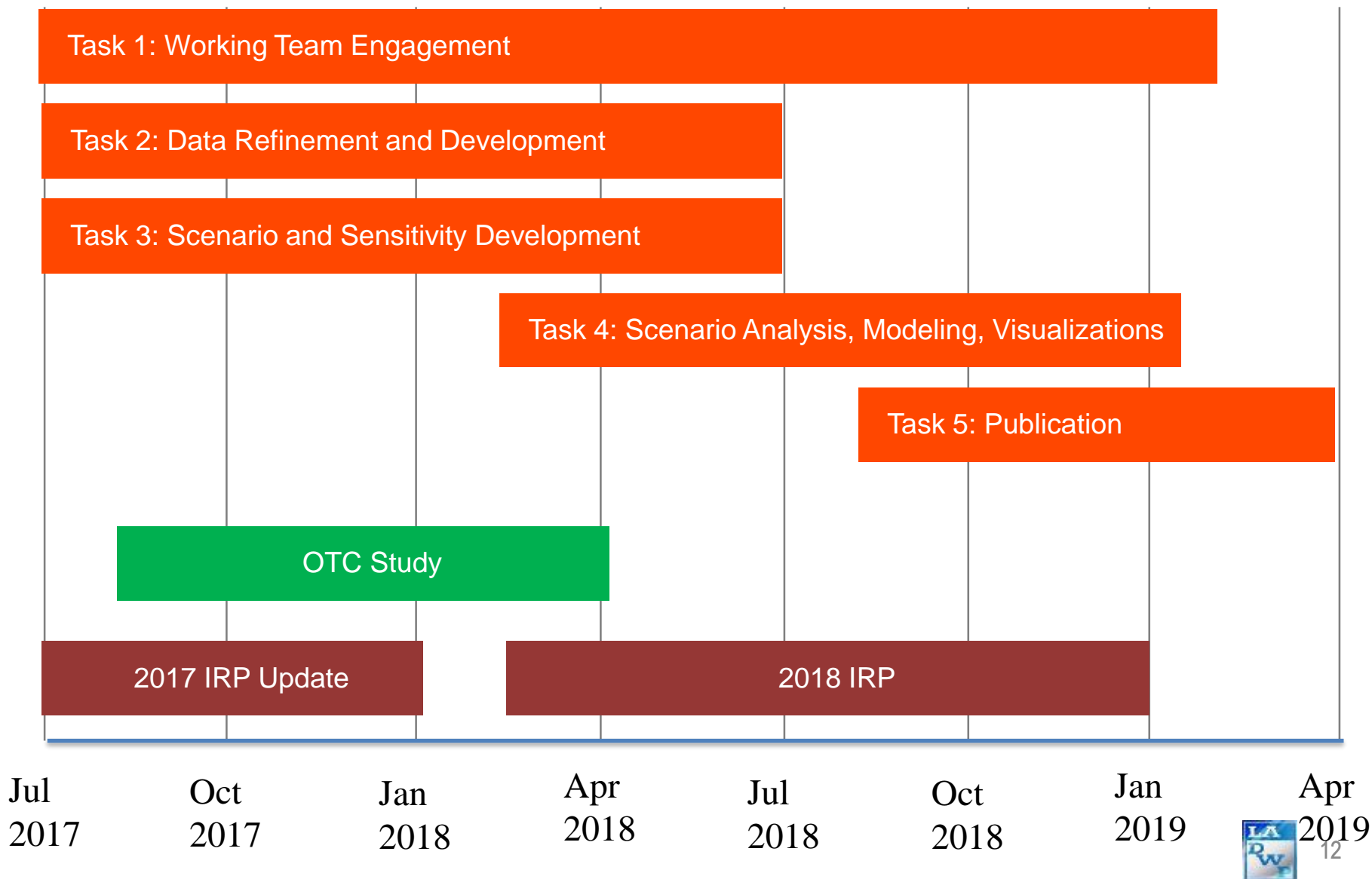
# STUDY STEPS

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



# STUDY MILESTONES



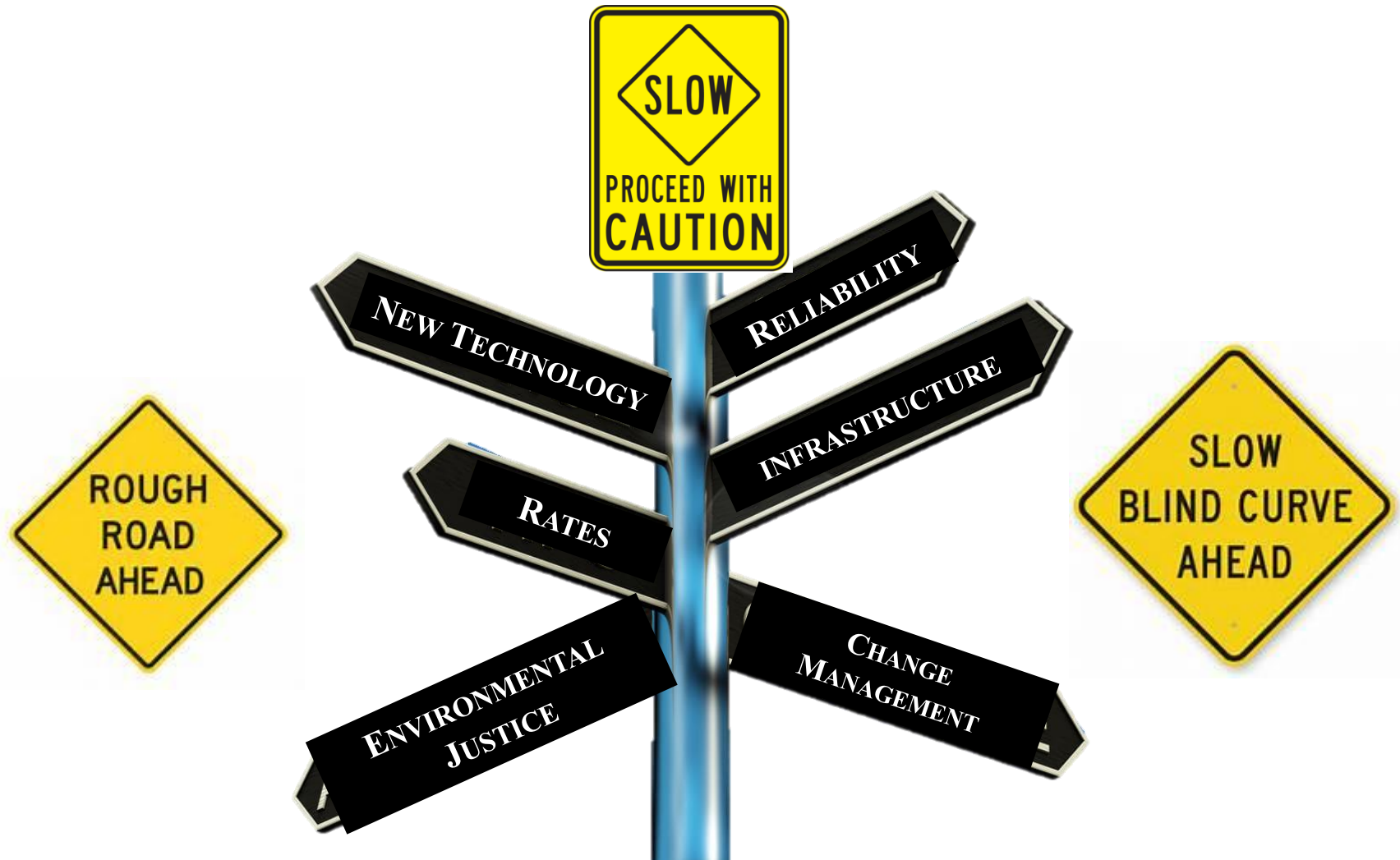
# Change Management

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# Putting It All Together

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# LA's Clean Energy Future

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[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](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/>

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# Questions?