Policy and Partnerships – Energy

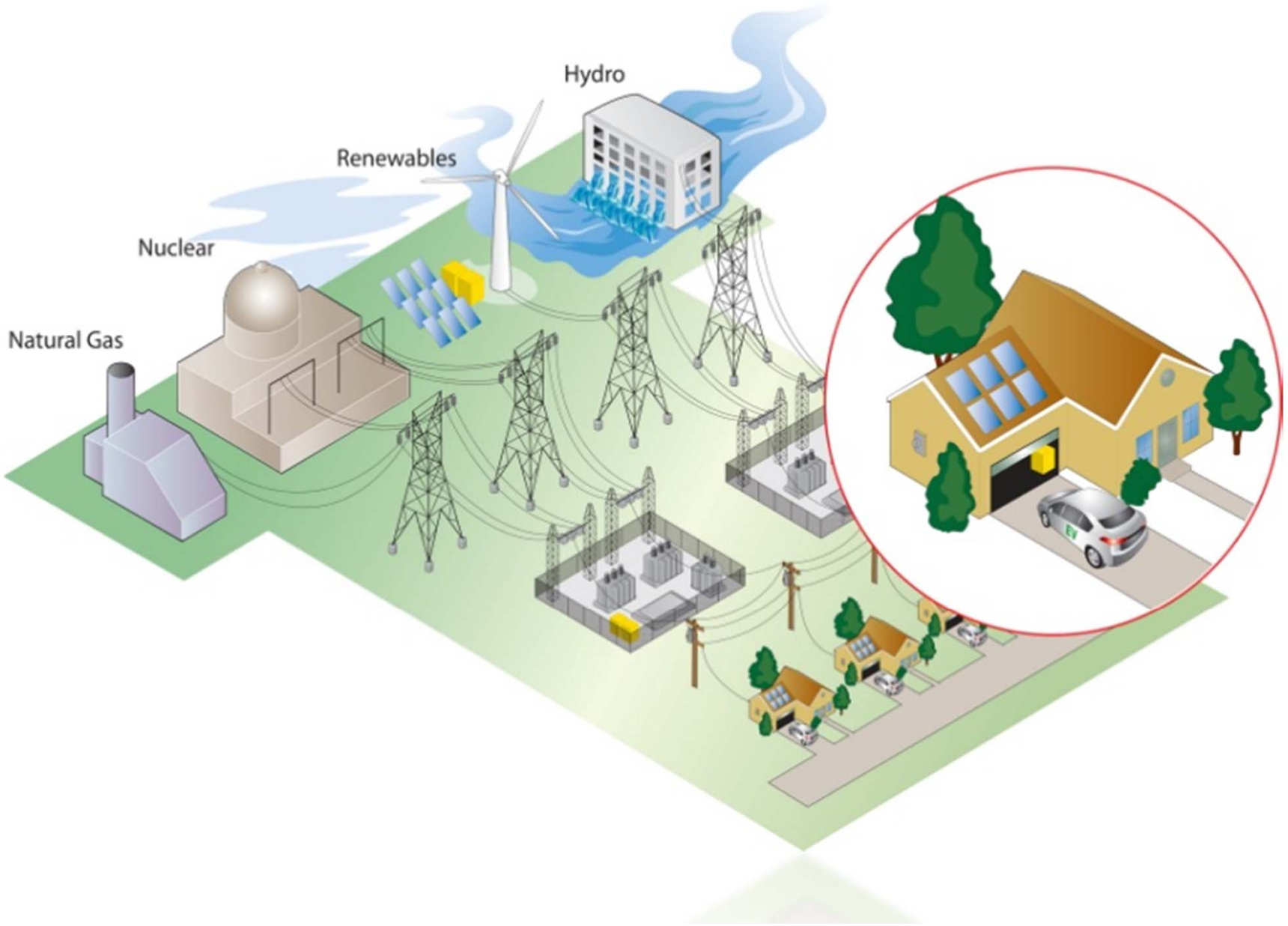
The Mediterranean City/2012

A Conference on Climate Change Adaptation

Los Angeles, California

June 25-27, 2012

Electricity Systems – Adapting To A New Normal



An Intergrated Systems Appraoch

	Empower Customers	Upgrade Systems	Deliver Clean Energy	Walk the Talk
Focus				
How	… by providing the tools and information they need to better control their energy use, while helping them play an active role in meeting Southern California's energy challenges.	… by investing in a smarter, more efficient grid and installing SmartMeters throughout our region so we can get more electricity from fewer resources.	… by enabling more access to clean and renewable power for our homes, businesses, and modes of transportation.	… by minimizing and off-setting the effects of our operations on the environments where we live, work, and play.

Derive real value: Regulatory Compliance, Reduce Operating Costs, Address Existing or Emergent Risks

Prioritize and Align

Energy Efficiency

Customer Energy Efficiency

Customer Demand Response

Facility Electricity & Water Efficiency

IT & BI Efficiency

Clean Energy

Water Conservation and Efficiency

Clean Energy Development – Solar Photo Voltaic Program and Fuel Cells

Renewable and Alternative Power

Clean Transportation

Fleet Efficiency

Materials Management and Goods Movement

Electric Transportation / PEV Readiness

Employee Working Green

Resource Efficiency

Material Reuse and Recycling

Material Replacement and Green Chemistry

Supplier Partnerships

Employee Working Green

Habitat Protection

Mitigate Impacts From Operations

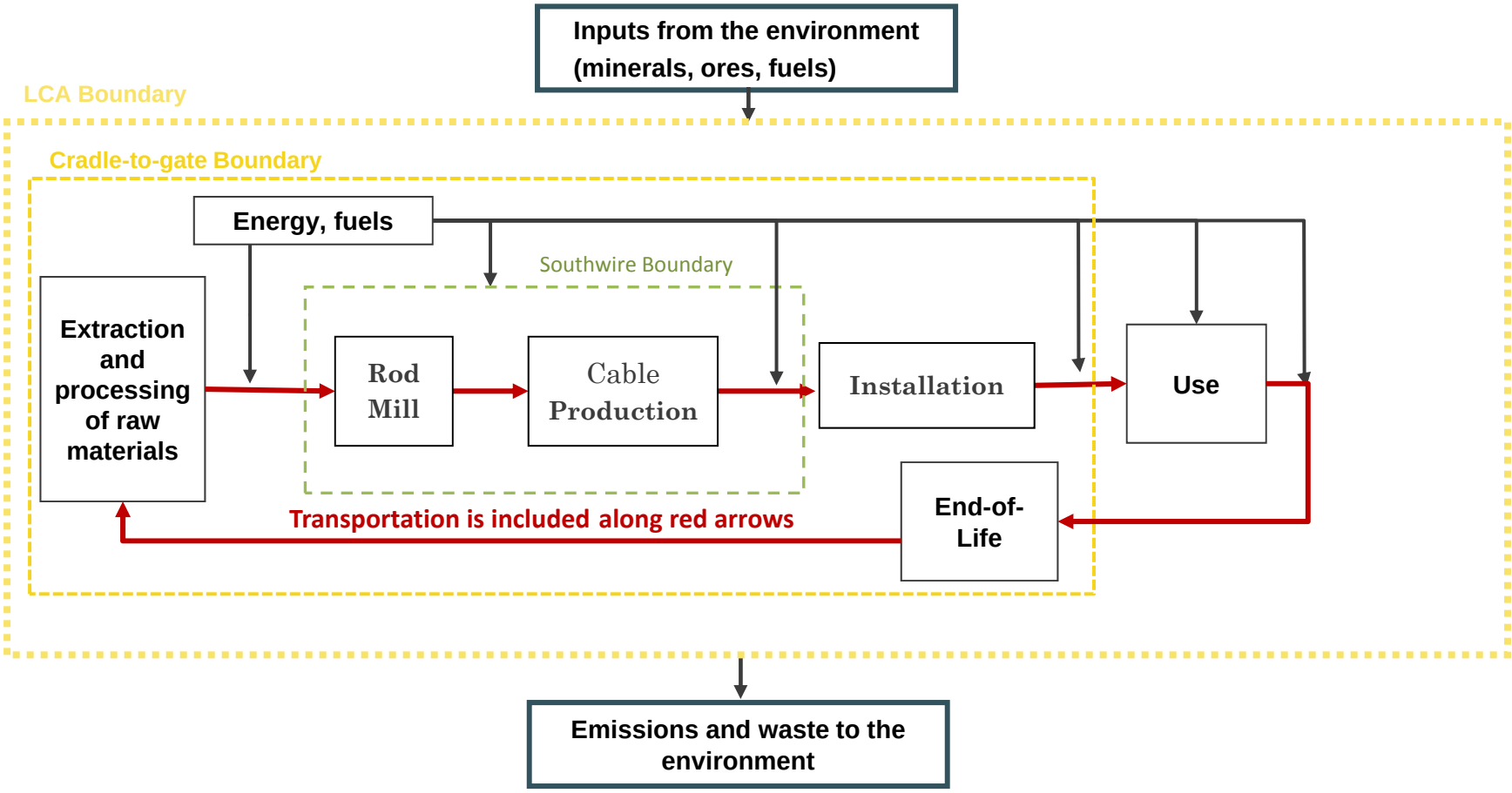
Mitigate Impacts From New Capital Projects

Mitigate Impacts From Historic Operations

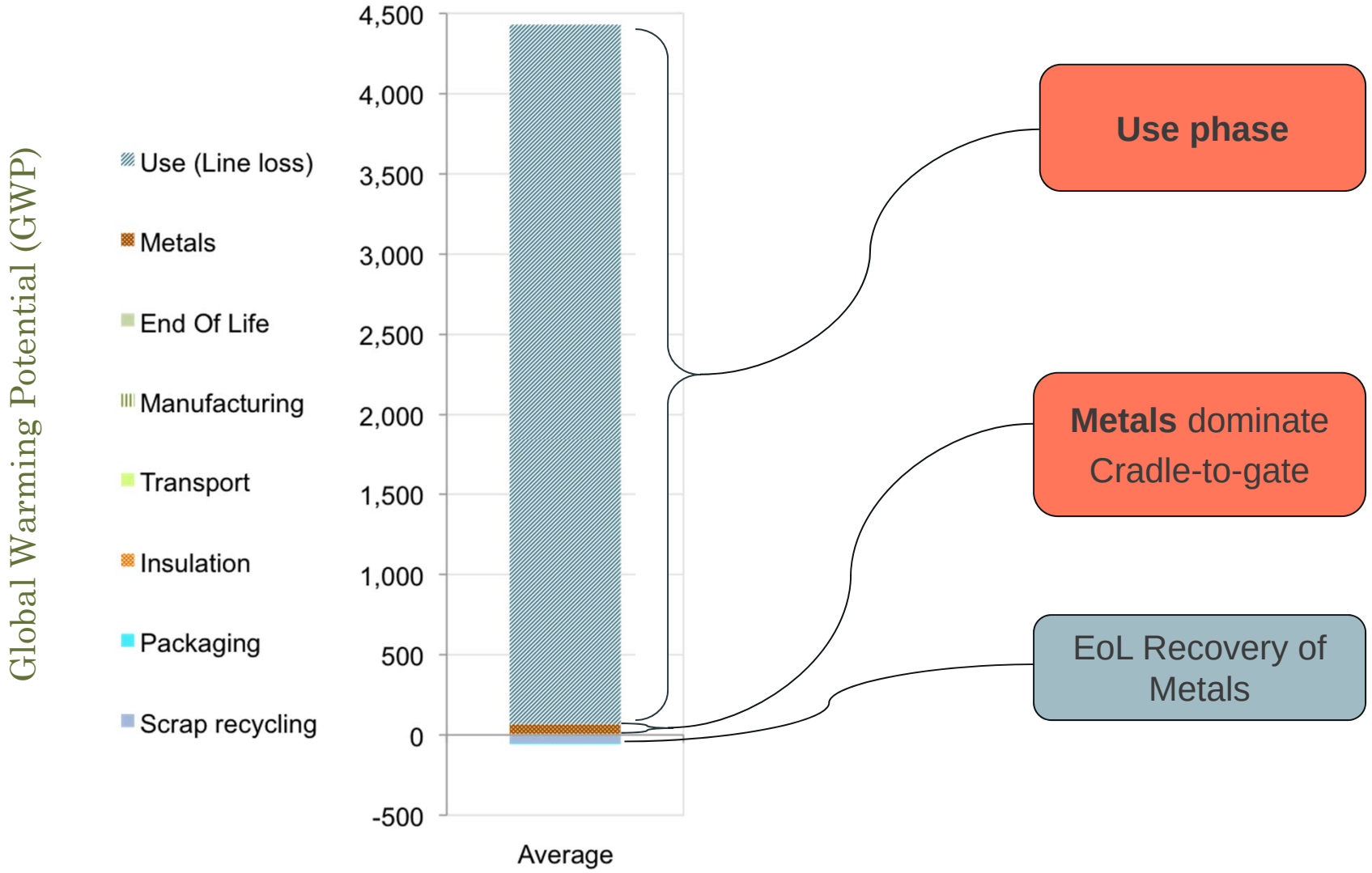
Environmental Partnerships

Example: The Smart Grid Enables RPS, Distributed Generation, EE & DR

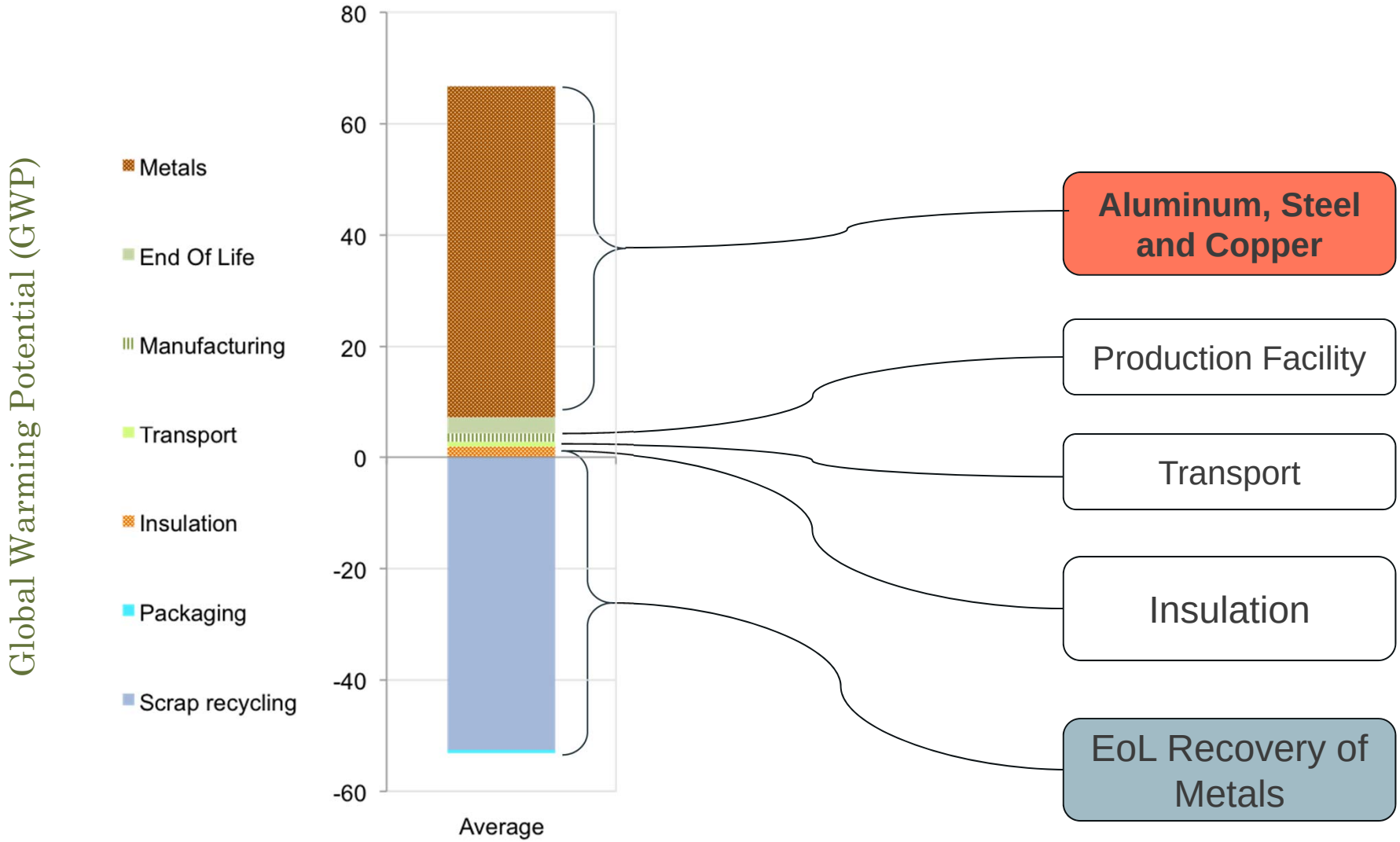
Prioritize – Life-cycle Assessment: Southwire + SCE + Alpert & Alpert



Overview of Average Life-cycle Impacts:



Overview of Average Cradle-to-Gate Impacts:



Stakeholder Assurance For Sustainability Programs

Mgmt System Categories	Env Mgmt Sys (ISO 14001) Clause	Criteria	Quality Mgmt Sys (ISO 9001) Clause	Criteria	Energy Mgmt Sys (ISO 50001) Clause	Criteria	ISO 26000	GRI	AA-1000	SEC
							"Criteria"			
1 General	4.1	General requirements	4.1	General requirements	4.1	General requirements	★	★	★	★
2 Policy	4.2	Environmental policy	5.3	Quality policy	4.3	Energy policy	★	★	★	★
3 Planning	4.3	Planning	5.4	Planning	4.4	Energy planning	★	★	★	★
	4.3.1	Environmental aspects	5.4.1 7.2.1	Quality objectives Determination of product-related requirements	4.4.3	Energy review	★	✓	✓	✓
	4.3.2	Legal & other reqs	7.2.1	Product-related reqs	4.4.2	Legal & other reqs	★	★	★	★
	4.3.3	Objectives, targets & programs	5.4.1 7.1	Quality objectives Planning of product realization	4.4.6	Energy objectives, energy targets & energy mgmt action plans	★	★	★	★
4 Implementation & Operation	4.4	Implementation & ops	7	Product realization	4.5	Implementation & operation	★	★	★	★
	4.4.2	Competence, training & awareness	6.2.2	Competence, training & awareness	4.5.2	Competence, training & awareness	★	★	★	★
	4.4.3	Communication	5.5.3	Internal communication	4.5.3	Communication	★	★	★	★
	4.4.4	Documentation	4.2.1	General	4.5.4.1	Documentation	★	★	★	★
	4.4.5	Control of documents	4.2.3	Control of documents	4.5.4.2	Control of documents	★	★	★	★
	4.4.6	Operational control	7.5.1	Control of production & service provision	4.5.5	Operational control	★	★	★	★
	4.4.7	Emergency preparedness					★	★	★	★
5 Checking	5	Checking	8	Measurement, analysis &	4.6	Checking	★	✓	✓	★
	4.5.1	Monitoring & Measurement	8.2.3, 8.2.4, 8.4	Monitoring & measurement of process, product, and analysis of data	4.6.1	Monitoring, measurement & analysis	★	✓	✓	★
	4.5.2	Evaluation of compliance	7.3.4	Design & develop review	4.6.2	Evaluation of compliance	★	★	★	★
	4.5.5	Internal audit	8.2.2	Internal audit	4.6.3	Internal audit	★	★	★	★
	4.5.3	Nonconformity, corrective and preventive action	8.3 8.5.2 8.5.3	Control of nonconforming product, corrective and preventive action	4.6.4	Nonconformities, correction, corrective & preventive action	★	★	★	★
	4.5.4	Control of records	4.2.4	Control of records	4.6.5	Control of records	★	★	✓	★
6 Mgmt Review	4.6	Management review	5.6	Management review	4.7	Management review	★	★	✓	★
	Reference for ISO columns: Annex B of ISO 50001, pages 20-22									

✓ = program contains a direct reference to the criteria

★ = reference to criteria is indirect, but is presumed to impact conformance to intent of program

Energy Policy & Partnerships: Key Adaption Elements

1. Conserve Energy
2. Efficient Use of Resource
3. Deliver Clean Energy
4. Clean Transportation Fuels
5. Empower Effective Behavior
6. Integrated Management System Appraoch – Assurance
7. Use Performance Metrics
8. Communicate

Where We Should Focus:

The four Energy Sessions are focused on:

1. How we can adapt to our changing climate, with ‘Clean Energy’ and ‘Energy Conservation’ in the context of an adaptive strategy.
2. Address the nexus between ‘electricity and water’, as our choices for different fuel sources and generation station location will be both based on the availability of water and will have impacts on water availability;
3. Create integrated systems to support technology and behavior;
4. Adopt transportation systems powered from electricity rather than fossil fuels;
5. Create and implement ‘integrated adaptation plans’ at the local, state & national levels;
6. Develop effective partnerships based on performance metrics and assurance;
7. Report and communicate to effectively engage key stakeholders.

Energy: Climate Change Adaption Action Plan

Meeting Mediterranean Cities future energy needs in the face of global climate change presents challenges and opportunities.

- We are challenged by the need for abundant, clean, and economic fuels.
- We have opportunities to become more efficient with our energy use.

Achieving this will require significant technological advances, political leadership, and individual behavioral changes based on improved environmental literacy.

We will need to transform our electric utility grid to handle variable power from utility-scale generation, distributed generation, electric transportation, and customer-focused energy management systems.

Our energy choices need to reflect:

- ✓Public health benefits;
- ✓Impacts on the environment; and
- ✓The very way that we plan, build, and live in our modern communities.

Success will require significant investments in RD&D, integrated energy and environmental policy, prioritization of our investments, and shared sense of urgency to prepare for our uncertain future.

Thank-you!

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