

Western Climate Policy Forum

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Randy Armstrong



A Bridge to the Future of Energy

“Meeting the “Energy Challenge” is Shell’s largest contribution to Sustainable Development”

Jeroen Van Der Veer
CEO - Royal Dutch Shell



Present Energy Supply

- Hydrocarbon Based
- Underpins the Economy and Lifestyle of the Developed World



Future Energy Supply

- Increased Demand
- Conventional Energy More Difficult to Find
- Hydrocarbon Energy Sources Are More Carbon Intensive
- New Technologies Supply the Bulk of the New Demand

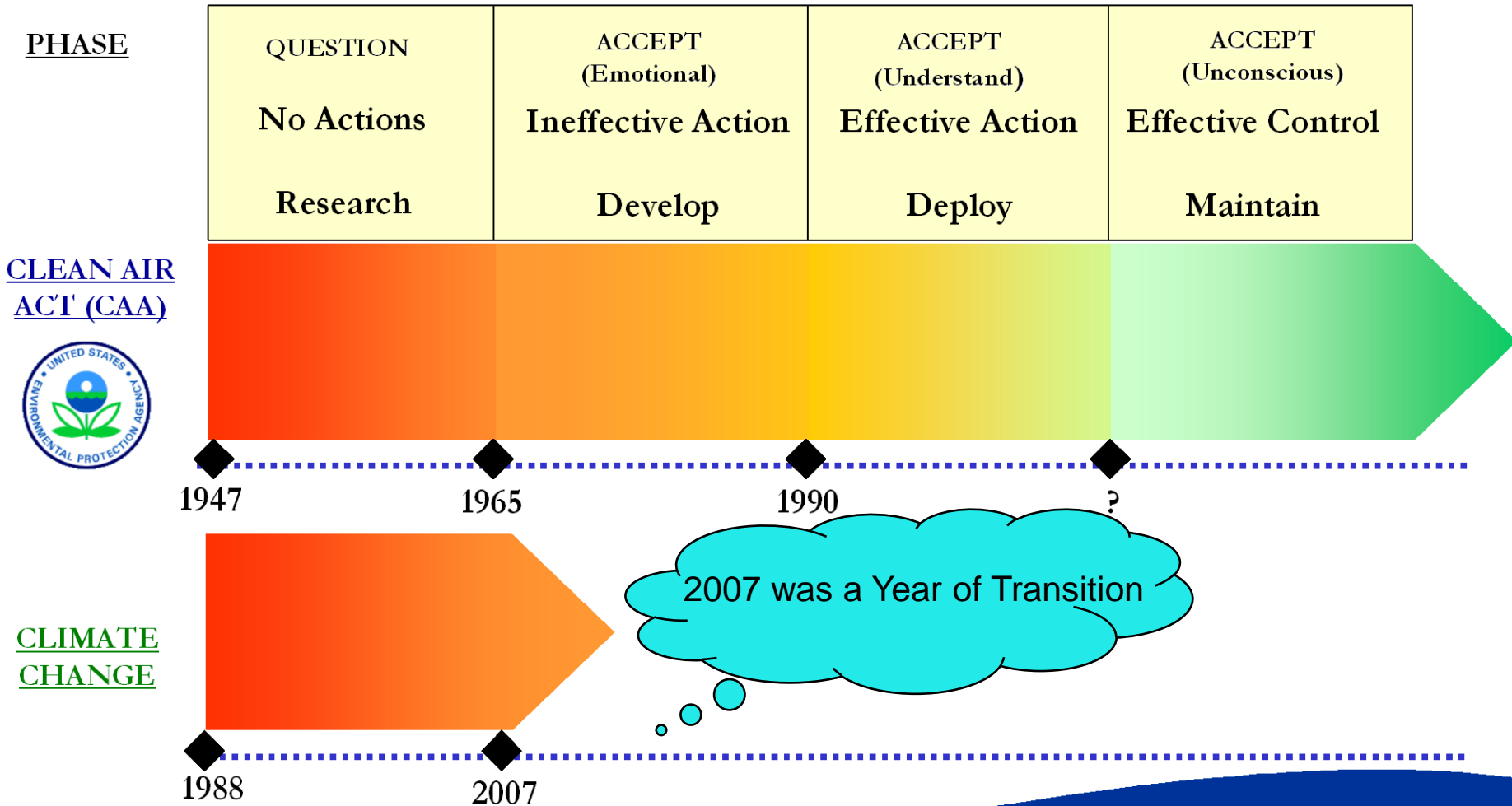


How long will it take us to get to the future?



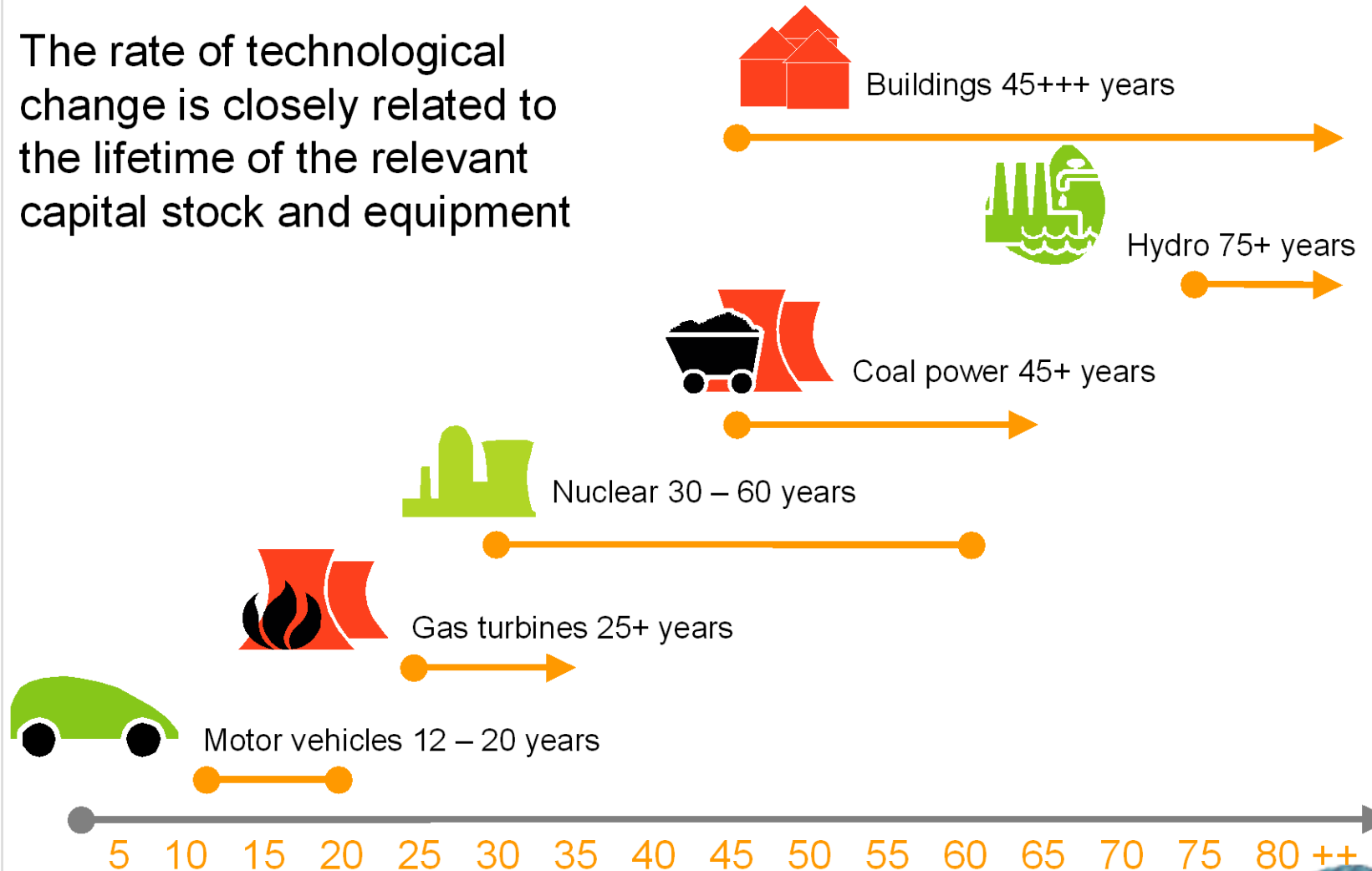
U.S. Environmental History

PHASES OF DEVELOPMENT FOR ENVIRONMENTAL REGULATIONS

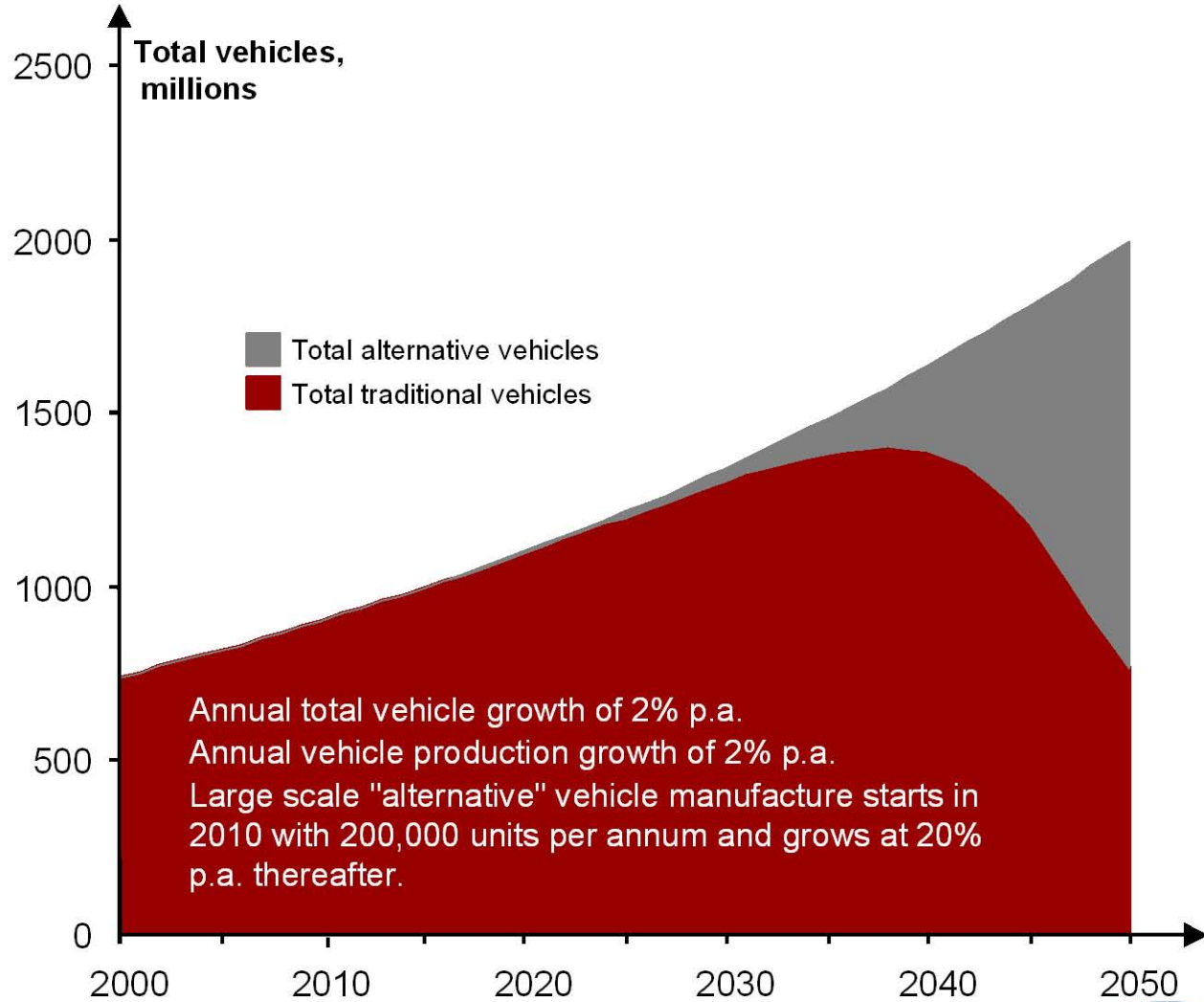


Size and lifetime matter !!

The rate of technological change is closely related to the lifetime of the relevant capital stock and equipment



Even very rapid change can appear slow!



Solution Boundaries

- Energy supply must meet demand (available & secure)
- Real costs of energy must constantly decrease
- Solutions to the “Energy Challenge” must be acceptable to society



Three Paths to US GHG Regulations

- Regulation Under Existing Clean Air Act Regulations - Court Cases
- State Legislation and Regulations
- Federal Regulations - Action Required by US Congress



Key Potential Regulations That Impact the Oil And Gas Industry

- Low Carbon Fuel Standards
- Fixed Source Reductions
- Carbon Capture and Sequestration
- Monitoring and Reporting
- Access to Transmission Lines
- Trading
- Taxes, Fees and Credits Held for Others
- Research, Development and Deployment
- Renewable Fuel Portfolios



Role of Emission Inventories

- Scorecard
- Provides Data to Legislators and Regulators Needed to Choose Best Control Pathways
- Provides Industry with Information Needed to Make Capital Decisions on “New” Technology Investments



Why did Shell Join The Climate Registry?

- Believe reporting is the right place to start
- “The Climate Registry” reporting requirements are consistent with international protocols
- Although we prefer national programs, recognize that desire of some states to start
- Influence of “The Climate Registry”



Shell Activities

- Exploration
- LNG
- Heavy hydrocarbon production (tar sands/shale oil)
- Efficiency improvements
- Gas to liquids
- Wind
- Solar
- Hydrogen
- Second Generation Renewable Fuels
- Clean coal
- Sequestration

