



energy and  
sustainability



# enduring

## challenges to sustainability

### How do we:

- design socially, economically and ecologically healthy **cities**?
- secure **energy** for a growing population?
- cultivate **environmental resilience**?
- ensure universal access to clean **water**?
- mitigate and **adapt to climate change**?
- pave sustainable pathways for **global development**?



# emerging

## challenges to sustainability

### How do we:

- inform and comprehend **decision making**?
- understand and impact **social transformation**?
- envision a socially, economically and ecologically **prosperous** world?
- focus **information, technology and materials** to produce meaningful change?
- **nourish** a growing global population?
- map an unknown **future**?



# challenges to sustainability

## enduring core challenges

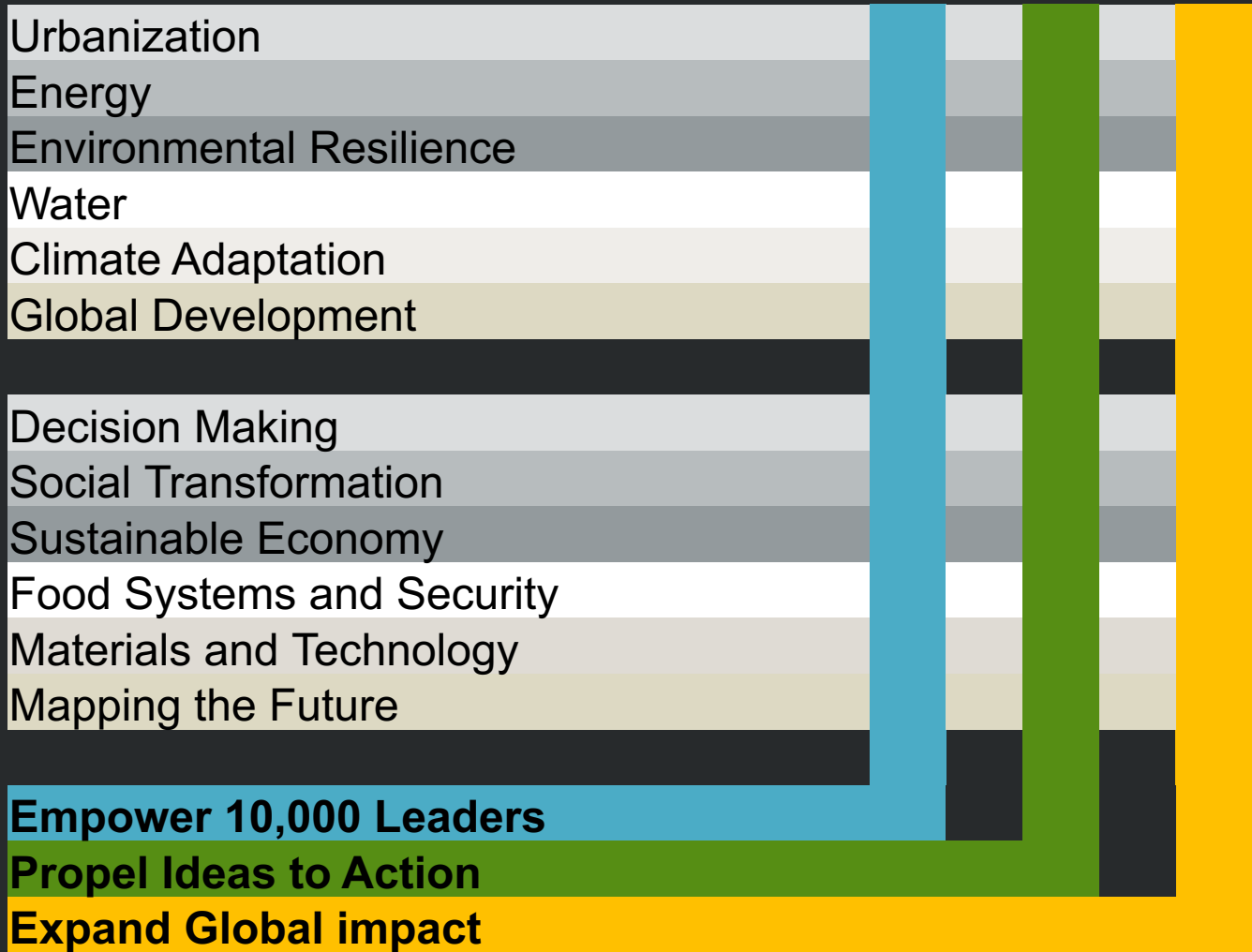
- Urbanization
- Energy
- Environmental Resilience
- Water
- Climate Adaptation
- Global Development

## emerging challenges

- Decision Making
- Social Transformation
- Sustainable Economy
- Food Systems and Security
- Materials and Technology
- Mapping the Future

## engagement accelerators

- Empower 10,000 Leaders**
- Propel Ideas to Action**
- Expand Global impact**





# a **global** challenge

“The world’s energy system is at a crossroads.  
**Current global trends in energy supply and consumption are patently unsustainable** -- environmentally, economically or socially.”

*IEA World Energy Outlook 2008*



# LightWorks

Since its inception, LightWorks has provided **global solutions** to the world's most pressing energy challenges through a simple idea; **energy from sunlight**. We discover and invent energy solutions to the world's **fuel, electric and social challenges**.



# LightWorks

## Vision:

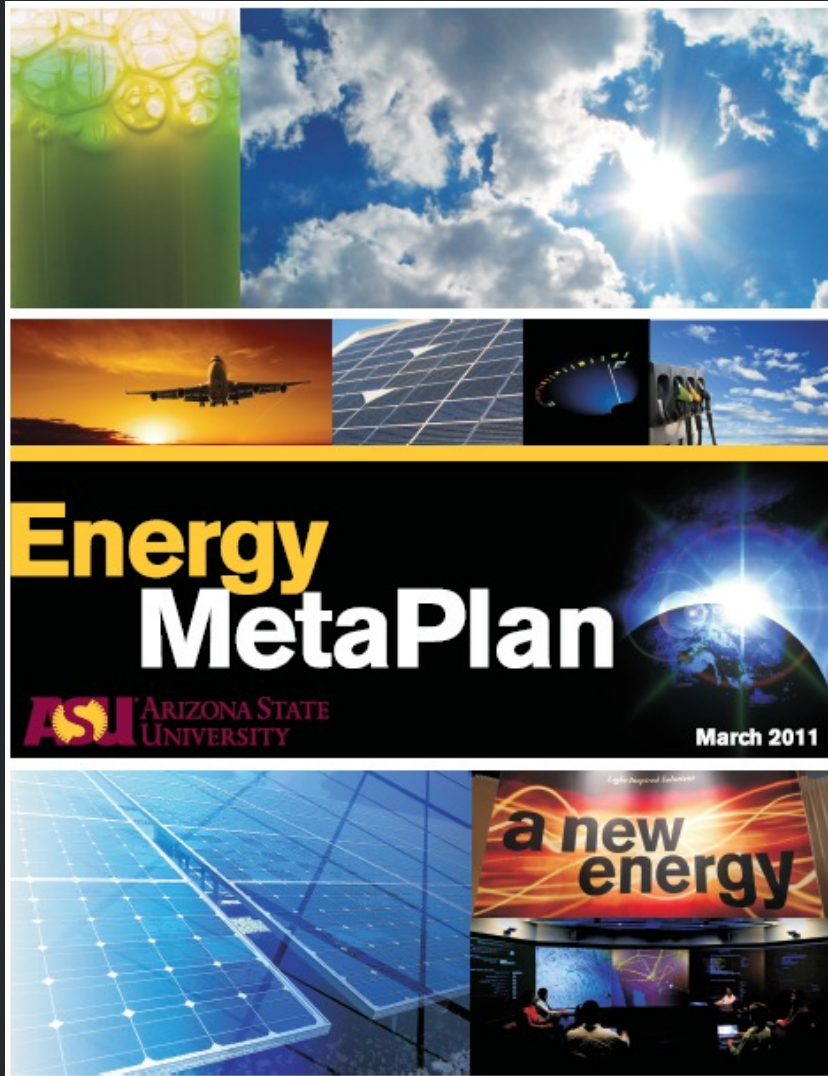
ASU LightWorks envisions a **resilient** and **equitable** energy future supported by innovations in technology, policy, law and markets. We pursue breakthroughs not just to power the world, but to **empower** it; to enrich people's lives everywhere; to **enlighten communities** across the globe; to achieve energy security; to secure energy justice and to **inspire future generations**.

## Mission:

LightWorks **revolutionizes** how energy is conceptualized, produced and used. We **support** the discovery and design of energy systems that convert sunlight into useful and sustainable products. We **encourage** research, development, and education that **critically engage** the social, historical and cultural dimensions of evolving energy systems as well as the ecological contexts in which they operate.



# strategic framework



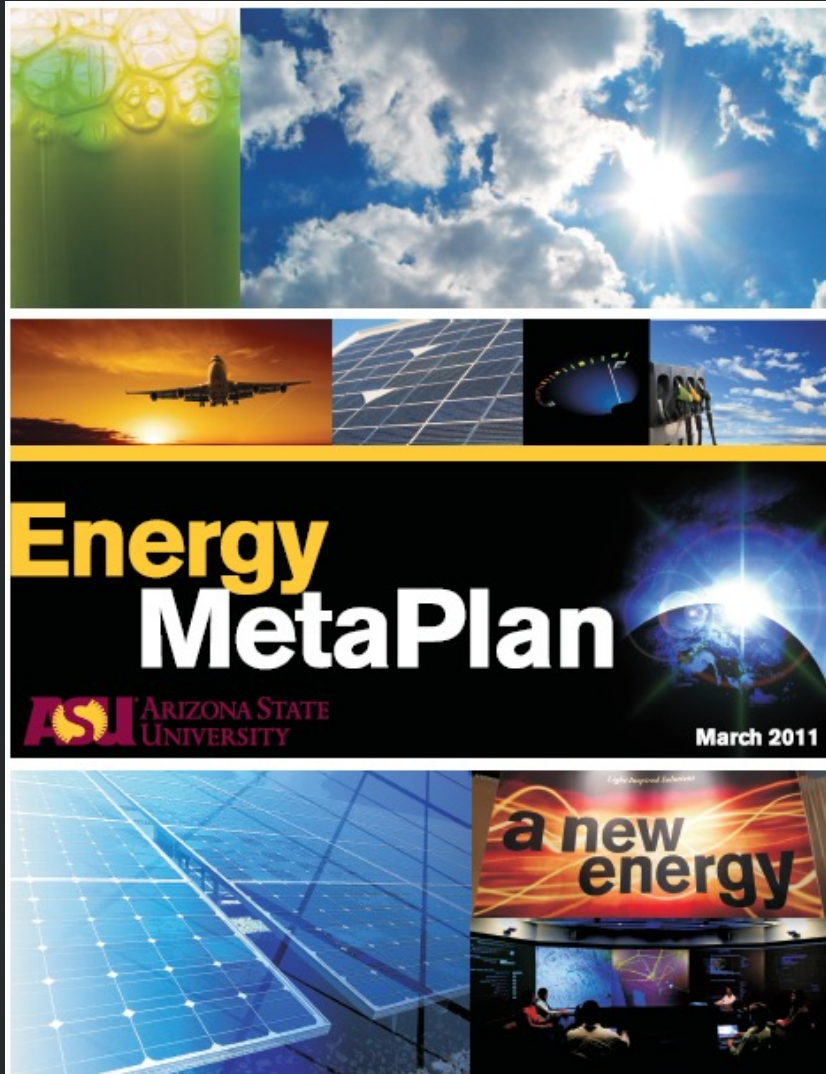
## challenges

- **terawatt**  
*innovating with light*  
**Steve Goodnick**
- **sustainable fuels & products**  
*a novel energy industry*  
**Ellen Stechel & Bruce Rittmann**
- **policy & efficiency**  
*cultural interaction with energy*  
**Clark Miller, Kris Mayes, Harvey Bryan, Mike Pasqualetti, Andrew Webber, Elisa Graffy**





# strategic framework



## accelerators

- energy education  
*prepare society for a transition to a more sustainable energy future*  
school of sustainability
- commercial and economic development  
*Create a strategic framework for partnering with industry thought leaders*

Bill Brandt



thank you