

# Climate Science Meets Social Psychology and Strategic Communications:

# Applying proven learning and communications strategies to climate literacy in the San Diego Region

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### Introduction

The vision of the project is to create a science based, climate literacy movement in San Diego with innovative and targeted messages for Key Influential thought leaders and their constituent communities. This will promote a regional community receptive to climate science information and who engage in climate change mitigation and adaptation behaviors.

### **GOALS**

#### 1. Create an innovative partnership

A collaboration of climate scientists, education psychologists, formal and informal educators, private-sector strategic communication professionals, and energy policy experts will develop and implement a strategic communications framework related to climate science, mitigation, and adaptation.

- 2. Assess current climate change knowledge base of regional "Key Influentials" "Key Influentials" are decision makers, thought leaders and trend-setters in the region.
- 3. Develop compelling Key Influential and target-audience specific message content and delivery methods

Designed to further climate science, mitigation and adaptation awareness and build a thought community of participants based on the outcomes of goal 2 (see Figure 1).

### Methods

#### **Participants**

> 40-50 Key Influentials (KI) (elected officials, the Hispanic/Latino community, native tribal leaders, the real estate development community and faith-based community, see Figure 2)

➤ Members of KI constituent audiences

### **Measures**

Key Influential interview protocol and target audience survey will measure components of the theoretical model (see Figure 1)

### Climate Change Knowledge

Test agreement with statements such as:

- > average annual temperatures between 1990 and 2010 in our region have been the warmest recorded (Cayan et al, 2007)
- > awareness and importance of regional strategies to reduce energy use as electricity or transportation (Anders et al, 2008)
- > awareness of resilience to effects of global warming in the region (Focus 2050, 2008)

### ➤ Efficacy, Identity and Values

#### **≻Integration**

Assess engagement of target behaviors:

Personal Behaviors (e.g., public transportation, reducing energy use, educating others about climate change issues)

Political Behaviors (e.g., attending public meetings, voting behavior, writing letters)

### **Procedure**

(1) Pilot survey with 80 persons, (2) conduct 40+ KI interviews and longer public survey (led by The Steve Alexander Group) in late spring 2011, (3) Develop compelling message content and delivery methods (based on results of (2))

## Theory

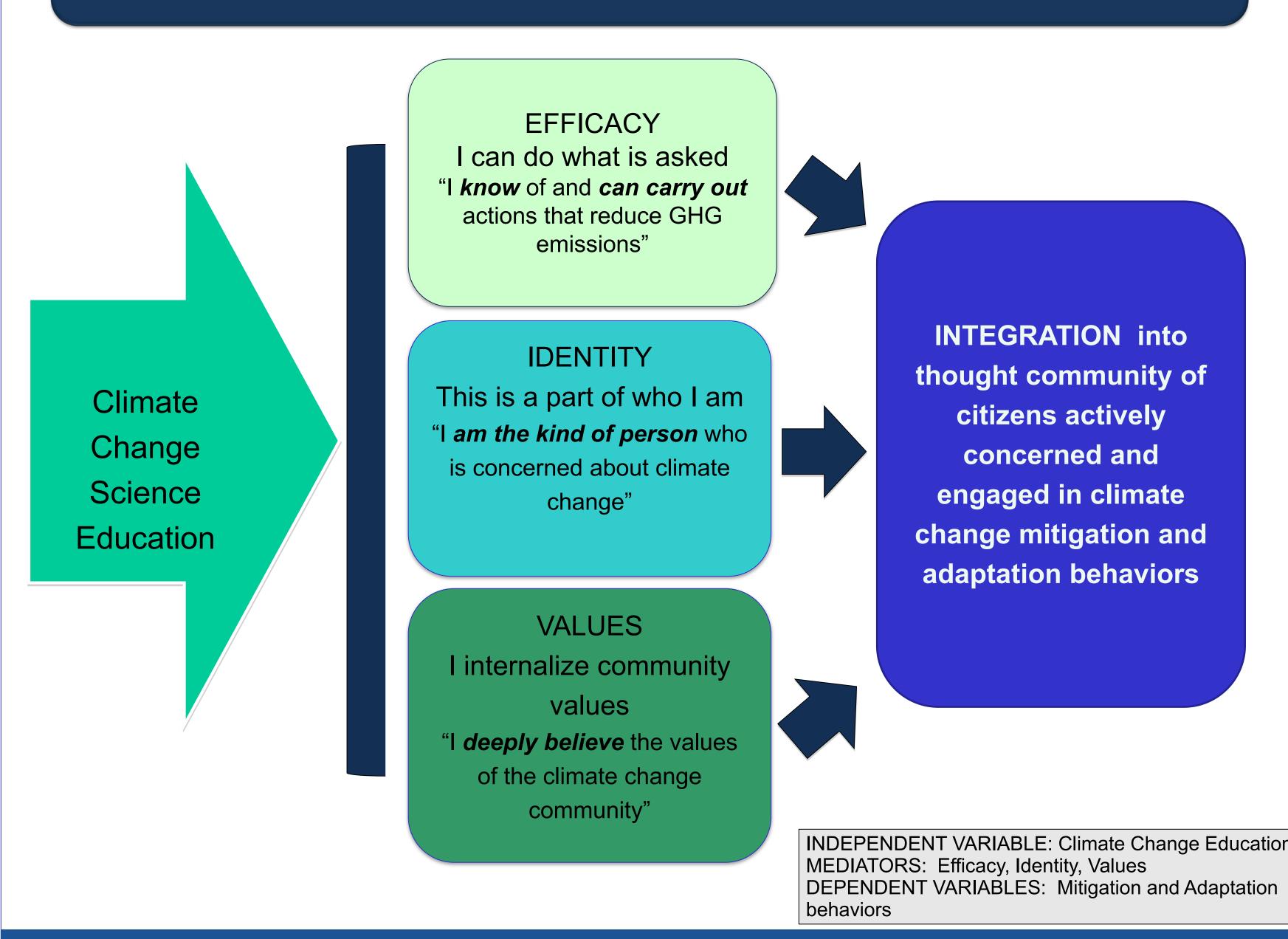
The Tripartite Integration Model of Social Influence (TIMSI, based on Kelman's social influence theory 1956, 2006) will be used as the basis for:

- 1.Measuring knowledge and integration of KI's and their constituents into a defined climate change thought community
- 2.Designing compelling messaging and education for KI's and their constituents
- 3. Assessing real world impact on San Diegan's mitigation and adaptation behaviors and policy [Phase II].

The TIMSI model posits that education that results in individuals gaining efficacy, identifying with the climate change movement and internalizing the values of that group, are most likely to engage in behaviors consistent with that social group across time and circumstances (Estrada et al, 2011).

## Figure 1:

Tripartite Integration Model of Social Influence (TIMSI)

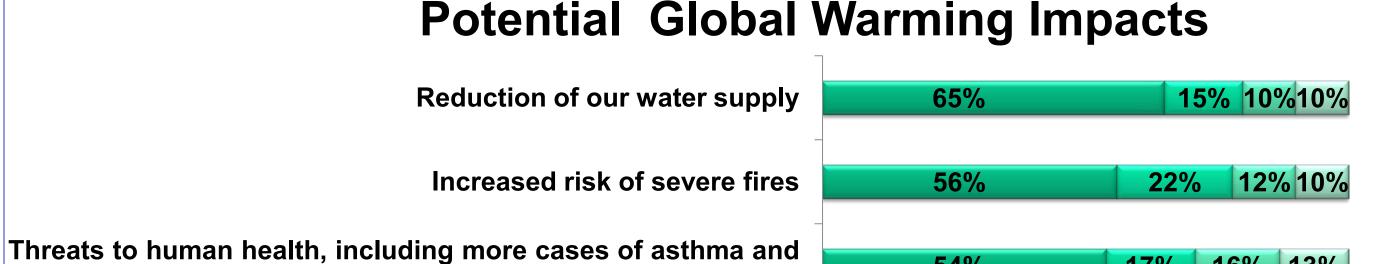


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# Key Findings



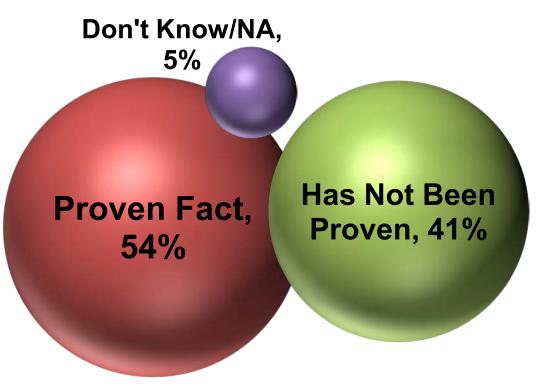
Concerned Concerned **17% 16% 13% Don't Know 16% 19% 13%** 

San Diego voters were particularly concerned about the "reduction of our water supply" (80% concerned) and the "increased risk of severe fires" (78% concerned).

other respiratory diseases

Loss of jobs

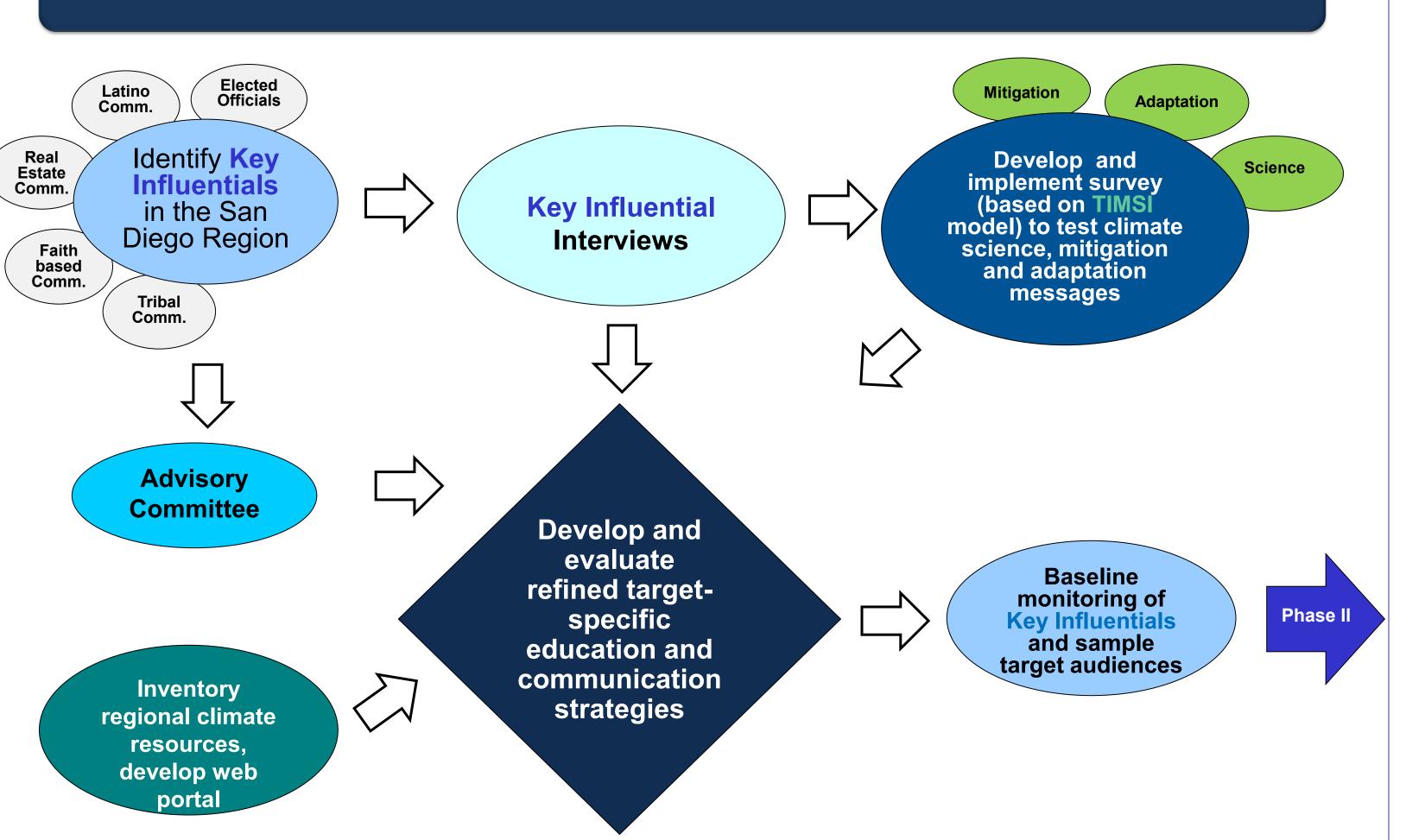
### Is Global Warming a Proven Fact?



For many San Diego County voters, the debate about global warming is unsettled. The results indicate that nearly half (46% percent) of San Diego County voters are not convinced global warming is a proven fact.

(TSDF, 2010)

### Figure 2: Implementation



# Progress & Next Steps

### Progress to date

- (1) Gathered public opinion data on regional awareness and attitudes of climate related issues;
- (2) Identified a diverse group of 50 "Key Influentials;"
- (3) Established a regional advisory board;
- (4) Develop Key Influential interview protocol and follow-up public opinion polls;
- (5) Ongoing development of web-based portal for regional climate related resources.

#### **Next Steps**

- (1) Interview 40-50 Key Influentials;
- (2) Convene meeting of the regional advisory board;
- (3) Poll members of KI constituent audiences;
- (4) Develop effective messages and methods to educate target audiences about climate change;
- (5) Continue development of and make public web-based portal for regional climate related resources.

Cayan, D.R., P.D. Bromirski, K. Hayhoe, M. Tyree, M.D. Dettinger, R.E. Flick. 2007. Climate change projections

### References

Kelman, H. C. (1956). Compliance, identification, and internalization: A theoretical and experimental approach to the study of social influence. Unpublished manuscript.

Anders, S.J., De Haan, D.O, Silva-Send, N., Tanaka, S. & Tyner, L. Applying California's AB32 Targets to the regional level: A study of San Diego. Energy Policy (2009).

of sea level extremes along the California Coast: Special Issue on California Climate Scenarios. Accepted for publication in Climatic Change

The San Diego Foundation (TSDF) Countywide Survey on Climate Change, 2010. San Diego, California.

Estrada, M., Woodcock, A., Hernandez, P., & Schultz, P. W. (2011). Toward a social influence model that explains minority student integration into the scientific community. Journal of Educational Psychology.

Kelman, H. C. (2006). Interests, relationships, identities: Three central issues for individuals and groups in negotiating their social environment. Annual Review of Psychology, 57, 1-26.