



Green Chemistry in California: A Framework for Leadership in Chemicals Policy and Innovation

California Policy Research Center, UC Office of the President
Center for Occupational and Environmental Health,
School of Public Health, UC Berkeley

Michael P. Wilson, Ph.D, MPH
with Daniel A. Chia and Bryan C. Ehlers
mpwilson@berkeley.edu





Overview

- 1) Background
- 2) Committee motivation
- 3) Key issues
- 4) Recommendations



Overview

1) Background

2) Committee motivation

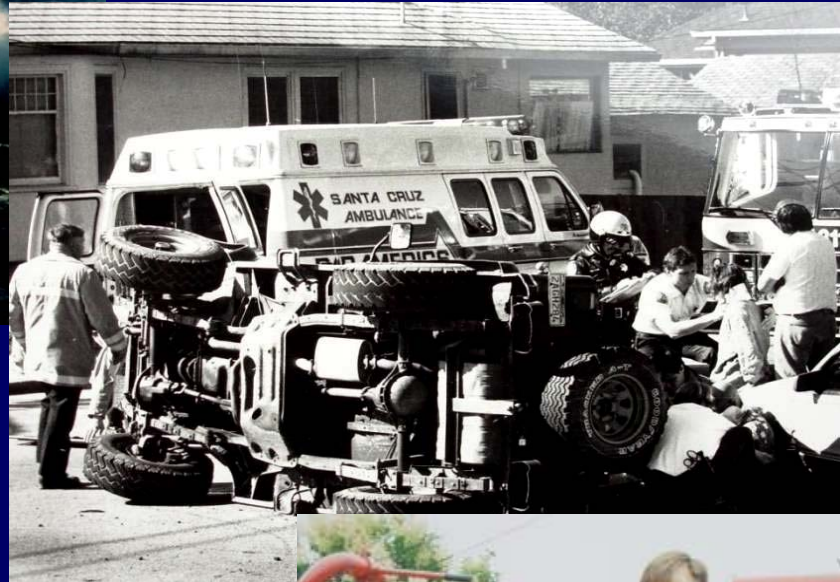
3) Key issues

4) Recommendations

The Emergency Services: 1978-1996



U.S. Coast Guard
Reserve, Monterey



Santa Cruz Ambulance Service, Inc.



Salinas City Fire Department

Hexane-induced peripheral neuropathy in the California vehicle repair industry.



Worker exposures to hexane: an unintended consequence of ARB perchloroethylene phase-out in California.





The UC Report:

- Assesses problems and opportunities
- Makes policy recommendations

Commissioned January 2004 by:

- Byron Sher (Chair, SEQC)
- John Laird (Chair, ACESTM)

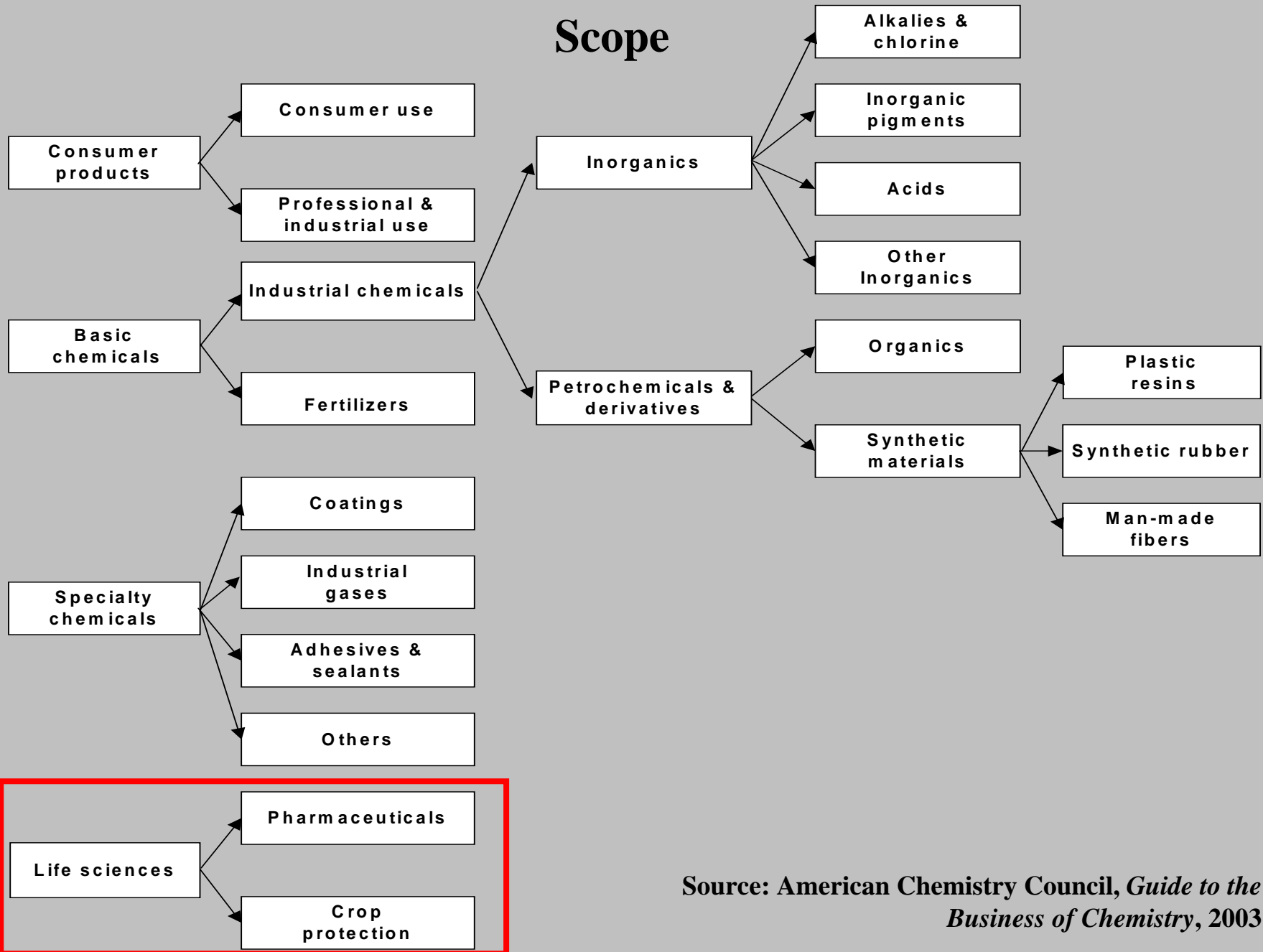
Released by UCOP March 14, 2006 to:

- Joseph Simitian (Chair, SEQC)
- Ira Ruskin (Chair, ACESTM)

Download, & media coverage:

<http://coeh.berkeley.edu/greenchemistry1.htm>

Scope



Source: American Chemistry Council, *Guide to the Business of Chemistry*, 2003



Overview

- 1) Background
- 2) Committee motivation**
- 3) Key issues
- 4) Recommendations

1) Legislative bills

AB 121 (Vargas)

AB 263 (Chan)

AB 289 (Chan)

AB 319 (Chan)

AB 342 (Baca)

AB 597 (Montanez)

AB 623 (Aanistad)

AB 639 (Aghazarian)

AB 752 (Karnette)

AB 815 (Lieber)

AB 816 (Lieber)

AB 848 (Berg)

AB 908 (Chu)

AB 912 (Ridley-Thomas)

AB 966 (Saldana)

AB 985 (Dunn)

AB 990 (Lieber)

AB 1125 (Pavley)

AB 1337 (Ruskin)

AB 1342 (Assem ESTM)

AB 1344 (Assem ESTM)

AB 1354 (Baca)

AB 1415 (Pavley)

AB 1681 (Pavley)

SB 419 (Simitian)

SB 432 (Simitian)

SB 484 (Migden)

SB 490 (Lowenthal)

SB 600 (Ortiz)

SB 838 (Escutia)

SB 849 (Escutia)

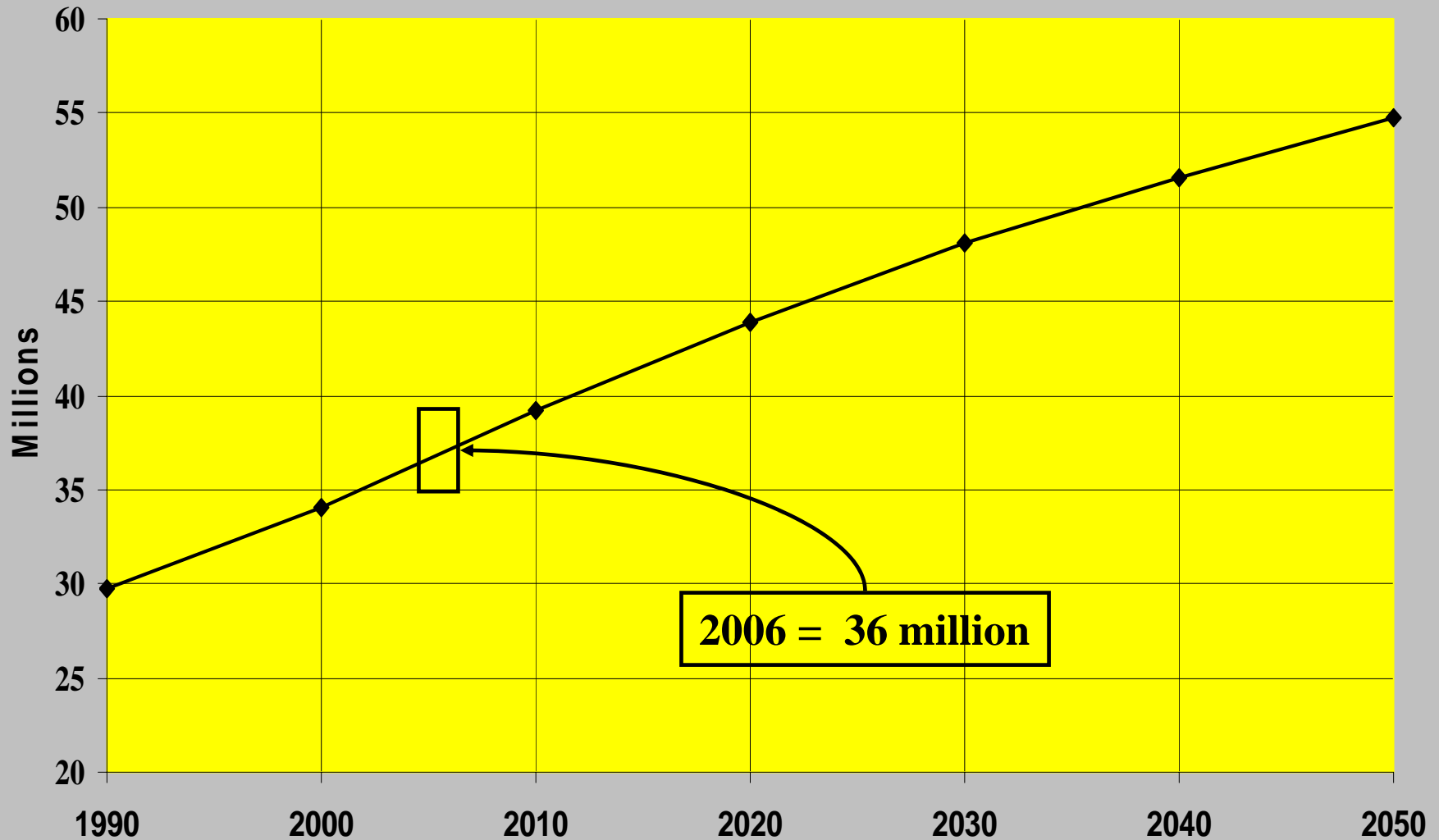
SB 982 (Sen EQ comm)

SB 989 (Sen EQ comm.)

SB 1067 (Kehoe)

SB 1070 (Kehoe)

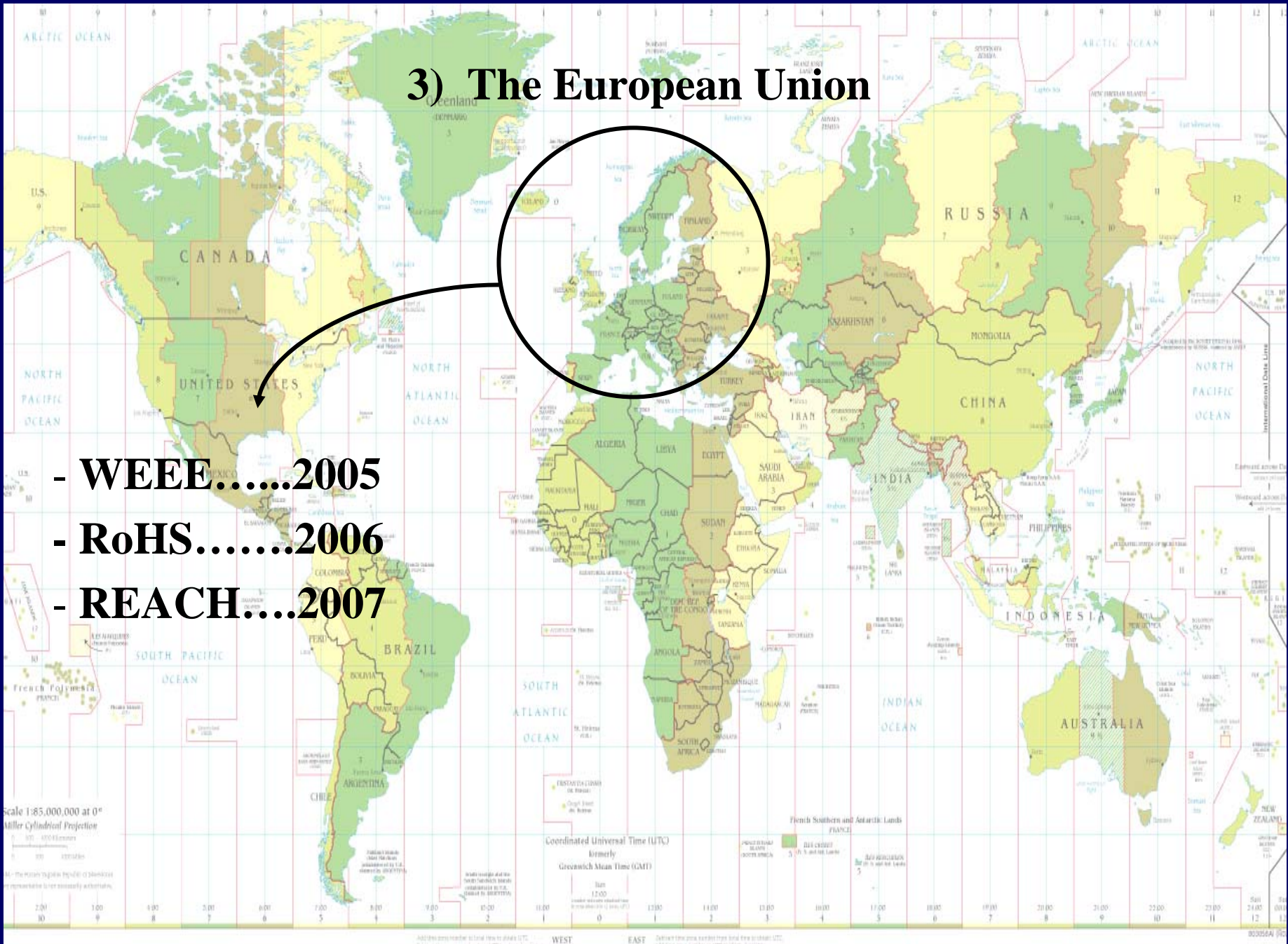
2) California sustainability



Source: California Dept of Finance, CA pop. trends, 1990 – 2050

3) The European Union

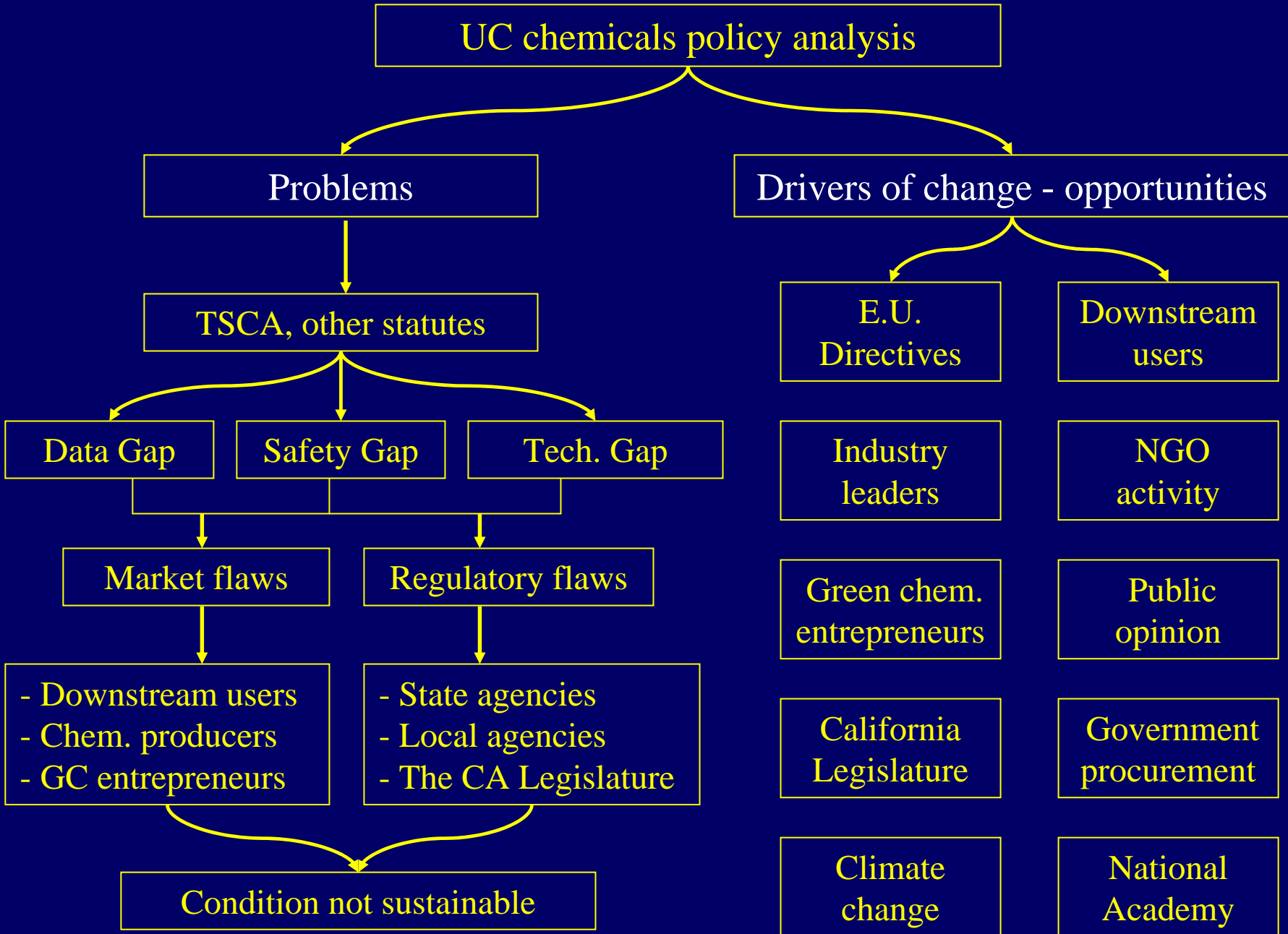
- WEEE.....2005
- RoHS.....2006
- REACH...2007

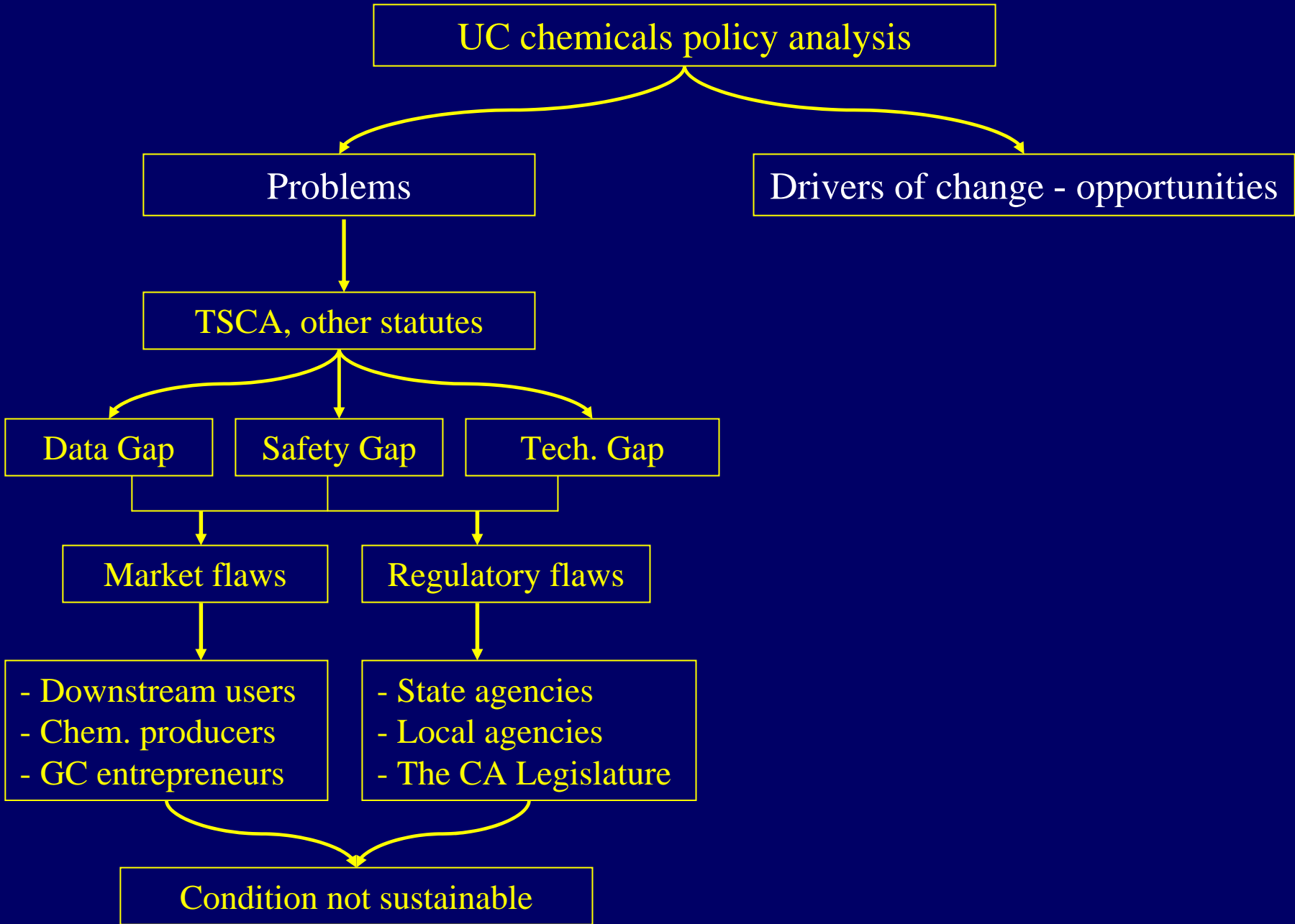




Overview

- 1) Background
- 2) Committee motivation
- 3) Key issues**
- 4) Recommendations





UC chemicals policy analysis

Problems

Drivers of change - opportunities

TSCA, other statutes

Data Gap

Safety Gap

Tech. Gap

Market flaws

Regulatory flaws

- Downstream users
- Chem. producers
- GC entrepreneurs

- State agencies
- Local agencies
- The CA Legislature

Condition not sustainable

UC chemicals policy analysis

Problems

Drivers of change - opportunities

E.U.
Directives

Downstream
users

Industry
leaders

NGO
activity

Green chem.
entrepreneurs

Public
opinion

California
Legislature

Government
procurement

Climate
change

National
Academy



Overview

- 1) Background
- 2) Committee motivation
- 3) Key issues
- 4) Recommendations**

UC chemicals policy analysis

Problems

Drivers of change - opportunities

Recommendations

Policy objective:

- Correct existing problems
- respond proactively to drivers of change
- motivate green chemistry investment

Policy strategy: Close the Data, Safety & Technology Gaps

In choosing not to act:

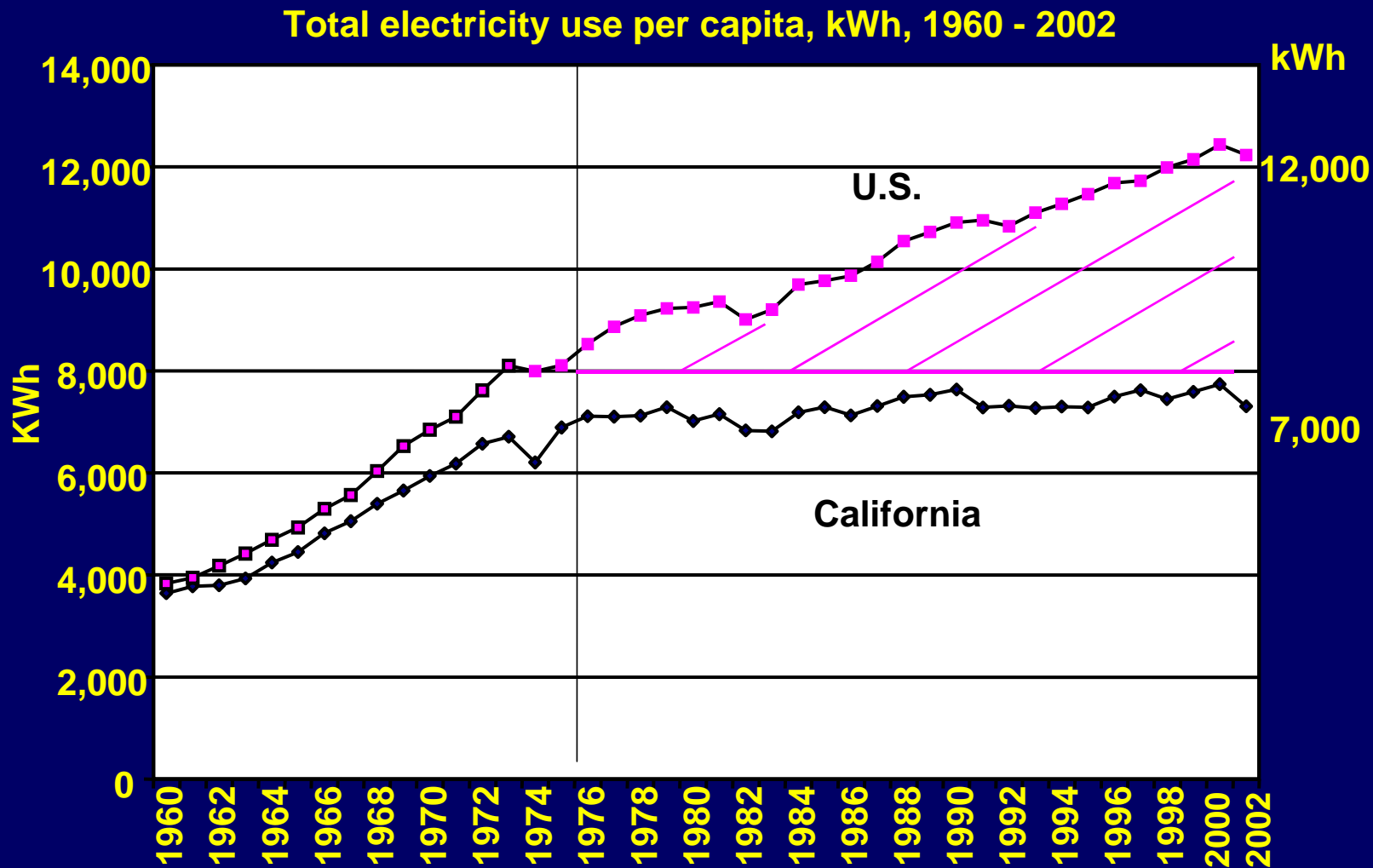
- existing problems will expand
- drivers of change will leave California behind
- green chemistry will develop haphazardly



...the **design** of chemical products and processes to reduce and/or eliminate substances hazardous to human health and the environment.

Anastas, P.T. and J. Warner. 1999. Green Chemistry Theory and Practice

California has demonstrated that public policy can motivate technology innovation & change.



Courtesy John Wilson, California Energy Commission



Thank you!

