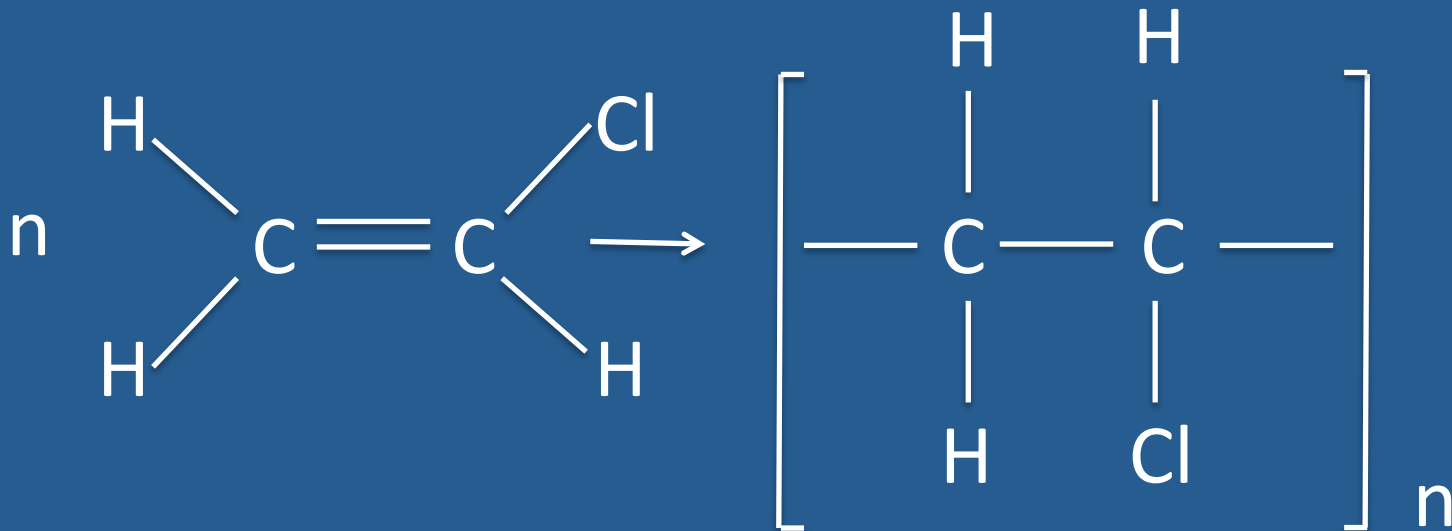


REACH: esperienza di una azienda extra - EU



REACH: esperienza di una azienda extra - EU



POLIVINILCLORURO PVC

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Plastificanti
Lubrificanti
Impact Modifier
Processing Aid
Fillers
Pigmenti
Antibloking
UV Adsorber
Antistatic agent
Biocidi
Antifiamma
Stabilizzanti



Calcium-Based Stabilizers
Liquid Mixed Metals Stabilizers
Organotin Stabilizers

REACH: esperienza di una azienda extra - EU

IN EUROPA: “Voluntary Commitment”

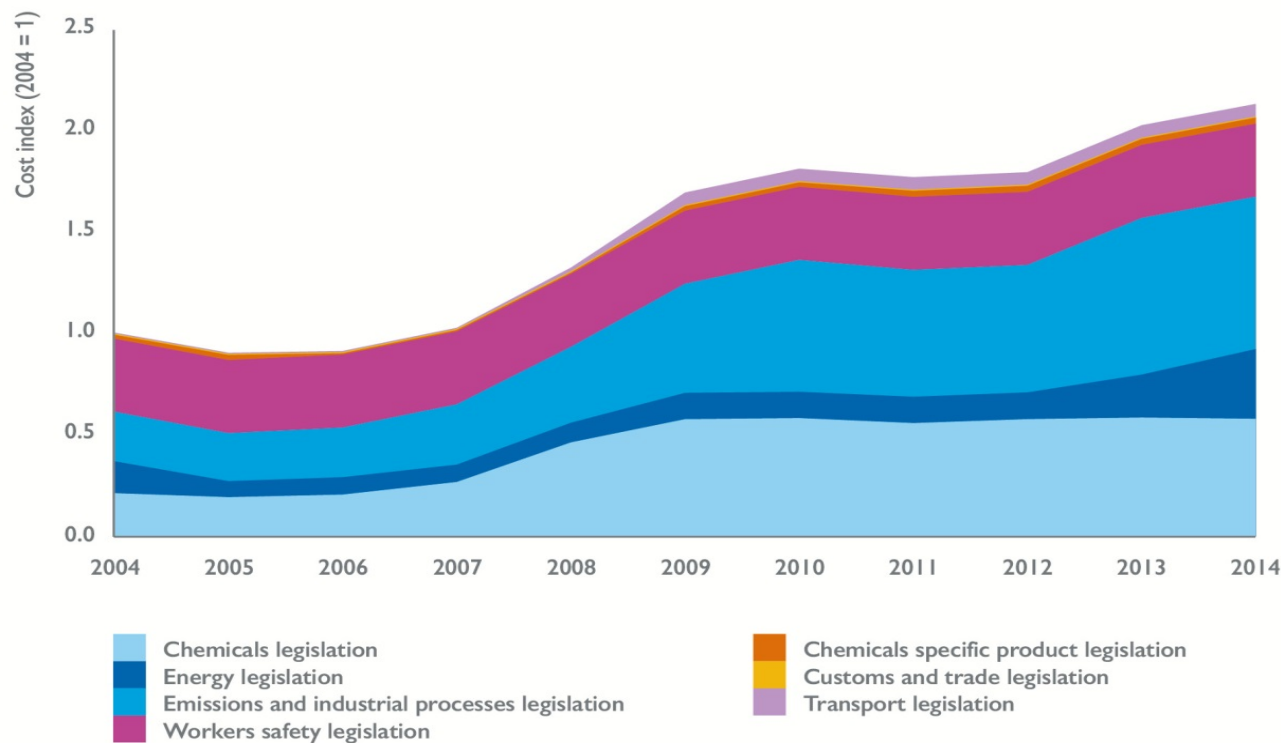
- Stabilizzanti a base di sali di Cadmio: eliminati dal 2001
- Stabilizzanti a base di Piombo: completa sostituzione da fine 2015

SOSTITUZIONE DI ALCUNE MATERIE PRIME:

- Nonilfenolo
- Acido PTBBA (p *t*-Butilbenzoico)
- BPA (Bisfenolo A)
- Restrizioni su alcuni composti Organostannici

NEL CORSO DEGLI ULTIMI 7 ANNI TUTTI GLI STABILIZZANTI SONO STATI RIFORMULATI

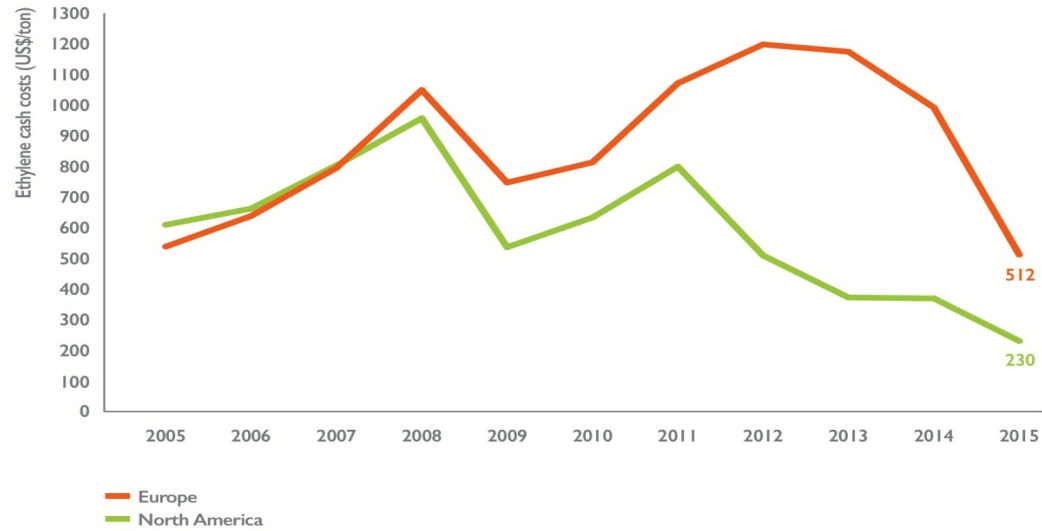
EU regulatory cost has doubled in the last ten years



Sources: EU Commission Report, "Cumulative Cost Assessment, (CCA)
for the EU Chemical Industry" (11 July 2016)

Unless specified, chemical industry excludes pharmaceuticals
Unless specified, EU refers to EU 28

Energy costs are the European industry's Achilles' heel

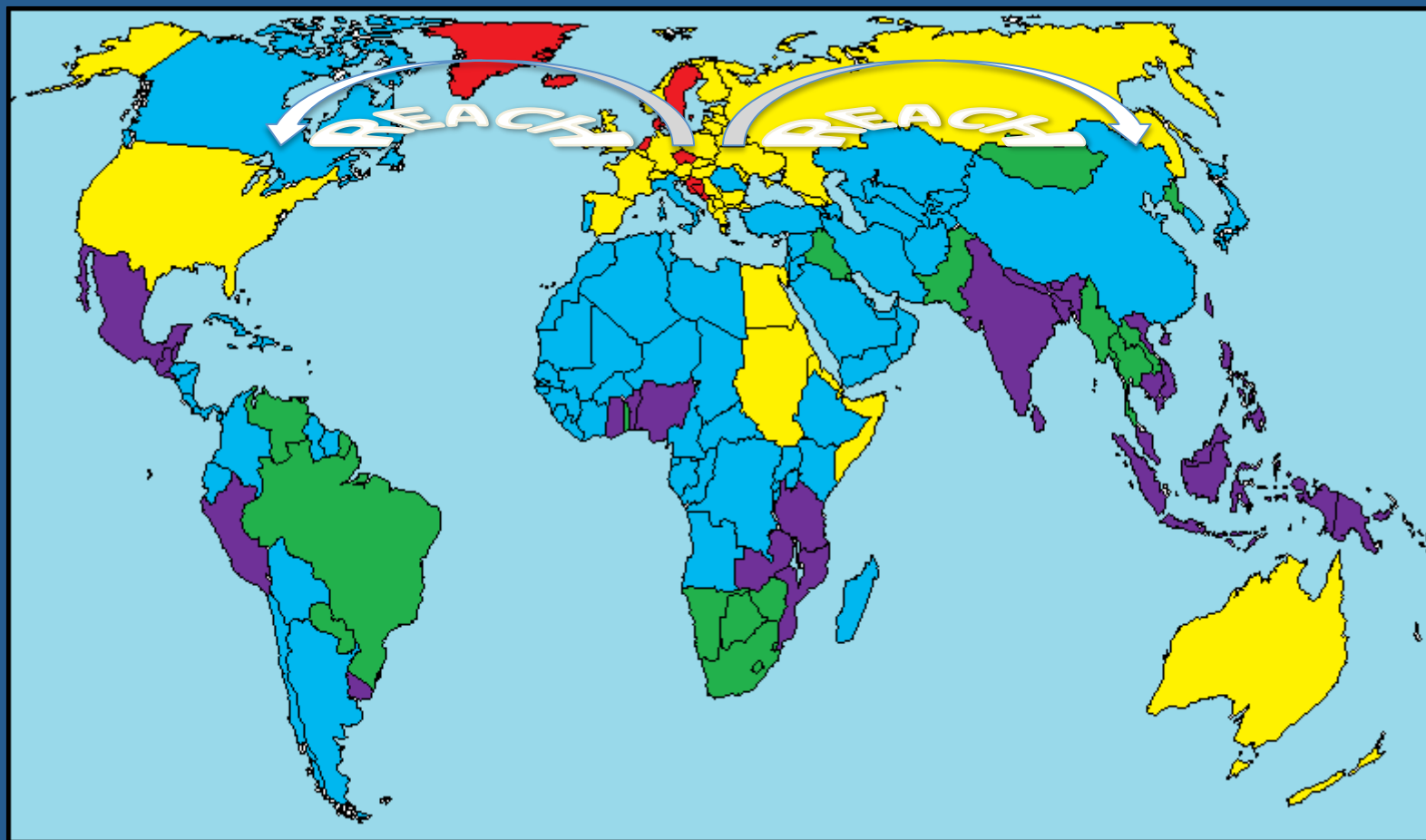


Sources: ICIS and Cefic analysis

Unless specified, chemical industry excludes pharmaceuticals
Unless specified, EU refers to EU 28

Ethylene Cash Cost (US\$/tonne C2)											
Ethylene Cash Cost (US\$/tonne C2)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Europe	538,2	638,0	795,1	1.049,4	746,6	812,9	1.070,9	1.198,2	1.173,9	992,4	512,1
North America	609,0	662,0	803,0	957,0	536,0	633,0	799,0	509,0	372,0	369,0	230,0

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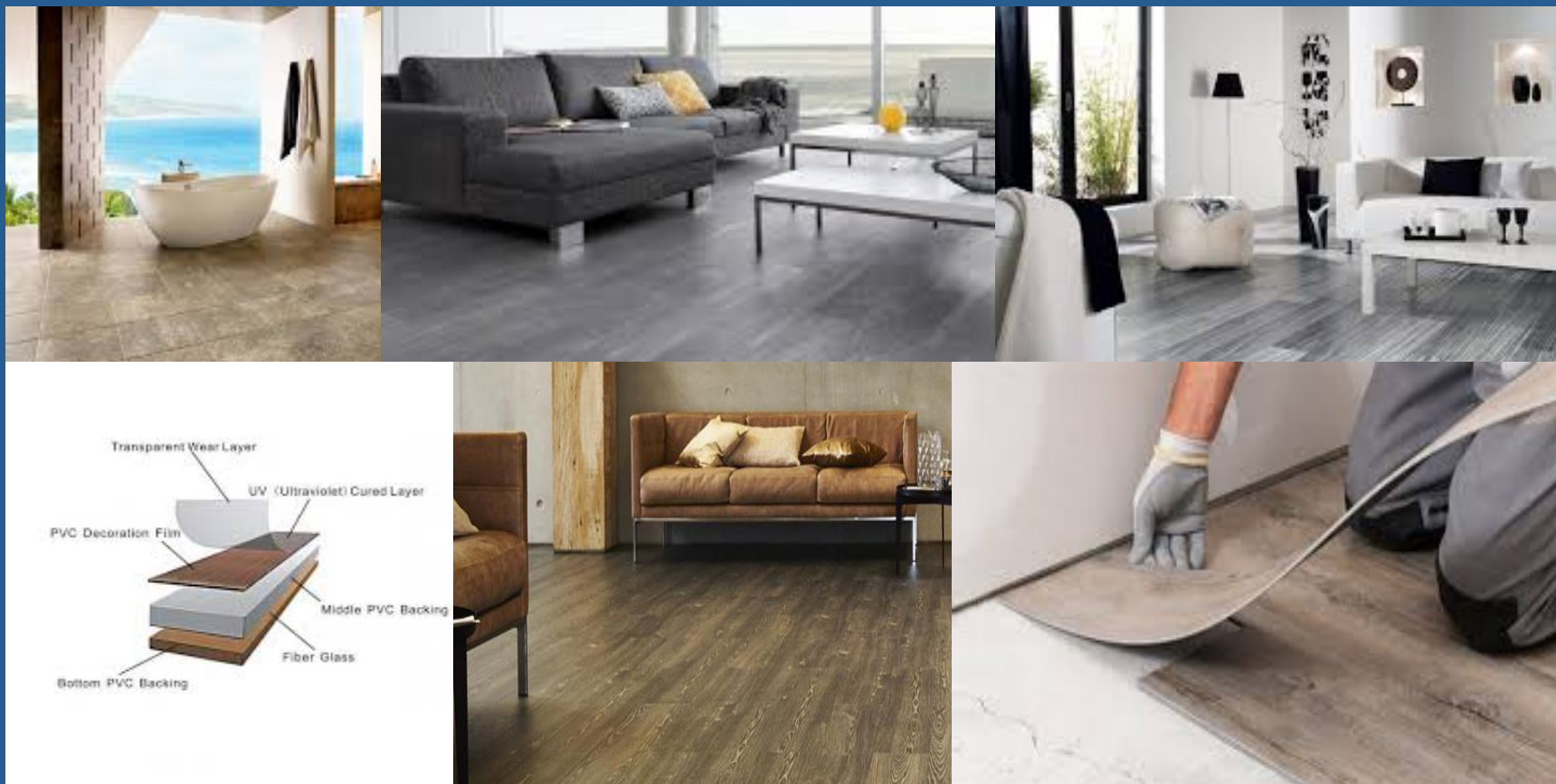
Regulations Impacting PVC

- California Prop. 65- “Safe Drinking Water and Toxic Enforcement Act of 1986. State legislation intended to protect citizens and drinking water “from chemicals known to cause cancer, birth defects, or other reproductive harm, and to inform citizens about exposures to such chemicals.”
- REACH- A European Union regulation aimed at protecting human health and the environment from Chemical risks.
- German AgBB Specification and DIBt Regulation- Restrictions on VOC emissions from construction products. Very tight restriction on Phenol emissions.
- California Specification 01350- Restrictions on VOCs from products used indoors.

California's Proposition 65

- List of Chemicals known to the state of California to cause cancer or reproductive harm. <http://oehha.ca.gov/prop65>
- Most up to date list is August 25, 2015 which can be found at: http://oehha.ca.gov/prop65/prop65_list/files/P65single082515.pdf
- Some common or formerly common PVC additives appear on the list- BPA, BHA, BBP, Cadmium, Lead, DEHP, DIDP, DINP, DBP and many more....

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LVT: Luxury Vinyl Tiles

THANK
YOU!