



Conseil
d'Analyse
économique



Créativité et innovation dans les territoires : leçons à tirer pour les zones rurales et de montagne

Présentation de Michel Godet
Euromontana 15-17 septembre 2010
Lillehammer , Norvege





Available on line : www.laprospective.fr

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Créativité et innovation dans les territoires

Rapport
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Commentaires
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Compléments
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La
documentation
Française





Développement durable ?

- ✓ « Développement qui répond aux besoins du présent sans compromettre la capacité des générations futures à répondre aux leurs »

Rapport Brundtland 1987





L'Europe face aux défis du futur

- ✓ Un monde nouveau se prépare pour l'Europe vieillissante
- ✓ Développement durable , réchauffement, PAC et tourisme il va falloir tout changer
- ✓ Nous sommes à l'aube d'une troisième vague d'innovations



Le vieillissement, une bonne nouvelle !

- ✓ L'espérance de vie a augmenté
 - ✓ de 44 ans depuis 1900
 - ✓ De 7 ans depuis 1980
 - ✓ De 5 ans d'ici à 2030

- ✓ Une femme de 60 ans a 27 ans d'espérance de vie et aura 32 ans en 2030



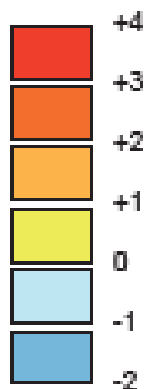
La tectonique démographique

	2009	2050	Δ
Population (en millions)			
Chine	1331	1437	106
Inde	1171	1748	577
Russie	142	117	-25
Japon	127	95	-32
Afrique	999	1934	environ 1 milliard
Amérique latine	540	675	135
<i>Etats -Unis</i>	306	439	133
<i>Europe</i>	738	702	- 36

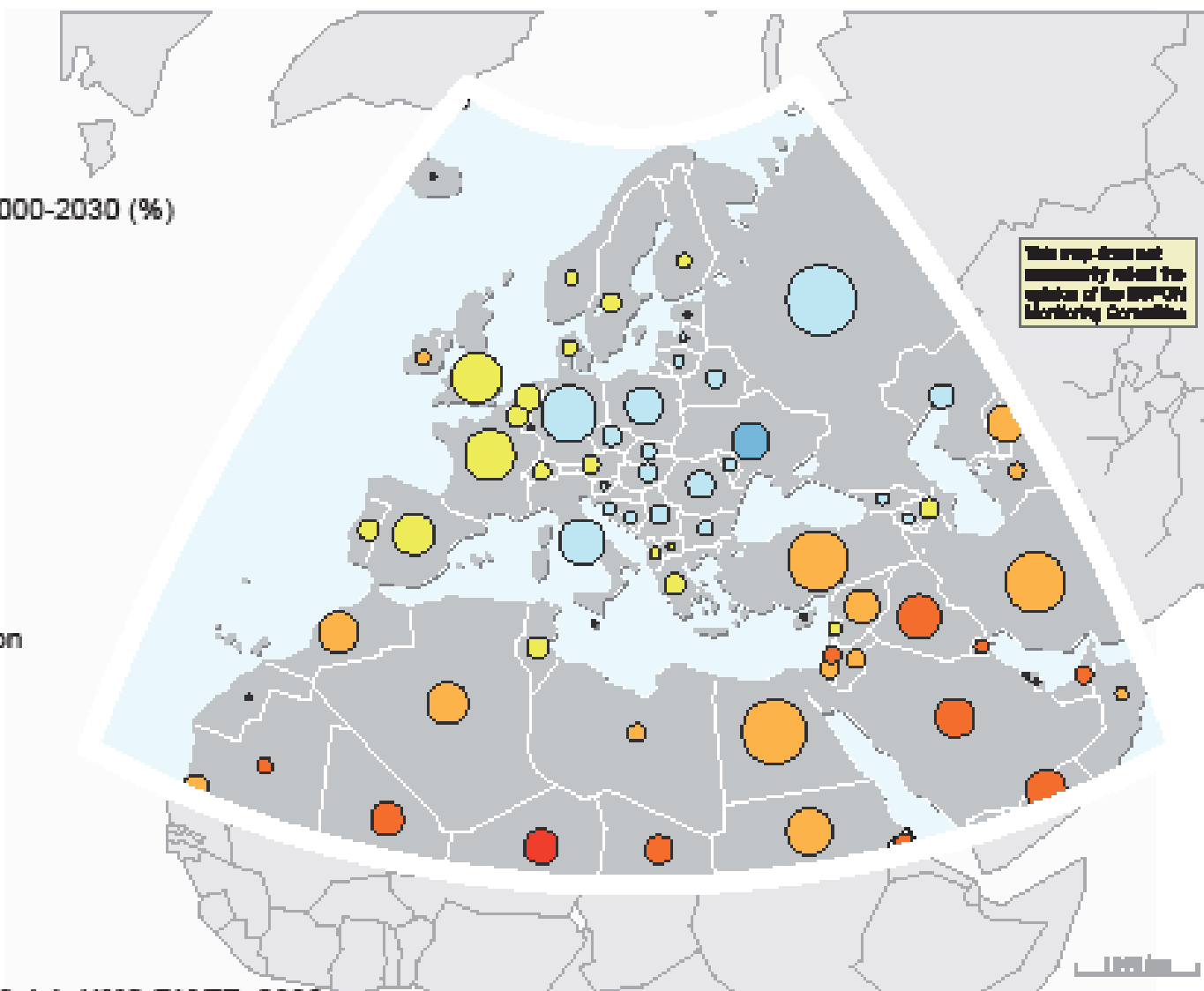


Map 8: Population growth in EU and its neighbourhood in 2030

Annual growth rate 2000-2030 (%)



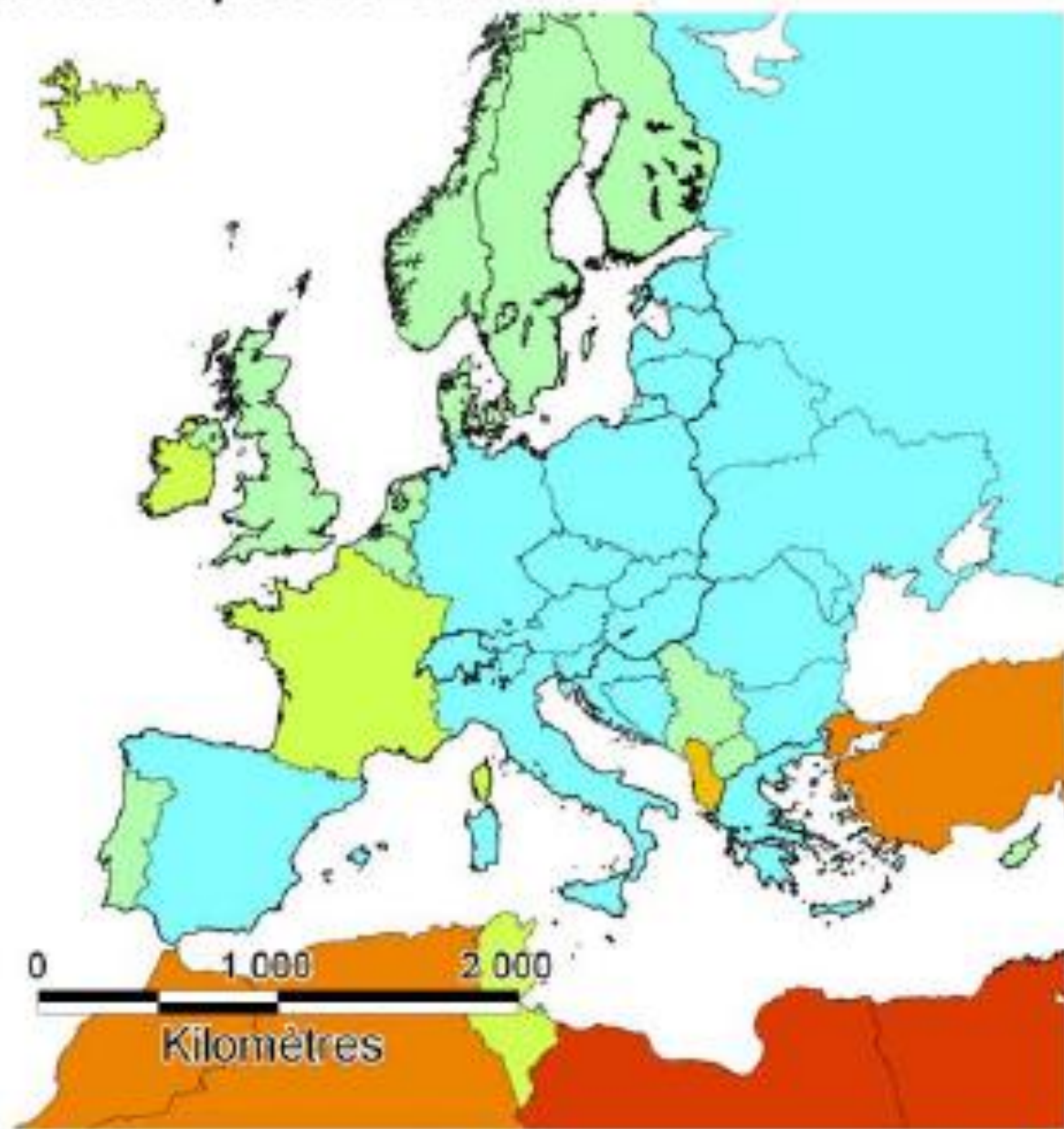
Estimated population in 2030 (millions)



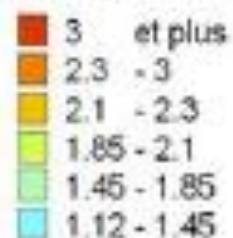
ESPON and Project 3.4.1, UMS RIATE, 2006

Source: UNPP 2005

Fécondité en Europe 2000 - 2005



*Indice conjonctuel de fécondité
enfants par femme*



Source : Nations Unies
division de la population
révision 2004

Source : Population & Avenir, n° 639/640, 1998



Hey There is a Kid !



paru dans *Population et Avenir*





L'effondrement démographique de l'Europe (25) entre 2010 et 2030

- ✓ Les jeunes de 16-24 ans - 7 millions
- ✓ Les adultes de 25-54 ans - 25 millions
- ✓ Les travailleurs de 55-64 ans + 9 millions
- ✓ Conséquences sur les flux migratoires



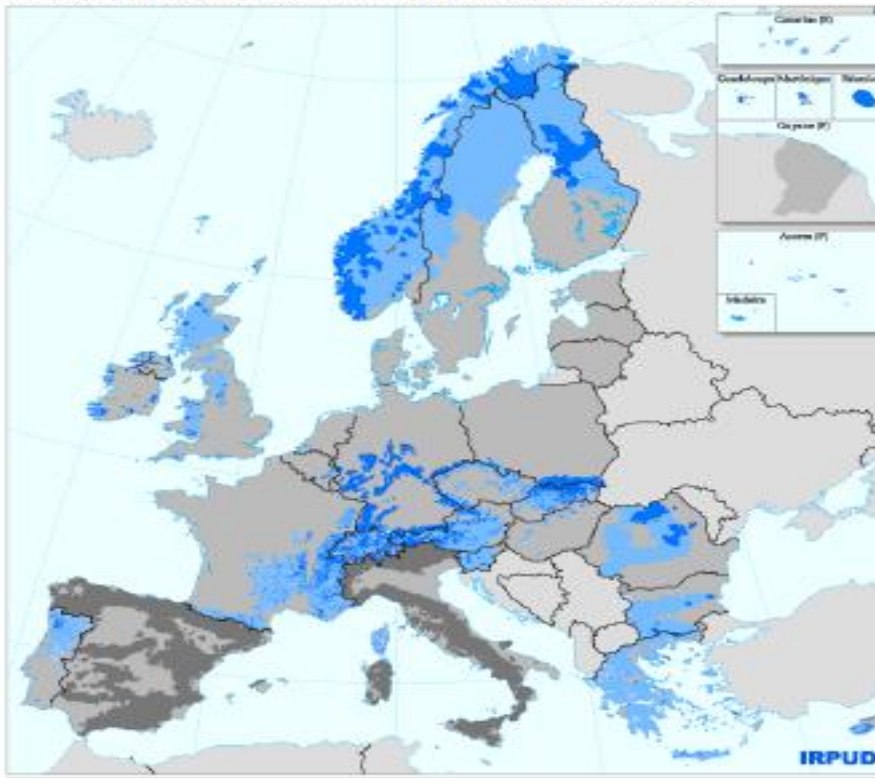
Le Vieillissement par le haut de l'Europe (25) entre 2010 et 2030

- ✓ Les seniors 65-79 ans + 25 millions
- ✓ Les anciens + de 80 ans + 34 millions



Le double vieillissement des zones de montagne : moins de jeunes plus d'anciens !

Figure 5.8. Proportion of inhabitants under 15 in mountainous municipalities



Proportion of inhabitants under 15 in mountainous municipalities

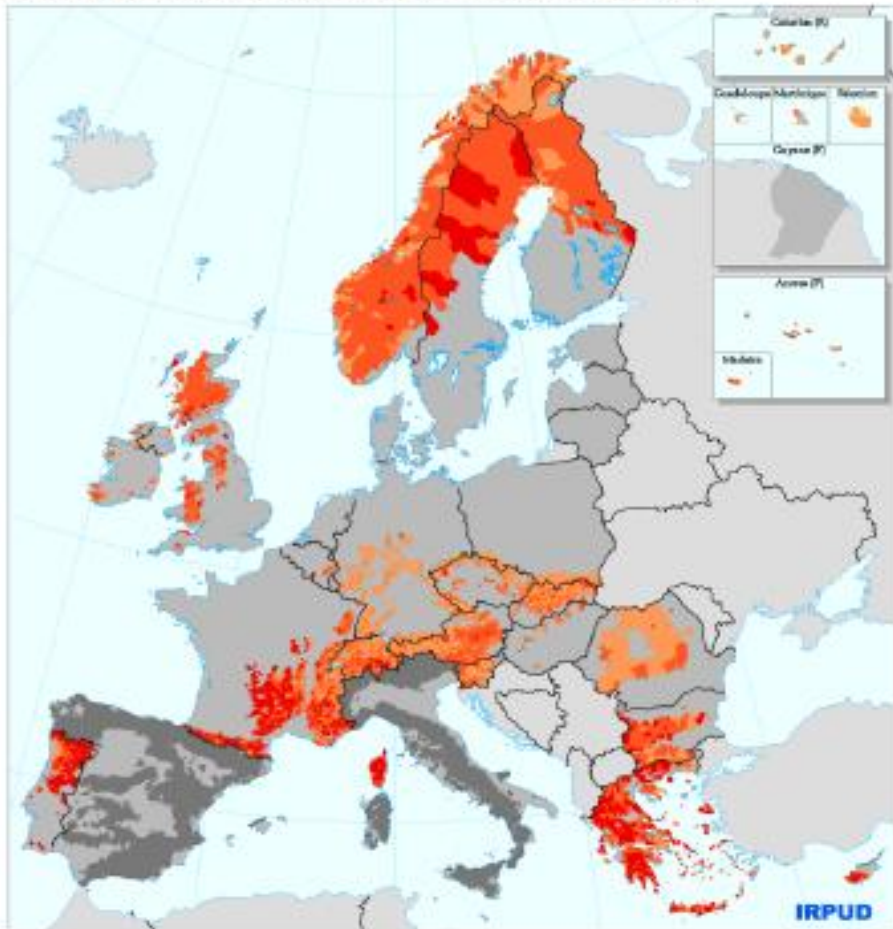
in percent

0 - 10	Data not available
11 - 20	Study area
21 - 30	Other countries
31 - 40	
41 - 50	
51 - 60	
61 - 70	
71 - 80	
81 - 90	
91 - 100	

Source: National statistical institutes

0 500000 1000000

Figure 5.9. Proportion of inhabitants over 60 in mountainous municipalities



Proportion of inhabitants over 60 in mountainous municipalities

in percent

0 - 10	Data not available
11 - 20	Study area
21 - 30	Other countries
31 - 40	
41 - 50	
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Source: National statistical institutes

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Les Crises sont porteuses d'espoir

- ✓ l'énergie chère est abondante, ce qui est rare c'est l'énergie bon marché
- ✓ Réserves prouvées de pétrole ? Varient avec le prix

30 ans en 1973 à \$4

47 ans en 2003 à \$45

plus de 100 an en 2008 à \$150 !





Demain la nouvelle PAC

Accords de Berlin et compromis de Luxembourg

Ouverture du Marché européen.

- **Libéralisation des marchés**
- **Diminution des subventions de toute nature y compris à l'exportation**
- **Aides directes aux agriculteurs**





Nos convictions

- ✓ Pas de Paysages sans paysans !
- ✓ Pas d'éco-culteurs sans agriculteurs producteurs et réciproquement
- ✓ Ni surenchère libérale, ni surenchère verte qui risquent de conduire
 - ✓ À de nouveaux risques alimentaires (la proximité est favorable à la traçabilité et à la sécurité)
 - ✓ À la dépendance alimentaire
 - ✓ Au démantèlement de la filière agroalimentaire
- ✓ L'innovation dans les filières et la valorisation des terroirs (lait cru, vache au pré, veau sous la mère..)
- ✓ L'agriculture source d'énergie renouvelable ?



Tourisme: huit tendances (plutôt) favorables à la Montagne et aux zones rurales

- ✓ T1 : les vacances toujours malgré la crise
- ✓ T2 : les prix au détriment de la destination
- ✓ T3 : la mer première destination
- ✓ T4 : des séjours + courts chez des amis à la campagne et à la montagne
- ✓ T5 : les non qualités de l'offre (accueil, langues, services)
- ✓ T6 : vieillissement et migrations internationales
- ✓ T7 : renchérissements et insécurité des déplacements
- ✓ T8 : attractivité des lieux de mémoire et de qualité de vie



.....et leurs conséquences

- ✓ Repli sur l'Europe (insécurité et coûts des déplacements lointains)
- ✓ Marché de la solitude et de l'ennui des temps morts... offre de biens porteurs de liens et de temps social (esprit croisière et recherche des lieux de mémoire)
- ✓ Marché de la santé, de la forme et de l'alicament (thermalisme, remise en forme)
- ✓ Attractivité internationale qui passe par la différenciation et la qualité des services



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L'innovation ?

- ✓ Une idée transformée en produit ou service répondant à un besoin
- ✓ L'innovation n'est qu'à 20% technique et à 80% sociale, organisationnelle, commerciale financière
- ✓ Comme les champignons, elle pousse mieux dans les territoires créatifs avec l'humus du lien et de l'harmonie sociale
- ✓ La montagne et les zones rurales terrains propices à l'innovation tant qu'il y aura des hommes porteurs de valeurs et de projets



L'innovation *high tech* est un enjeu capital,
mais l'innovation *low tech* est aussi importante, pour trois raisons :

1. à l'origine des trois-quarts des innovations des entreprises, on ne trouve pas la science pure, mais les clients, les fournisseurs et les salariés
2. le *high tech* doit s'appuyer sur des innovations dans les organisations, la gouvernance, la formation, le management,
3. à niveau comparable, c'est la créativité dans les usages des technologies qui démultiplie l'innovation et fait la différence entre les entreprises





Créativité et attractivité des territoires : atouts des montagnes et des zones rurales

- ✓ Les facteurs de développement sont endogènes
- ✓ le territoire est un écosystème et un lieu privilégié de l'innovation
- ✓ pas de modèle universel de l'innovation
- ✓ pôles de compétitivité ET pôles de qualité de vie
- ✓ Les magiciens de la croissance





Le développement endogène

- ✓ Diversité des taux de chômage en Europe et entre bassins d'emplois
- ✓ Les mutations seront les mêmes pour tous
- ✓ Ce ne sont pas les infrastructures qui font le développement
- ✓ Compter sur soi, bien se connaître. Les causes de succès et d'échec des entreprises & territoires sont plus internes qu'externes
- ✓ L'union des acteurs proches fait la force
- ✓ Le temps long pour réussir et la contradiction des horloges



Le handicap est une différence à positiver !

La montagne et les zones rurales cumulent les handicaps

- ✓ Eloignement et faible densité
 - ✓ Espaces de qualité de vie préservés et attractifs pour retraités et jeunes actifs de l'économie présentielle
- ✓ Réchauffement climatique
 - ✓ Menaces pour les sports d'hiver mais fraîcheur des étés dans les zones de moyenne montagne ex de St Bonnet le Froid
- ✓ Réforme de la PAC vers l'éco conditionnalité et les aides directes aux producteurs
 - ✓ Une chance pour la production dans les zones défavorisées



Le développement endogène : territoires de projets et réseaux sociaux

- ✓ *Des projets multiples et partagés dans des lieux de qualité de vie et de cohésion sociale*
- ✓ *S'appuyer sur les forces, transformer les handicaps en opportunité*
- ✓ *C'est le développement qui rentabilise les infrastructures*
- ✓ *Savoir être et savoir faire*
- ✓ *Produire des biens porteurs de liens*
- ✓ *Devenir un pôle de qualité de vie et de services*





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Un territoire créatif : les trois T de Florida (Talents, Technologie, Tolérance)

✓ Un territoire créatif ?

- ✓ L'atmosphère et la qualité de vie attirent les talents
- ✓ Généreux avec les créatifs
- ✓ Accueillant avec les étrangers
- ✓ Tolérant avec les déviants

✓ La qualité de vie ?

- ✓ Harmonie et cohésion sociale
- ✓ Sécurité des biens et des personnes
- ✓ Intensité de la vie associative et culturelle
- ✓ Inégalités pas trop fortes



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**Apprendre, c'est copier les idées des autres,
innover c'est rassembler des idées pour**

répondre à un besoin

Globalisation et modularisation :

qui produit l'iPhone 3GS ?

(produit phare d'Apple)

- o Design Apple, Cupertino, CA
- o Puce bluetooth + WiFi + FM Broadcom, Irvine CA
- o Écran tactile Balda (Allemagne)
- o Adaptateur alimentation Cheng Uei (Taiwan)
- o Mémoire flash Toshiba
- o Assemblage Foxconn (Shenzhen)





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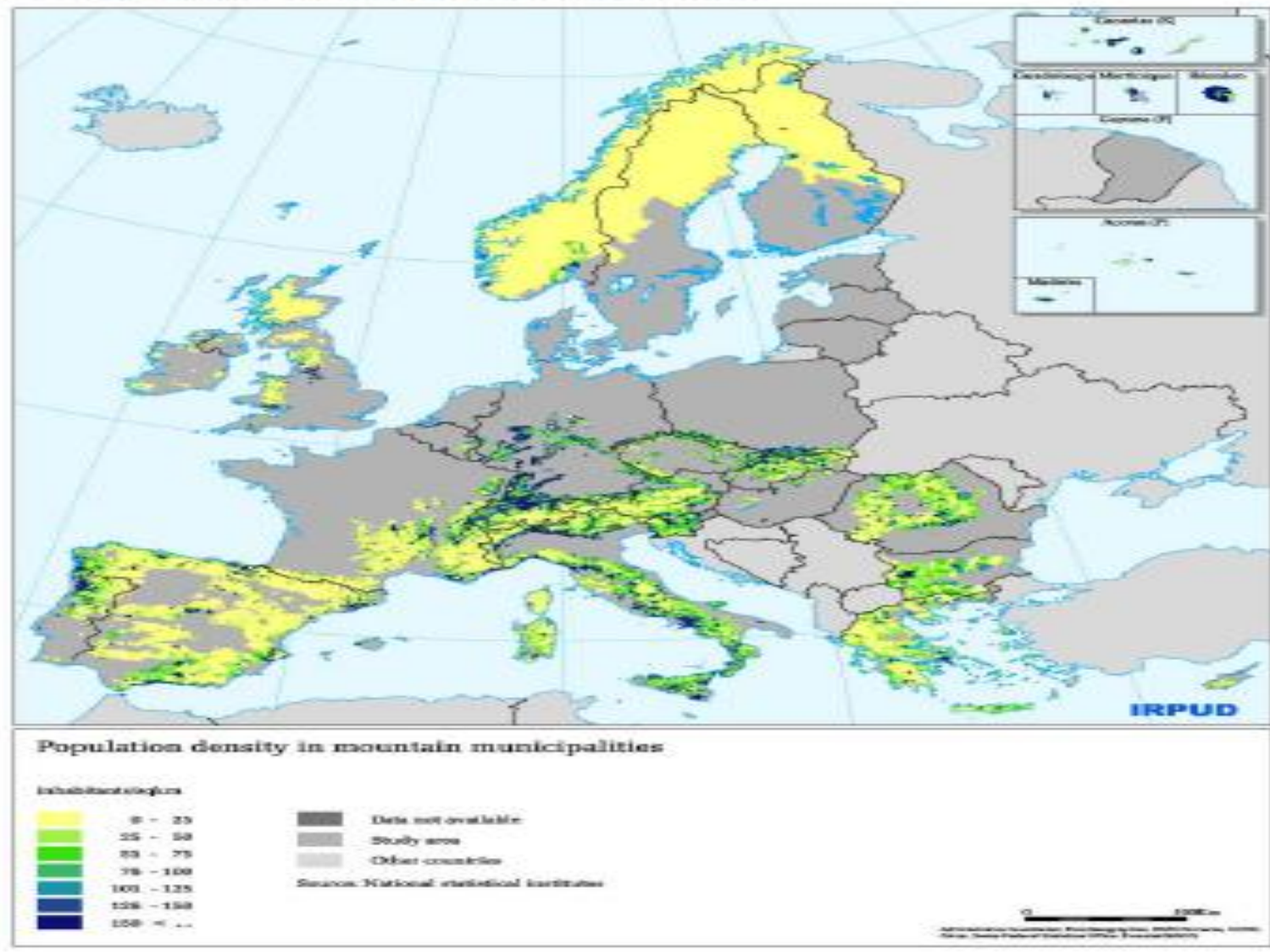
Pôles de compétitivité pour la production

Pôles de qualité de vie pour la consommation

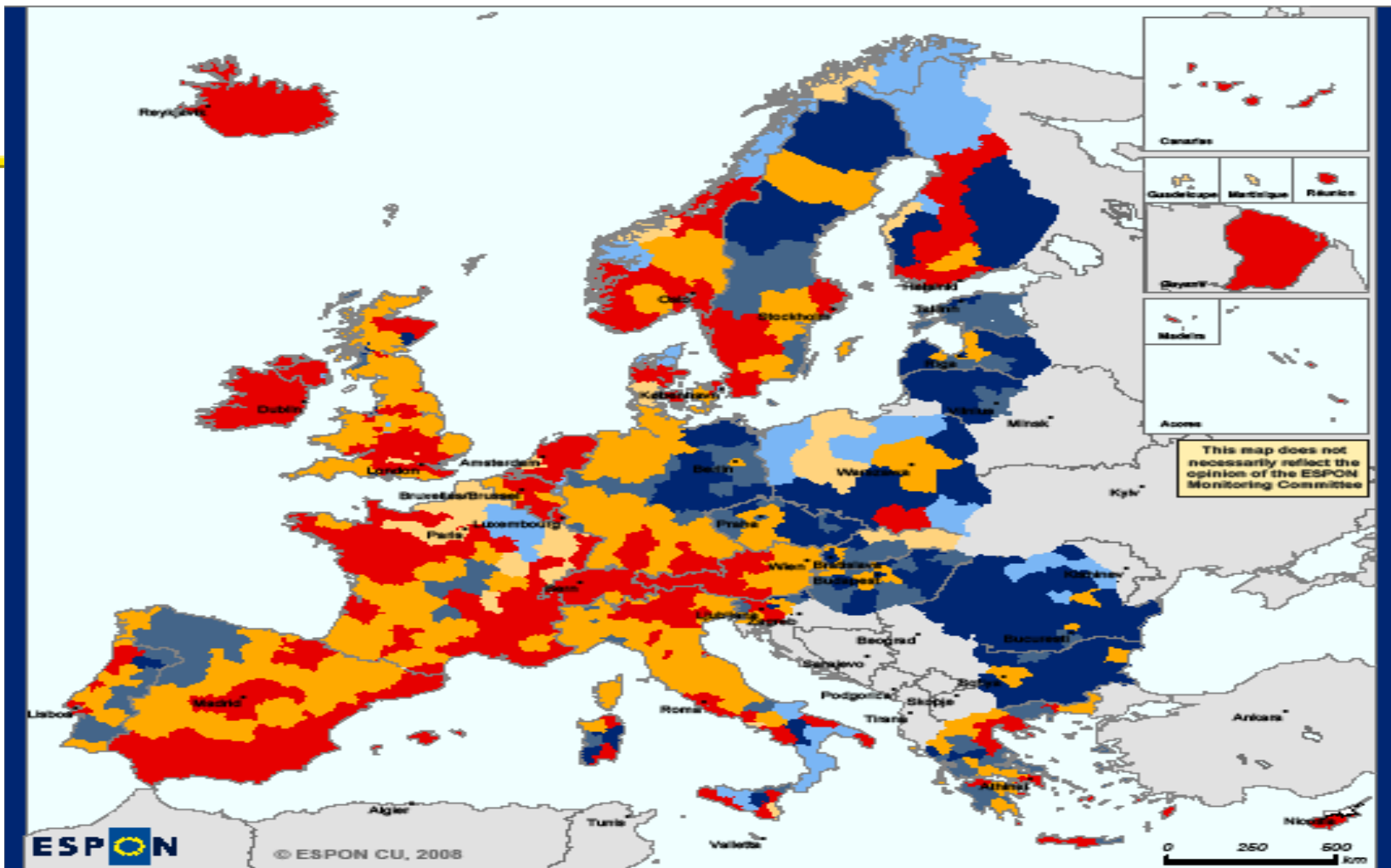
- ✓ Le PIB par habitant n'est pas un bon indicateur de niveau de vie
- ✓ L'Economie présenteielle explique 80% des revenus
- ✓ Les lieux de production et lieux de consommation
- ✓ L'importance des revenus de transferts
- ✓ Les inégalités de revenus et de patrimoine participent à l'aménagement équilibré du territoire

Densité de population en montagne

Figure 5.5. Population density in mountain municipalities



Map 1: Typology of population development, 2001-2005



This map does not necessarily reflect the opinion of the ESPON Monitoring Committee

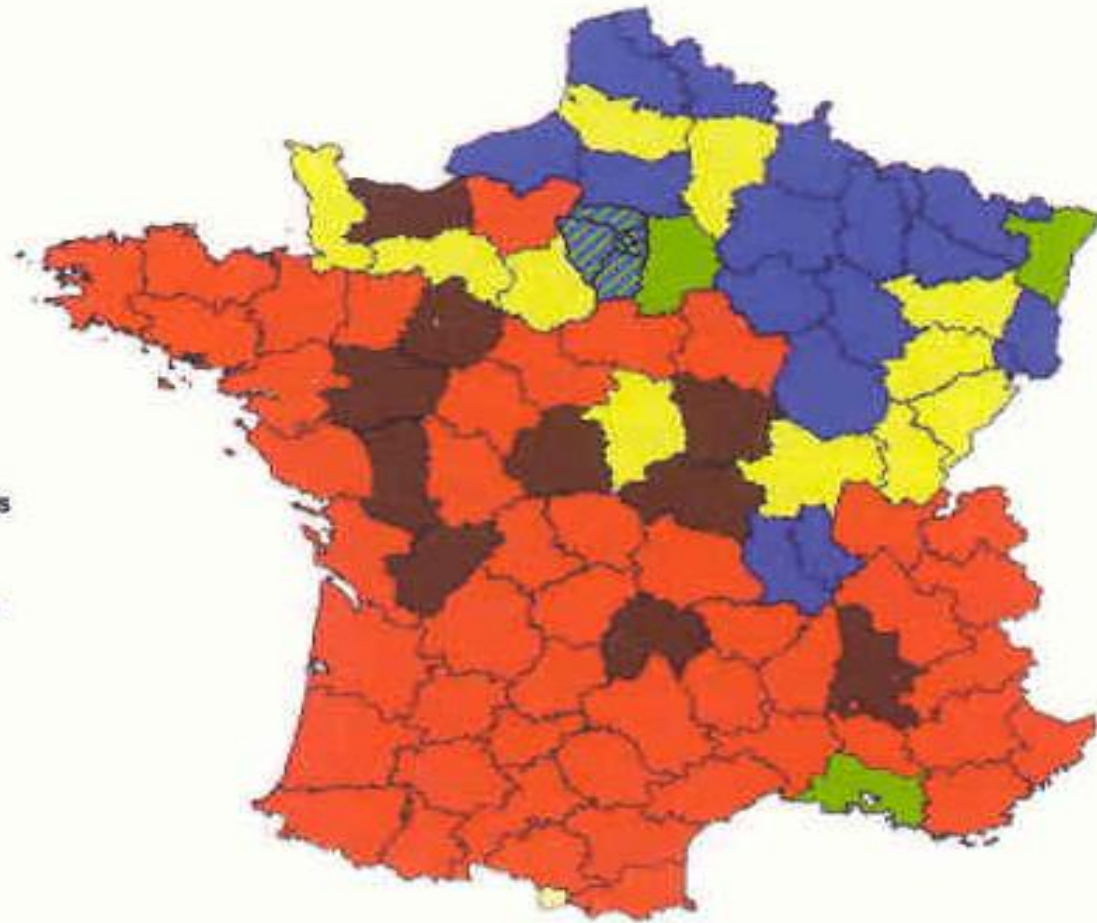
ESPON logo and text: ESPON logo, supported by the European Regional Development Fund Investment in YOUR Future

- Population increase with**
- positive migratory balance and positive natural balance
 - positive migratory balance and negative natural balance
 - negative migratory balance and positive natural balance
- Population decrease with**
- negative migratory balance and positive natural balance
 - positive migratory balance and negative natural balance
 - negative migratory balance and negative natural balance
 - no data

© EuroGeographics Association for administrative boundaries
 Regional level: AT, BE, CH, CY, DE, IS, MT, NL, PL: NUTS2
 Other countries NUTS3 (2006)
 Origin of data: Eurostat (estimations)
 Source: ESPON 2013 database



Les territoires attractifs et répulsifs



Les cinq profils

-  Zones attractives seniors
-  Zones bi-attractives
-  Zones répulsives jeunes
-  Zones bi-répulsives
-  Zones spécifiques



Messages essentiels

- ✓ Dans l'économie présente, la production est territorialisée et donc non délocalisable
- ✓ Renforcer les pôles de compétitivité par des pôles de qualité de vie et services
- ✓ L'essoufflement des grandes métropoles
- ✓ locomotives L'essor des pôles de qualité de vie dans le littoral, les campagnes et les Alpes





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Les magiciens de la croissance

- ✓ **Aider les créateurs à devenir entrepreneurs**
 - ✓ il y a peu de créateurs entrepreneurs et peu d'entrepreneurs sont innovants
 - ✓ l'innovation technique est un atout même si elle n'intervient que dans moins d'un tiers des créations
 - ✓ la politique publique est trop centrée sur les chômeurs créateurs et les innovants techniques



Des contraintes aux opportunités du développement durable

- ✓ *Produire ce qui se vend et non
vendre ce que l'on produit*
- ✓ *développement durable +
production à la demande =
traçabilité + proximité*
- ✓ *La relocalisation des activités*



Les Grands Marchés de demain en Europe?

- ✓ La Solitude & le vieillissement
- ✓ La Sécurité des biens et des personnes
- ✓ Le quaternaire & l'éco de la fonctionnalité
: des services incorporant des biens





Conclusions pour les montagnes et les zones rurales

- ✓ Des opportunités pour les lieux de qualité de vie et de services aux personnes et d'harmonie sociale comme les montagnes et les zones rurales
- ✓ Jouer la carte des activités de l'économie présentielle, des services aux populations vieillissantes et de l'innovation dans les territoires attractifs et créatifs
- ✓ Mutualiser les bonnes pratiques
- ✓ Il n'y a pas de territoires condamnés mais des territoires sans projets et sans hommes de qualité pour les porter.



Du diagnostic aux actions ?

- ✓ A quelques exceptions près, autour des Alpes notamment, les zones rurales et de montagne sont menacées de déclin démographique
- ✓ Il n'y a pas de fatalité, les défis du vieillissement de la PAC du développement durable sont aussi des opportunités pour innover et attirer des populations nouvelles par la qualité de vie et de services
- ✓ Ma question : qu'allez vous faire après ce forum pour y parvenir ?

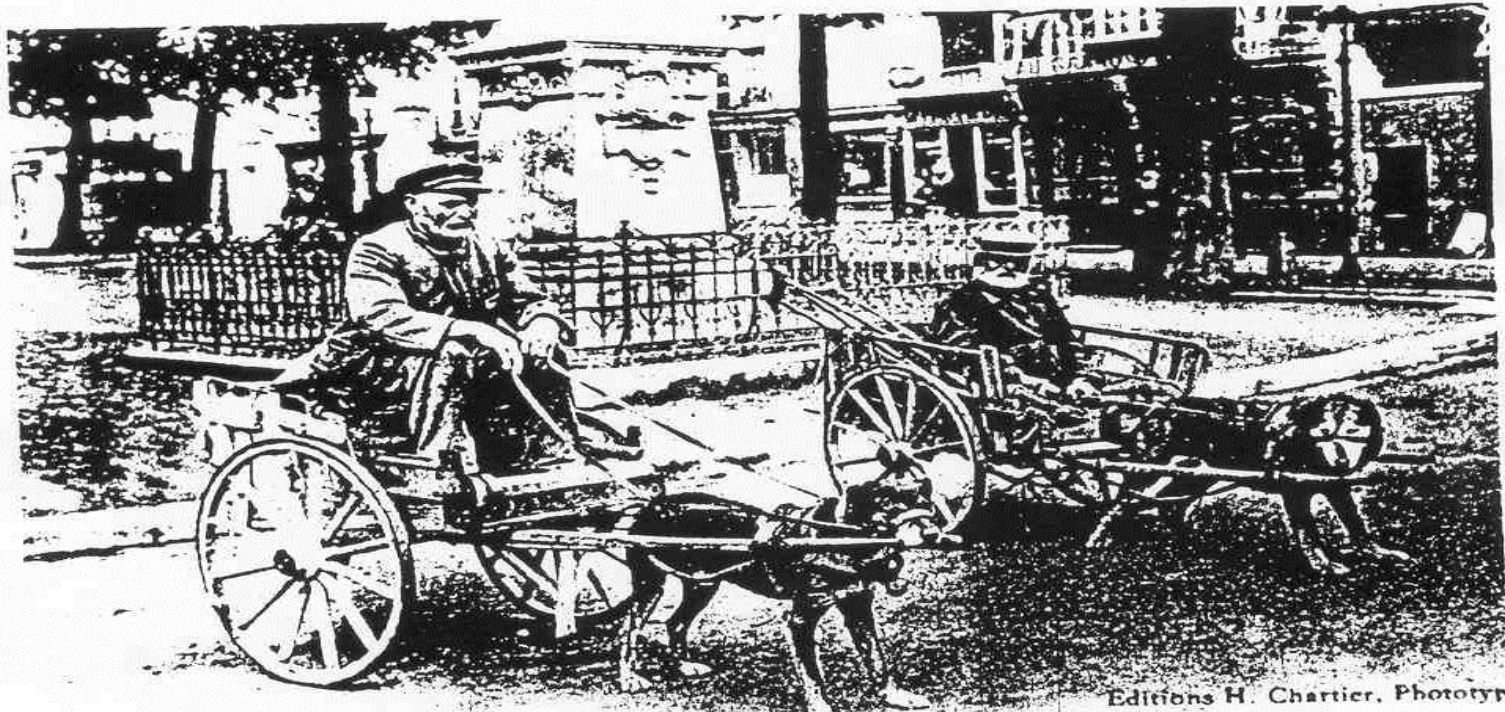
"FEED IT OR KILL IT"



Where is progress taking us ?

Vendôme during the War 14-18 : dog taxis!

- ✓ A dog-drawn carriage with a chauffeur.



24 - VENDÔME - Place d'Armes - En attendant les Taxis !

Éditions H. Chartier, Phototyp



Ré Island, turn of the 21st century: Where is progress taking us?

- ✓ A man on a bicycle towing a dog in his trailer.





www.lapropective.fr

Cahiers du LIPSOR
LIPSOR Working Paper



Strategic Foresight
La Prospective
Use and Misuse of Scenario Building

Michel Godet

with Philippe Durance
and Adam Gerber

research working paper (#10)



INDUSTRIE
SYNTEC

Capgemini
CONSULTING & TECHNOLOGICAL SERVICES



The Entrepreneurs' Circle of the Future



Grand Prix de l'impertinence et des actions innovantes (30.000 €)



Cercle des Entrepreneurs du Futur

en association avec



Grand Prix de l'Impertinence

*Sous le Haut Patronage
du Ministre de l'Enseignement supérieur
et de la Recherche*

Appel à communications
2011



The EEA mission

The European Environment Agency is the EU body dedicated to providing sound, independent information on the environment

We are a main information source for those involved in developing, adopting, implementing and evaluating environmental policy, and also the general public

Boundary organisation: building bridges between science and policy



EEA clients are...

- **Institutions and governments: European Commission, European Parliament, Council, EEA member countries**
- **Policy influencers: NGOs, business, media, advisory groups, scientists, debaters**
- **General public**

32 EEA member and 6 collaborating countries



Resource efficiency, the green economy and environmental services in Europe



VIIth European Mountain Convention

"European Mountain Regions- A spirit of Innovation"

15th-17th September 2010, Lillehammer, Norway



**Europe's ecological backbone:
recognising the true value of our
mountains**

Today's three systemic crises

- Systemic multiple crises: finance/real economy, energy/climate, ecosystem/biodiversity, social
- Trust crisis: exposure of concealed debts (including ecological debt which is not even recorded in accounting books)
- Governance crisis: responses are a series of untested rescue packages and trial and error solutions



COMMON FEATURES	FINANCIAL CRISIS	CLIMATE CRISIS	NATURAL RESOURCES CRISIS
CAPITAL DESTROYED			
Financial	YES	YES	YES
Human	YES	YES	YES
Natural	YES	YES	YES
Social	YES	YES	YES
RISKS/ DEBTS PASSED ON TO CURRENT AND FUTURE 'OTHERS'?	YES	YES	YES



COMMON FEATURES	FINANCIAL CRISIS	CLIMATE CRISIS	NATURAL RESOURCES CRISIS
MARKET PRICES: Cover All costs?	NO	NO	NO
Reflect real risks?	NO	NO	NO
TRANSPARENT TRANSACTIONS?	NO	NO	NO
ACCOUNTING FOR WHAT MATTERS?	NO	NO	NO
EARLY WARNINGS HEEDED?	NO	NO	NO
ROBUST AND SUSTAINABLE SYSTEMS?	NO	NO	NO



Some features of good governance

- Maintaining capitals
- Balancing resource consumption
- Public participation
- Meeting needs of today's ageing populations and next generations



GOOD GOVERNANCE	FINANCIAL SYSTEMS	ENERGY SYSTEMS	ECOSYSTEMS
CONSUMING FLOWS WHILST MAINTAINING QUALITY AND QUANTITY OF ASSETS	CONSERVATIVE ASSET/ DEBT RATIOS	FROM STOCKS OF FOSSIL FUELS TO FLOWS OF RENEWABLES	MAINTAINING NATURAL CAPITAL STOCKS WHILE SECURING FLOWS OF ECOSYSTEM SERVICES
ALL RISKS AND DEBTS INTERNALISED INTO MARKET PRICES	REALISTIC ASSET/ DEBT PRICING	EXTERNALITIES INTERNALISED INTO PRICES	EXTERNALITIES INTERNALISED INTO PRICES
ECONOMIC TAX & SUBSIDY REFORM TO FINANCE “GREEN NEW DEAL”, AGEING POPULATION COSTS ETC	“TOBIN TAX” ON CURRENCY / COMMODITIES SPECULATION?	FROM TAXING PEOPLE TO TAXING ENERGY AND RESOURCES	FROM TAXING PEOPLE TO TAXING ENERGY AND RESOURCES
TRANSPARENT TRANSACTIONS	UNDERSTANDABLE FINANCIAL PRODUCTS	MARKET PRICES REVEALING “ECOLOGICAL TRUTH”	MARKET PRICES REVEALING “ECOLOGICAL TRUTH”



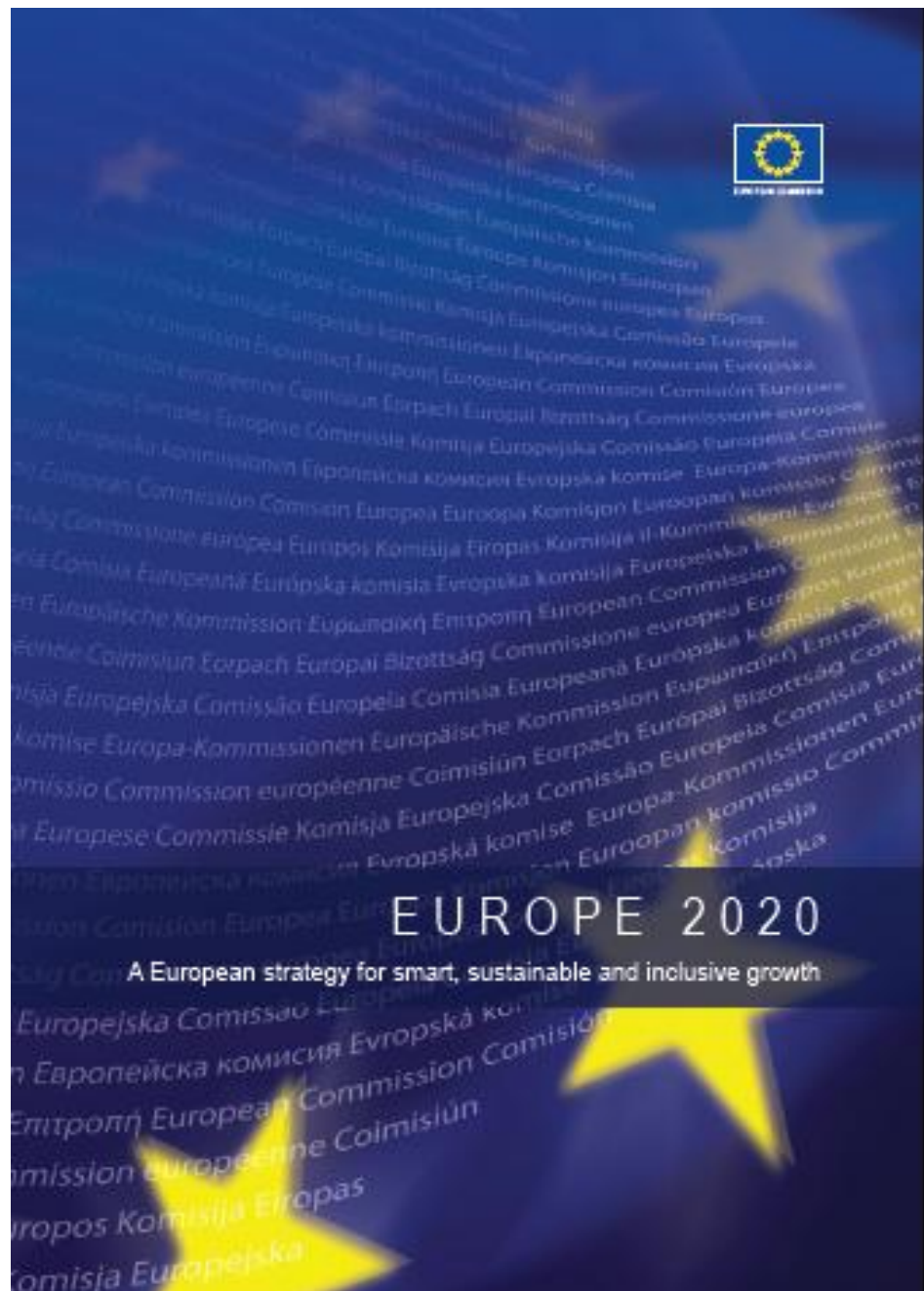
2010 must mark a new beginning!

‘ I want Europe to emerge stronger from the economic and financial crisis.

Our new agenda requires a coordinated European response, including with social partners and civil society.’ – President Baroso

And...

New EU Treaty: Territorial cohesion added as a strategic goal



Europe 2020 puts forward three mutually reinforcing priorities

- Smart growth: developing an economy based on knowledge and innovation.
- Sustainable growth: promoting a more resource efficient, greener and more competitive economy.
- Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.

Resource efficiency: the main show in town!

- **Policy framework coordinated by EC Secretariat General**
- **Targeted environmental focus by Commissioner Janez Potočnik**
- **Trade and Enterprise have a resource policy (ors & minerals)**
- **Water Framework directive – management plans at river bassin level**

What is it about? Answering to Commissioner Janez Potočnik

In essence, resource efficiency is about using natural capital and ecosystem services smartly so as to maximize welfare, minimise wastes – air emissions, sewage discharges and solid wastes - their impacts on ecosystems and people's health, and thereby reduce costs and increase Europe's competitiveness in the global economy.

Resource efficiency therefore has several different, sometimes conflicting objectives

- *Improvement of the economy's environmental performance referred to as "eco-efficiency" (or first decoupling). It is currently assessed by the ratio: value of commodities/ natural resource use*
- *Inter-generational optimisation of non-renewable resource use, i.e. depleting resources by means of resource savings and/or substitutions between different resources (the "weak sustainability" paradigm)*
- *Improvement of the ratio: value of commodities/ impacts on ecosystems (inland, sea and atmosphere systems). This "second decoupling" needs to consider the impacts of resource use on human health, ecosystems (fragmentation, resilience, biological productivity, biodiversity)*
- *Maintenance over time of the living natural capital to continue to supply sufficient quality and quantity economic resources as well as life support (clean water, clean air, stable climate, food...). Efficiency of resource use in this case refers to the ecosystems' carrying capacity*

Towards upgrading indicators on efficiency

- We must distinguish between managing the exhaustion of depletable non-renewable resources and maintaining the quality of non-depletable renewable resources
- We must reflect two distinct phenomena and their inter-relationships:
 - the demands that society makes on ecosystems for natural resources to fuel economic development,
 - and maintaining the structure and functions of ecosystems so that they can continue providing these stocks of natural resources for economic development as well as the regulating and cultural services provided by ecosystems that sustain life

Letter by President Barroso to the European Parliament, 7 Sept

The 2011 Work programme of the EC will include:

- Charting a low-carbon economy to 2050, and setting out the scenarios within which the EU can revolutionise energy and transport in the decades ahead
- Proposals to mainstream climate change into EU policies
- Proposals for the modernisation and reform of the common agricultural policy
- An energy efficiency strategy mapping out how to reach the target of 20% for 2020, for example in the building, utility and transport sectors
- Putting in place the right regulatory framework to pave the way for energy infrastructure, and prioritising smart grids in particular
- A new approach to Europe's strategic transport infrastructure

Europe's ecological backbone: recognising the true value of our mountains



© M. Price



Mountains (36 % of Europe's area) are often recognised as areas with permanent natural handicap – steep slopes, less fertile soils, extreme climate, remote location

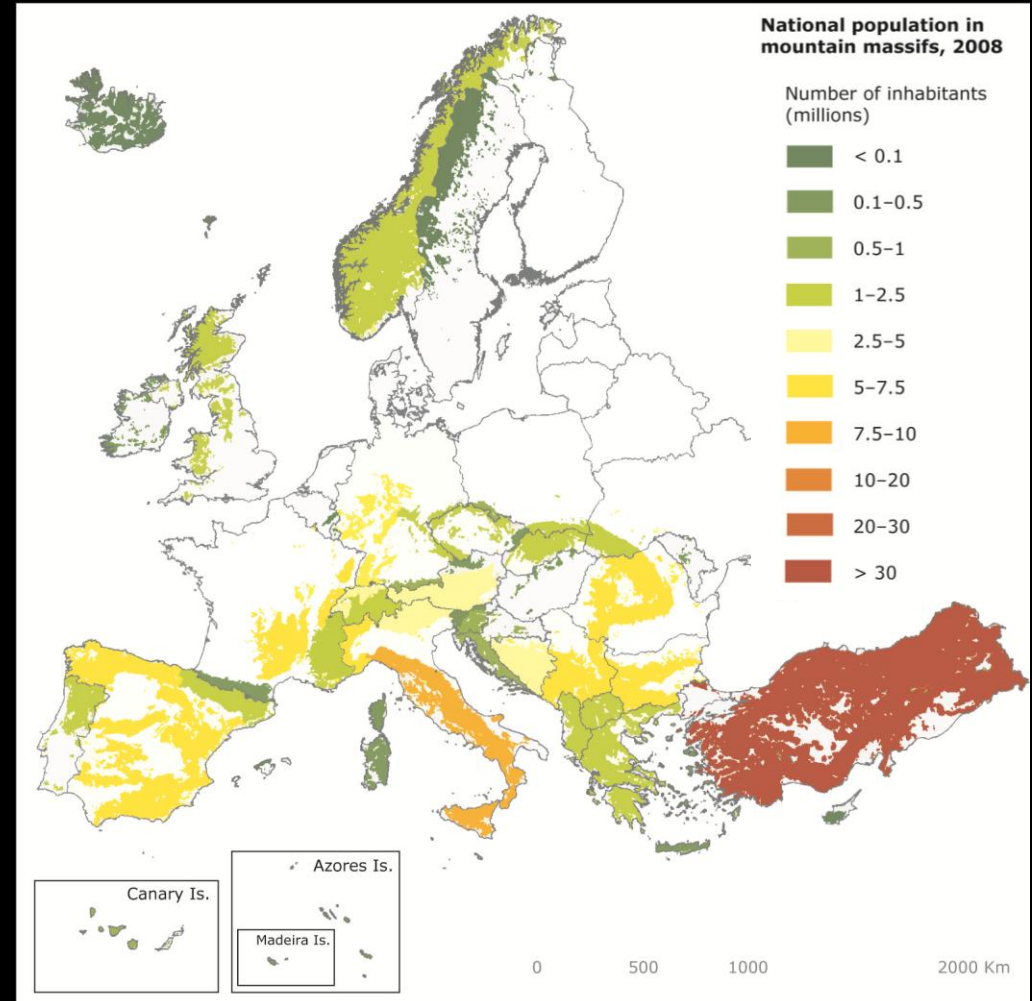


© M. Price



Mountains – population unevenly distributed, increasing but also depopulating in certain areas

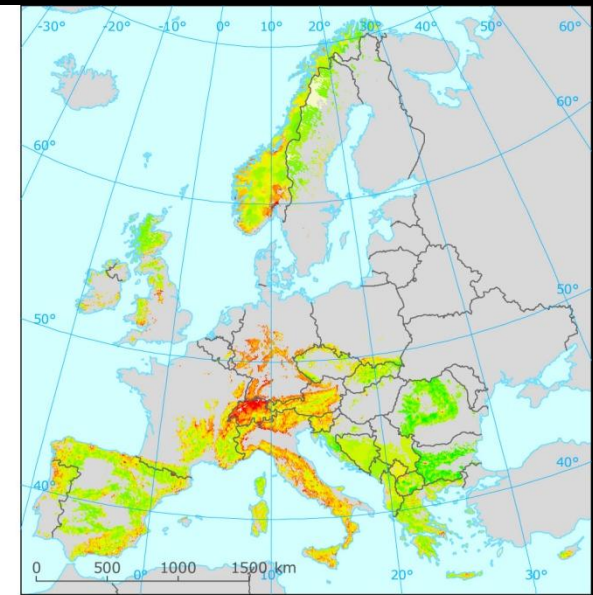
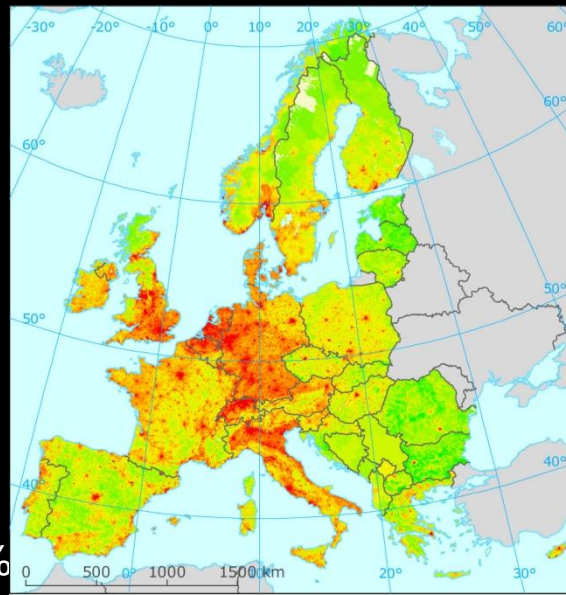
But 118 million people live in mountains (including Turkey) and 10 countries have at least half of their population living in mountains



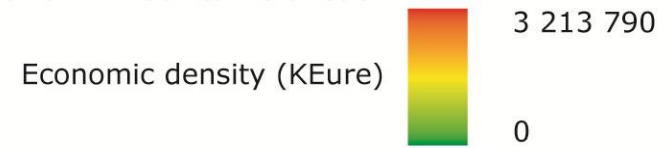
Mountain economy –
forestry, agriculture,
manufacturing and
services

Land cover

forest 41 %,
pasture and mosaic farmland 16 %
natural grasslands 15 %
unvegetated open space 14 %



Economic density in the EU-27 and in mountains areas



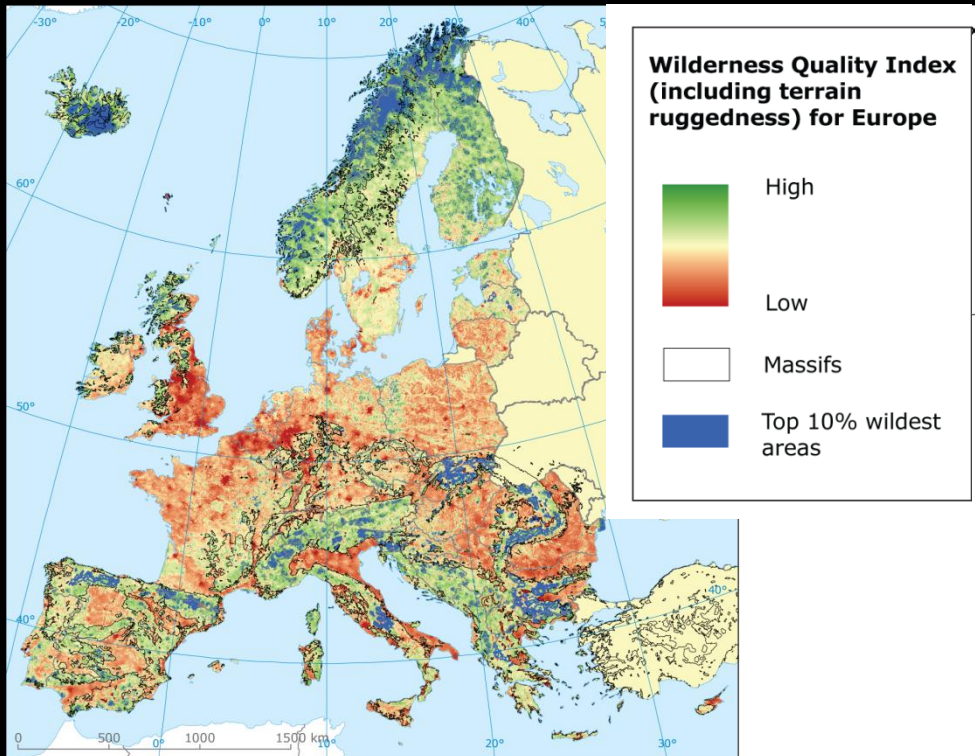
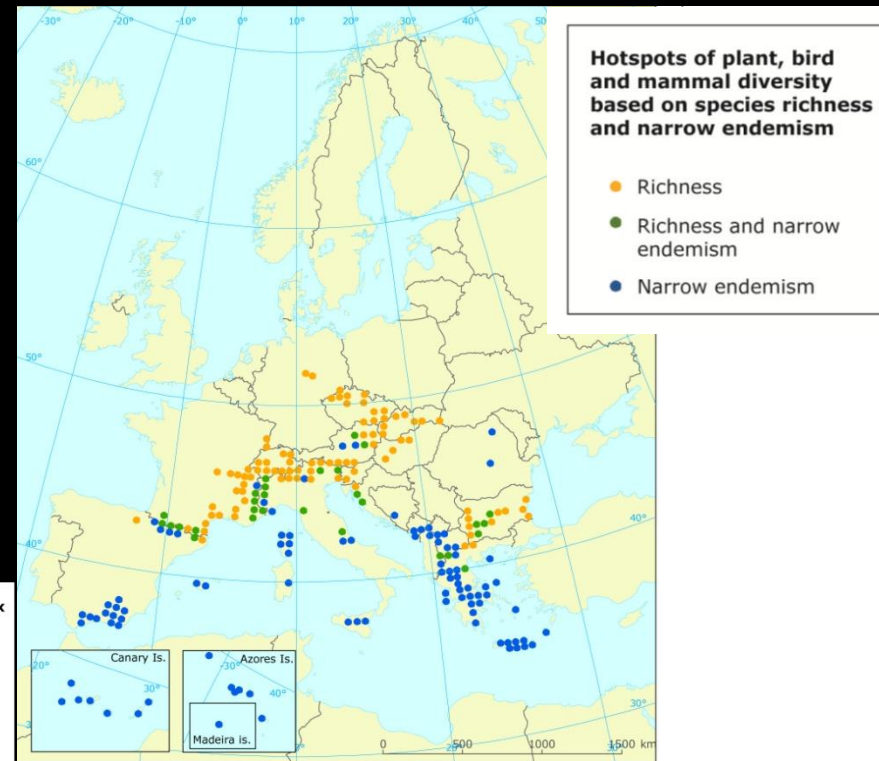
© B. Olah



Mountains are rich in biodiversity

16 % of Habitats Directive species live exclusively and other 11 % mainly in mountains

18 % of habitat types are linked to mountains, other 39 % occur in mountain areas

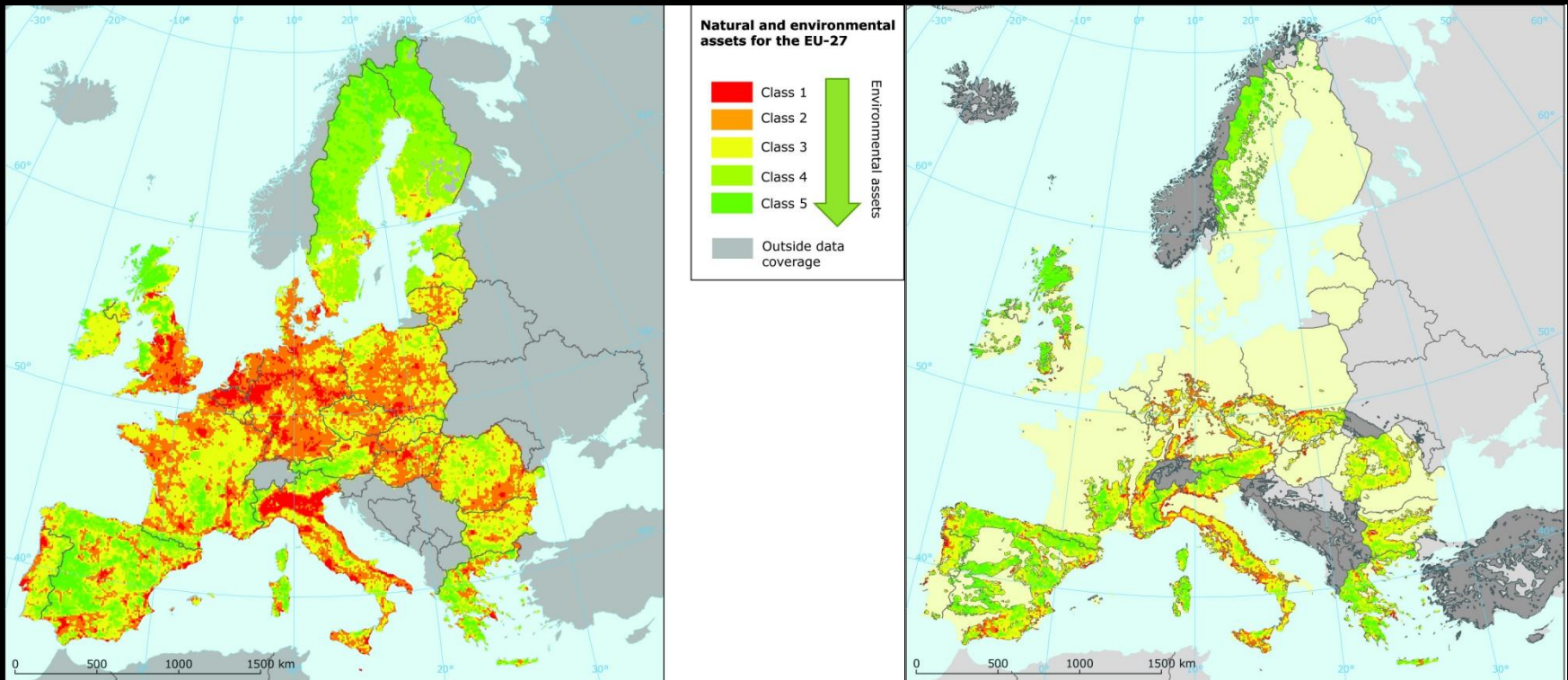


© P. Sackl



Mountains have, on average, better environmental quality than non-mountain areas

Based on economic density and accessibility, HNV farmland, proximity to natural areas, air quality and degree of soil sealing



Mountains provide essential ecosystem services

Services	Ecosystems	Agro ecosystems	Forests	Grasslands	Heath and scrubs	Wetlands	Lakes and rivers
Provisioning							
Crops/timber		↓	↑			↓	
Livestock		↓	=	=	=	↓	
Wild Foods		=	↓	↓		=	
Wood fuel			=		=		
Capture fisheries						=	=
Aquaculture						↓	↓
Genetic		=	↓	↓	=	=	
Fresh water			↓			↑	↑
Regulating							
Pollination		↑	↓	=			
Climate regulation			↑		=	=	=
Pest regulation		↑		=			
Erosion regulation			=	=	=		
Water regulation			=		↑	↑	=
Water purification						=	=
Hazard regulation						=	=
Cultural							
Recreation		↑	=	↓	↑	↑	=
Aesthetic		↑	=	=	=	↑	=

Trend between periods

↑ Positive change between the periods 1950–1990 and 1990 to present

↓ Negative change between the periods 1950–1990 and 1990 to present

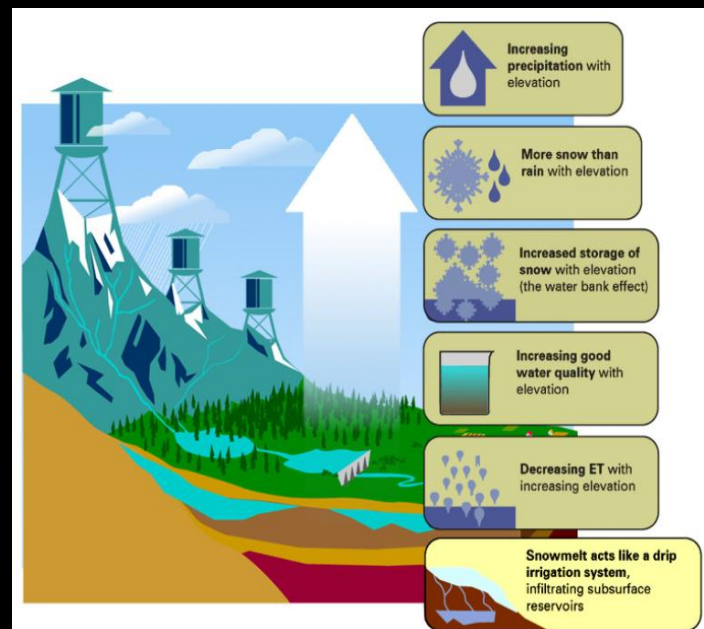
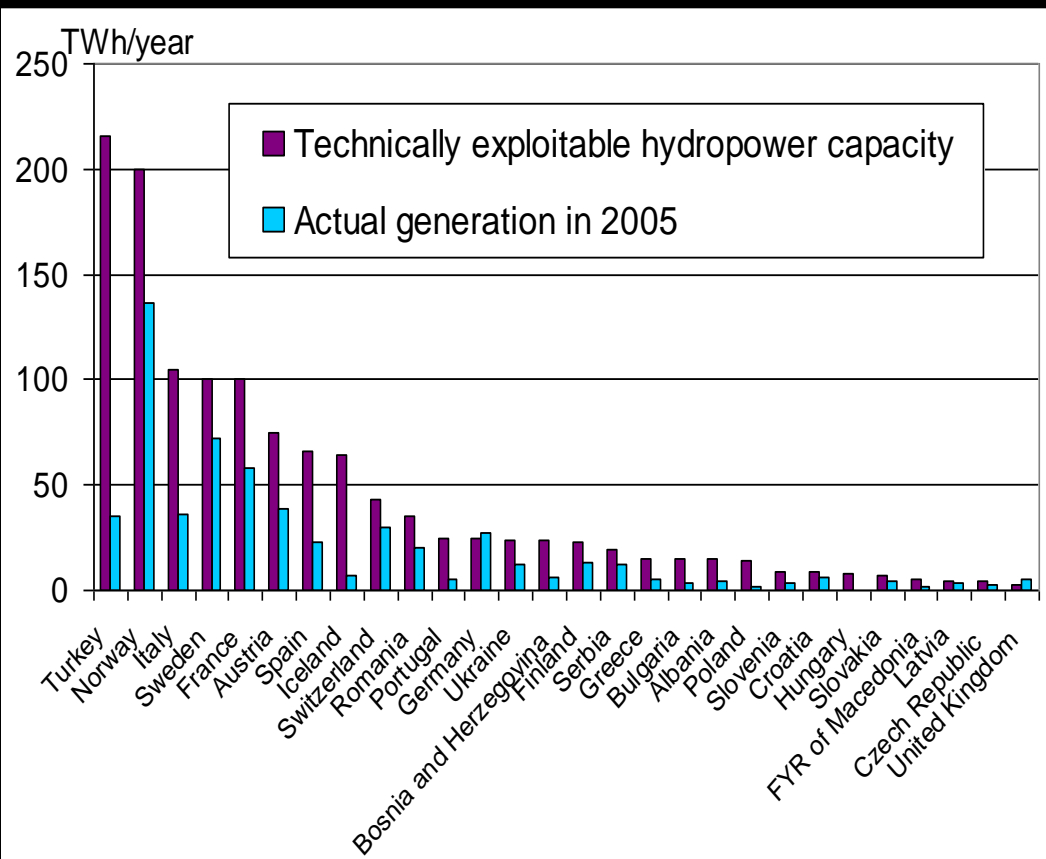
= No change between the two periods

Status for period 1990–present ■ Degraded ■ Mixed ■ Enhanced ■ Unknown □ Not applicable

degrading - the loss of biodiversity often reduces productivity of ecosystems



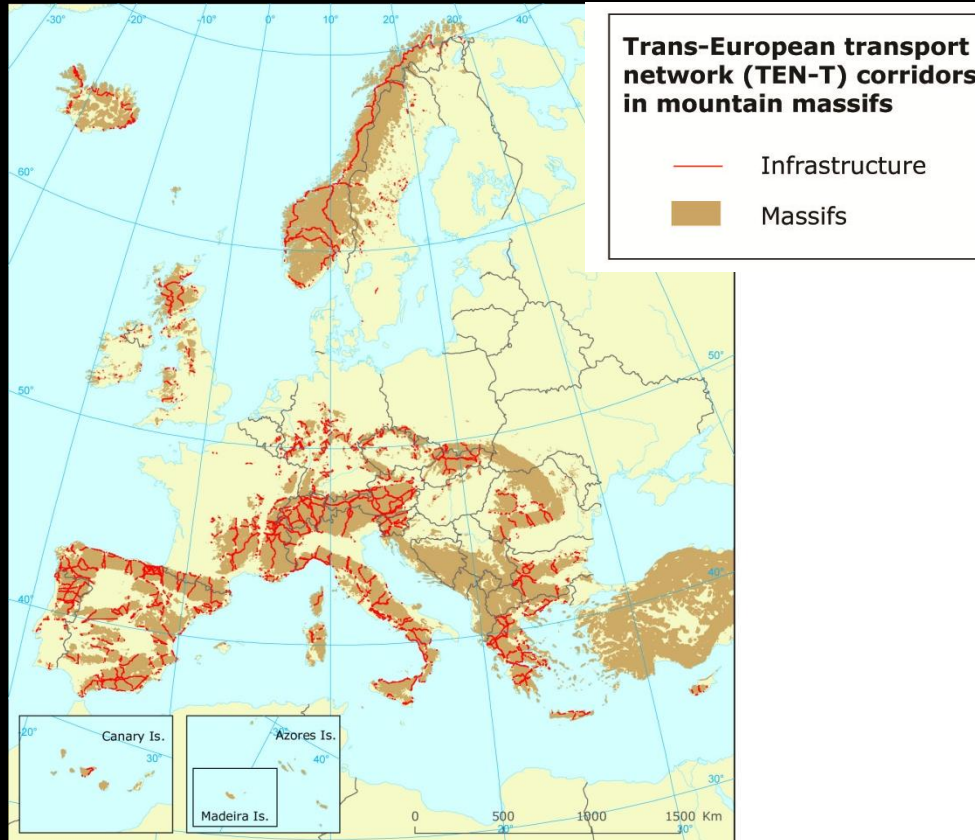
Mountains are a significant resource of water and renewable energy for whole Europe



Threads

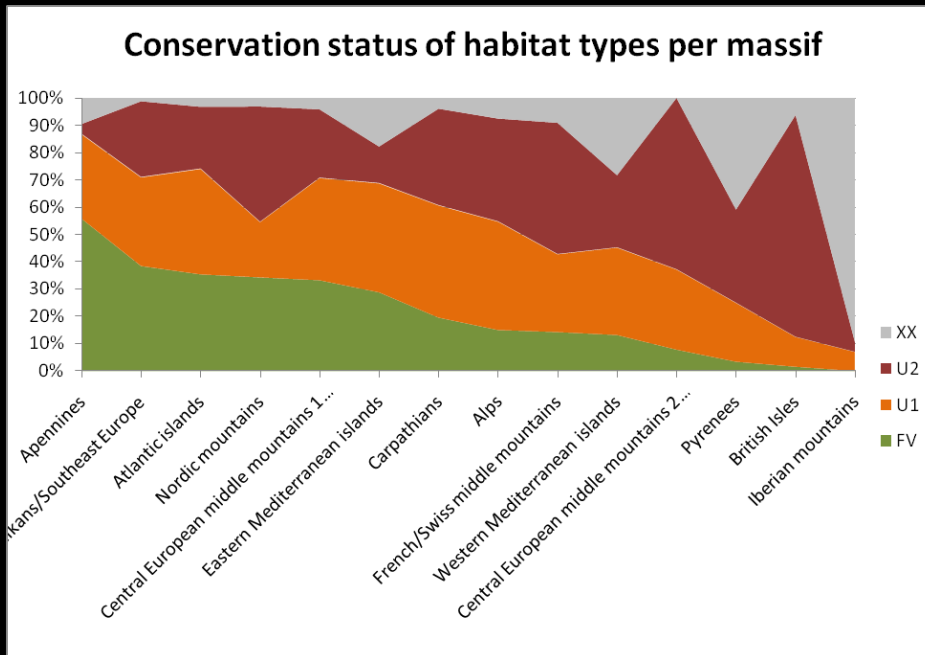
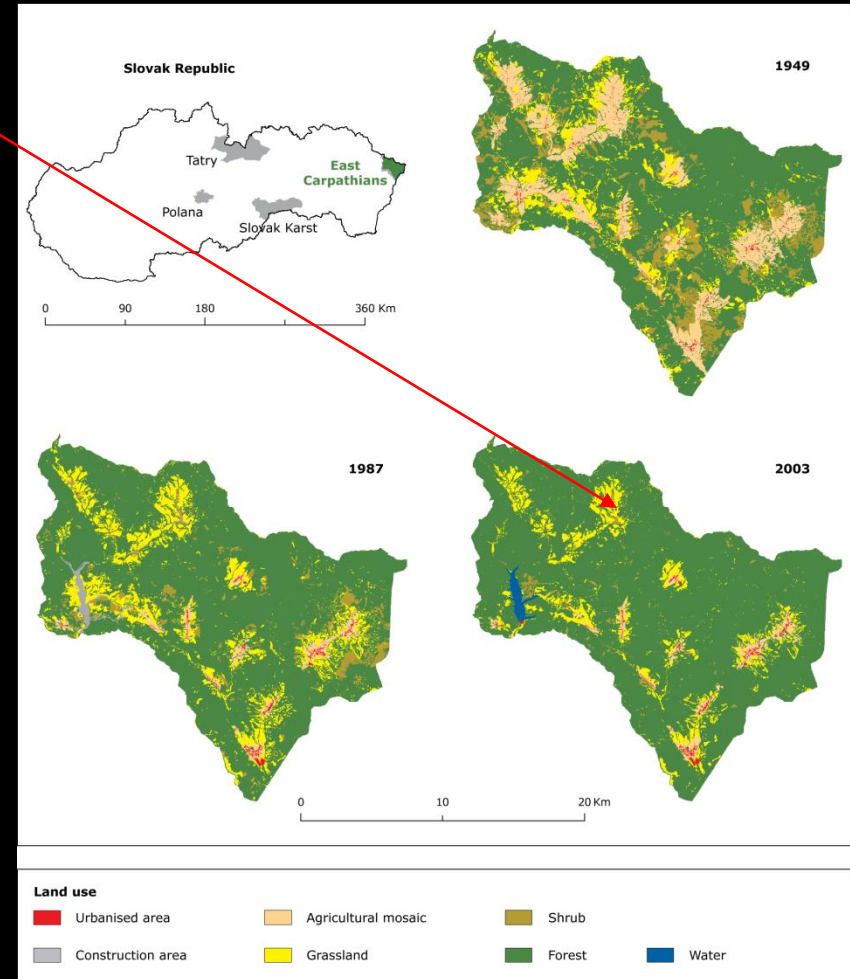
intensifying utilisation (agriculture, forestry, urbanisation, transport - habitat loss, fragmentation)

Up to 10 % of mountain areas is affected by TEN-T corridors and approx. half of mountain populations live within 5 km from those corridors



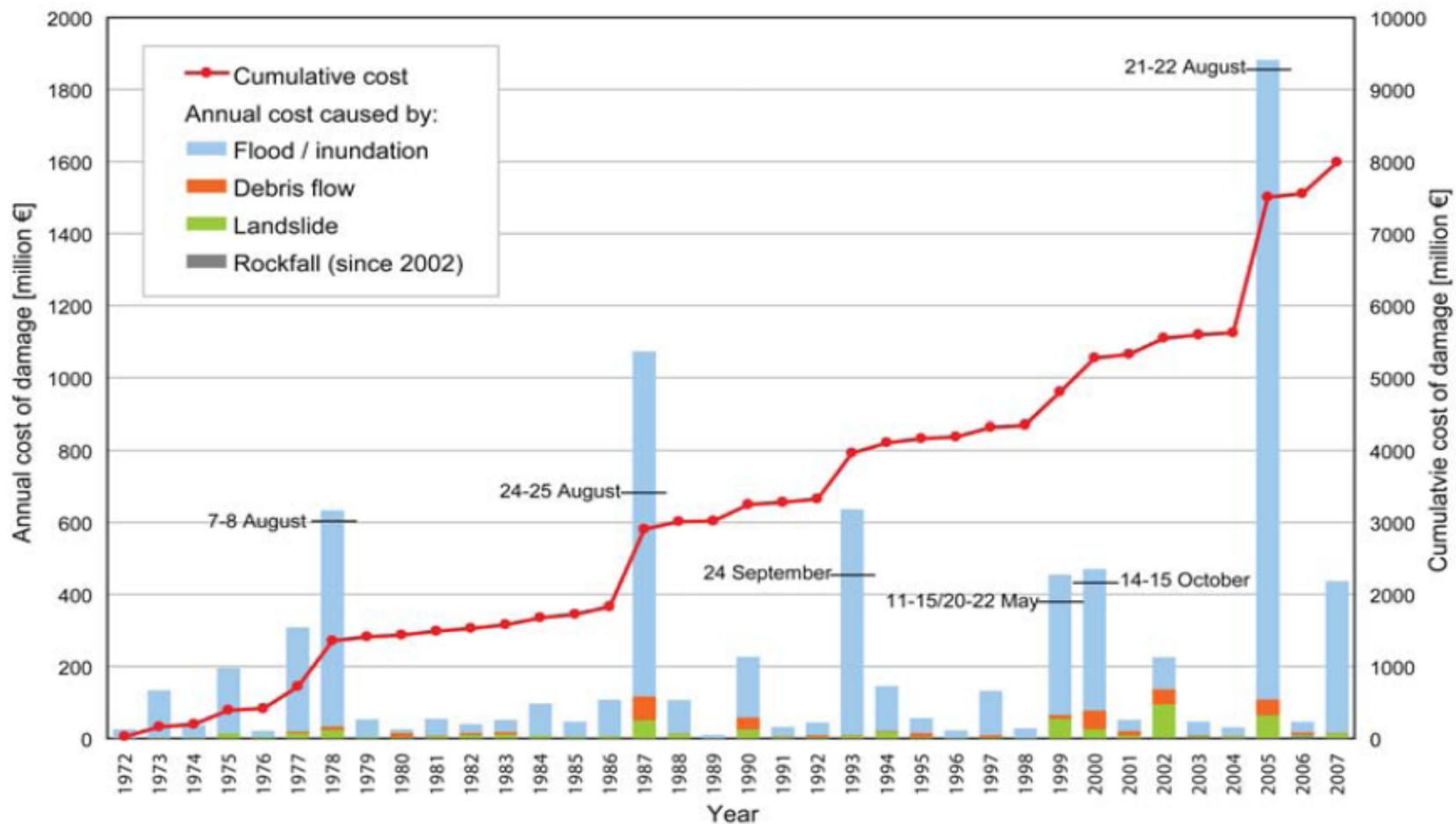
Threads

land abandonment (loss of species and ecosystems requiring management)



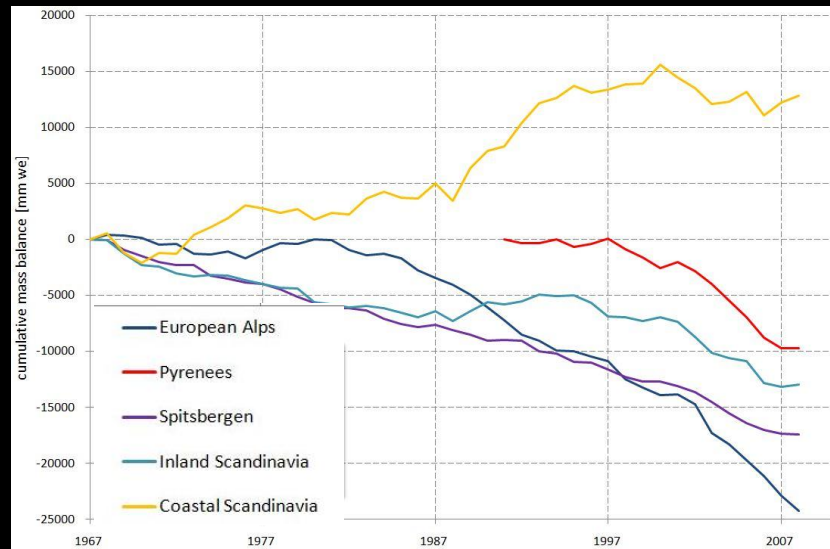
Threads - climate change (extreme events, higher risk of rock falls and soil erosion, upward shift of biota and risk of extinction)

Growing damages and restoration costs

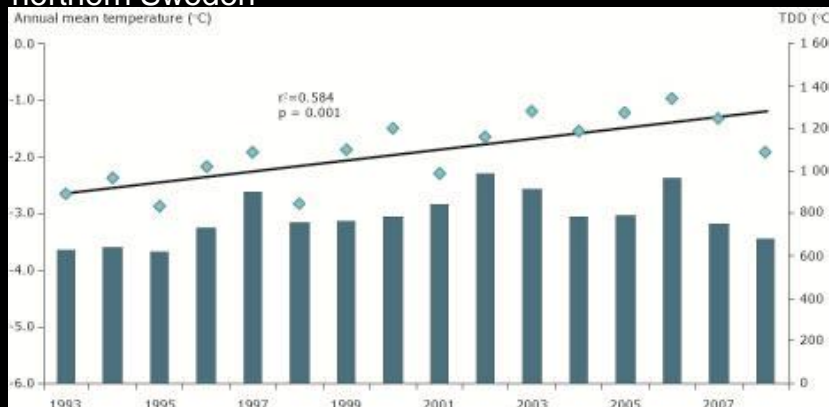


Threads - climate change (faster change than adaptation capacity, temperature increase, less snow, melting glaciers and permafrost)

Glacier mass balance of European regions, 1967–2008



Temperature sum > 0 °C, from May to Sept. at Latnjajaure, northern Sweden

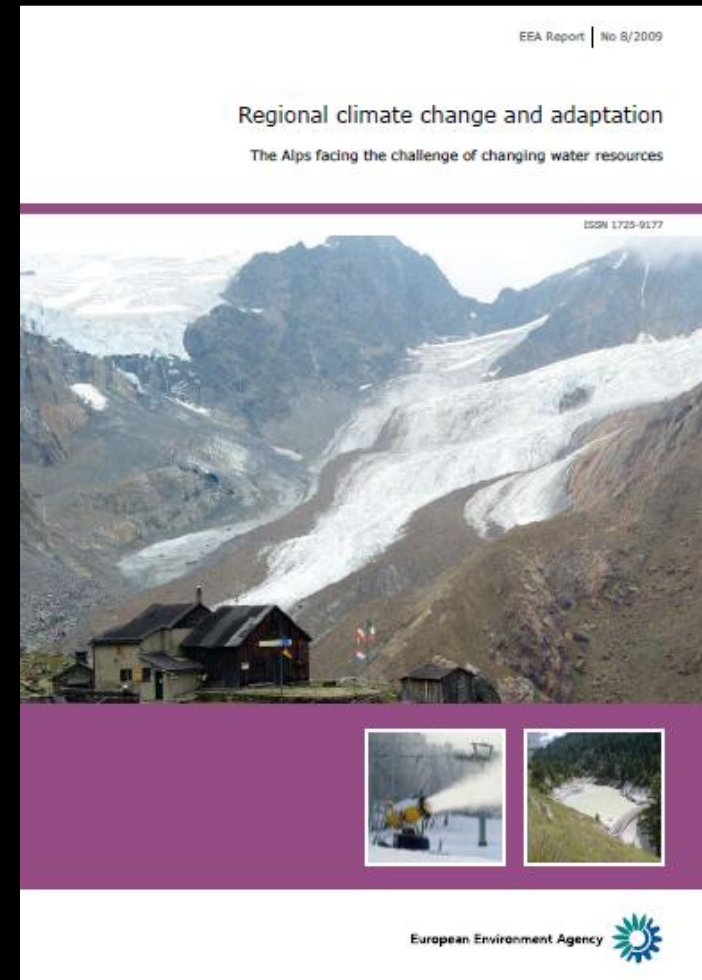


© M. Price



Regional climate change and adaptation – The Alps facing the challenge of changing water resources

- How will climate change affect the Alps?
 - How does water supply from the Alps affect Europe?
 - How are sectors influenced by and adapting to changing water availability?
 - What lessons can be learnt from regional case studies?
-
- Latest climate science findings
 - Cross-sectoral and integrated perspective
 - Case studies-based assessment
 - Transferability of lessons learned



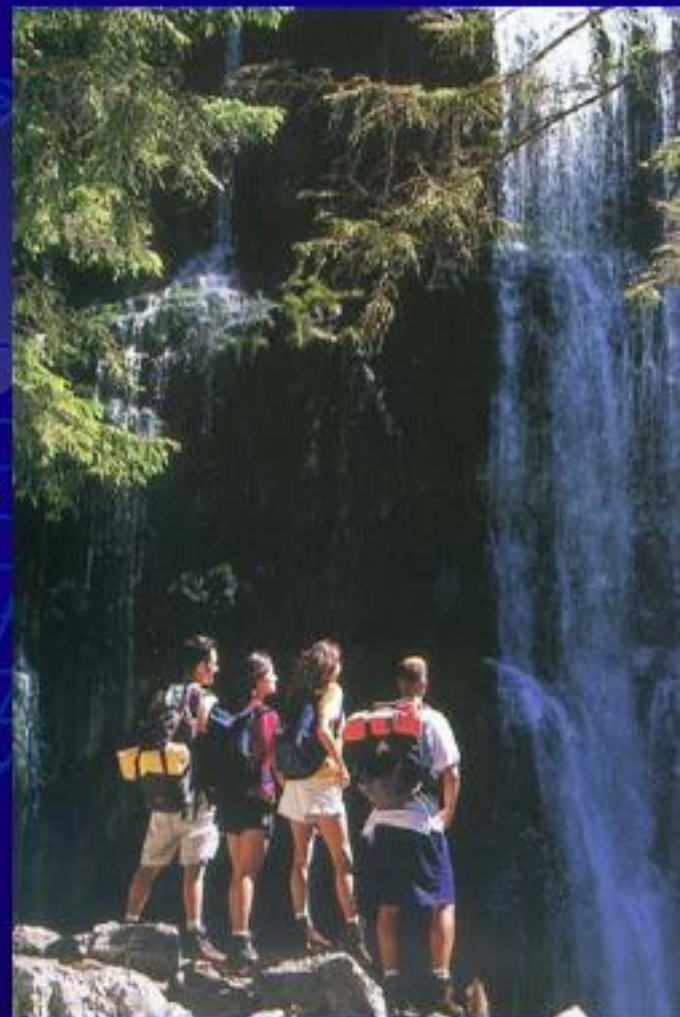
<http://www.eea.europa.eu/publications/alps-climate-change-and-adaptation-2009>



Costs and benefits of climate-change impacts



Ski seasons are expected to shorten and summer seasons to lengthen in mountain regions



How to approach innovation?



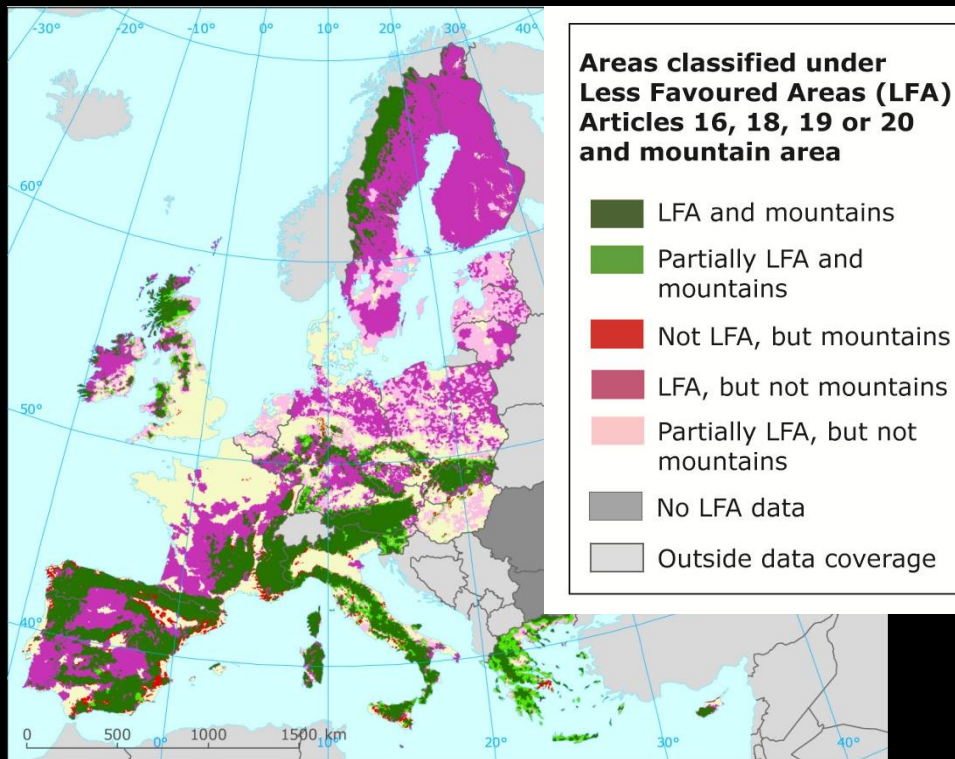
...or bring skiing to cities?



Mountains are addressed in various policies but mainly as a part of other sectors - agriculture (RDP, LFA), forestry, nature conservation (nationally designated areas, NATURA 2000) or wider regions - territorial cohesion policies (ERDF, ESF),

92 % of EU mountain area (excl. BG and RO) is classified as LFA

49 % of Natura 2000 area (EU-27) is in mountains



33 % of EU mountain areas is HNV farmland



Europe's ecological backbone: recognising the true value of our mountains

ISSN 1725-9177



European Environment Agency



Mountain people are more vulnerable as they might lose their very subsistence and living environment

Non mountain people might be threatened indirectly – decrease in provided ecosystem services (water availability, but also floods, mountain recreation)





<http://www.eea.europa.eu>

Thank you for your attention



Taking World class Innovation and Making it Real in Mountain Areas

Outline of a Conversation

Jose J. Pacheco
Program Manager
MIT Entrepreneurship Center

One Amherst Street, Room E40-196
phone: +1-617-253-8653
e-mail: jpacheco@mit.edu

Cambridge, MA 02142-1352 USA
fax: +1-617-253-8633
<http://entrepreneurship.mit.edu>

Desired Outcomes of this Talk

- You receive information and insights which are useful for your future strategy.
- Introduce MIT's broad array of curriculum, student organizations, and other activities which support Innovation, New Product Development and Entrepreneurship at MIT – Lessons learned and adaptations to Mountainous Areas
- We start a conversation about how some of the lessons we've learned may apply to your regions
- Demonstrate our personal commitment to inexorable growth in the value and success of the Mountainous Regions' Entrepreneurial Ecosystems.
- You are convinced to invest in, support or become an entrepreneur
- Answer questions

MIT's impact

Research- and technology-intensive universities, especially via their entrepreneurial spinoffs, have a dramatic impact on the economies of the United States and its fifty states. A new report on just one such university, the Massachusetts Institute of Technology, indicates *conservatively that, if the active companies founded by MIT graduates formed an independent nation, their revenues would make that nation at least the seventeenth-largest economy in the world.*

A less conservative direct extrapolation of the underlying survey data boosts the numbers to *25,800 currently active companies founded by MIT alumni that employ about 3.3 million people and generate annual world sales of \$2 trillion, producing the equivalent of the eleventh-largest economy in the world.*

Profs Ed Roberts, Charles Eesley

Impact Report: <http://entrepreneurship.mit.edu/impact.php>

The need for Entrepreneurship, Especially in Rural / Fragile Areas

- In many countries of the world.... (Applicable to the your region?)
- Rapidly rising populations, or shrinking, aging populations
- Even more rapidly rising expectations
- The public sector has reached the limit of its ability to provide fulfilling employment opportunities.
- Chronic unemployment is a recipe for disaster
- Therefore, the need for a vibrant, dynamic, globally competitive and rapidly growing private sector to spawn new companies and jobs.
- That means the need for successful entrepreneurship and venture support systems has never been greater...

The Entrepreneur:

- What does the successful high tech entrepreneur look like?
 - Integrity
 - Leadership
 - Impatient; bias toward action (with analysis).
 - Quick clockspeed
 - Modest ego. Seeks and accepts coaching. Recognizes, and hires to overcome weaknesses.
 - Willing to be different, but knows it (not oblivious).
 - Pragmatic; willing to compromise (in order to move forward).
 - Rejoices in others' victories (no petty jealousy).
 - Driven to solve a valuable problem for customers (not driven by money or technology).
 - Able to attract world class talent.

MIT Entrepreneurship Center Mission

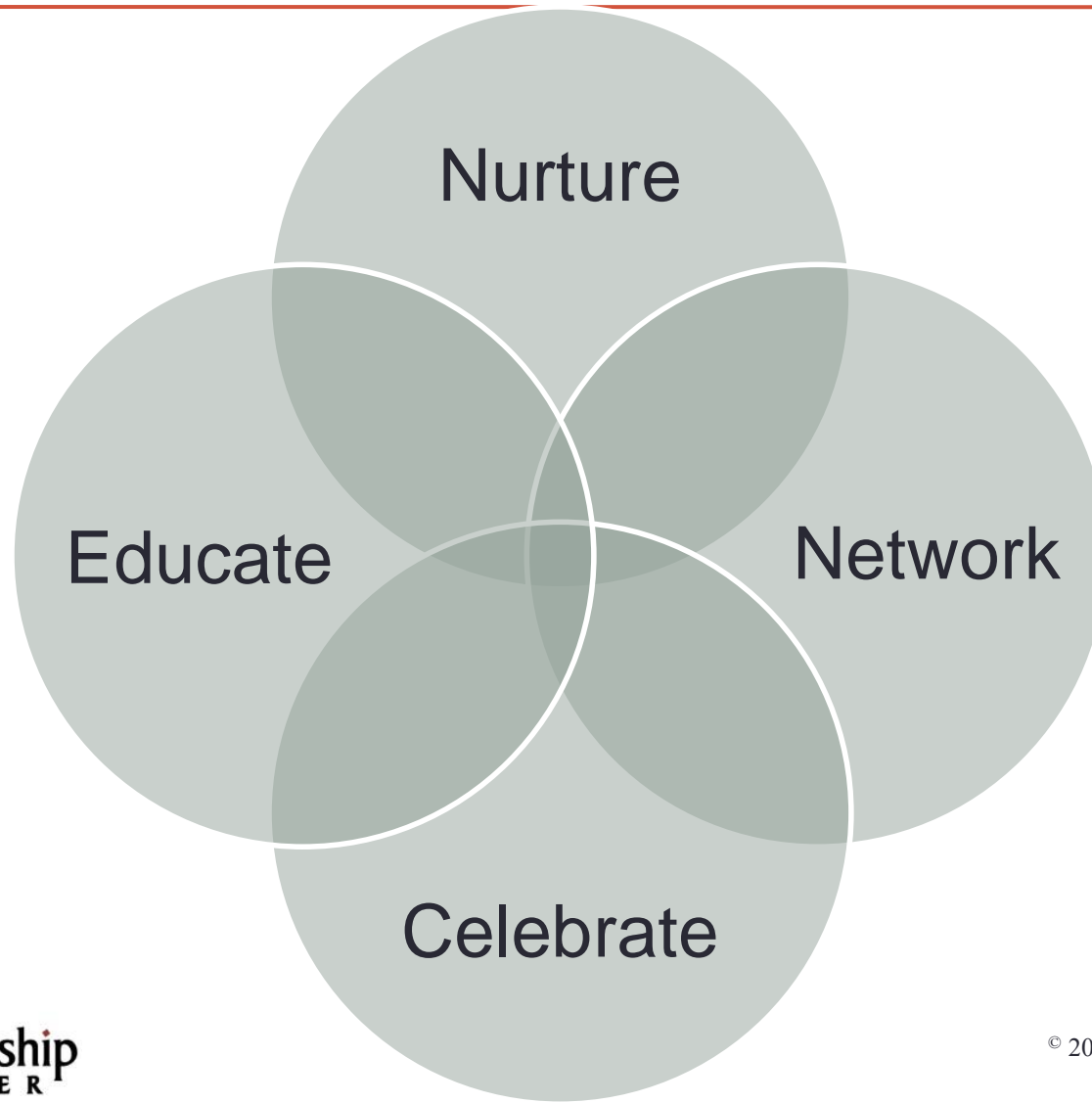
The E-Center's mission is to build capability and inspire MIT's men & women to become the next generation of entrepreneurs who create successful, innovation-based, new ventures worldwide.

Principles of Operation



- Collaboration
- Diversity
- Experimentation
- Honest Broker
- Mens et Manus

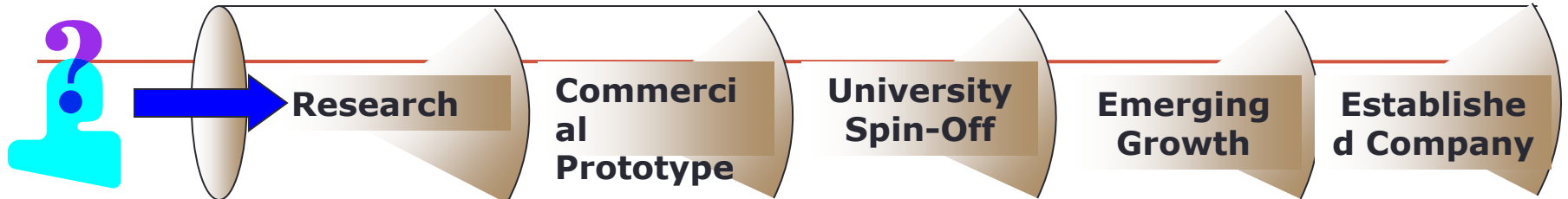
Game Plan: Four Areas (2009-2011)



Our Definition of Innovation:

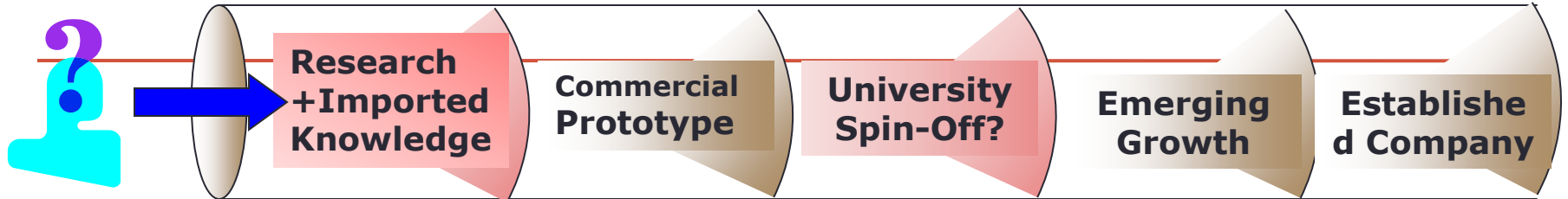
Invention
+
Commercialization






MIT Innovation Pipeline



Prototype	Business Plan	Initial Funding	Liquidity Event	Operating Strategic Milestones
Innovation Teams	New Enterprises	Venture-Ships	E-Lab G-Lab	Tiger Teams
DESHPANDE CENTER FOR TECHNOLOGICAL INNOVATION	MIT Entrepreneurship CENTER	MIT Venture Mentoring SERVICE	MIT Entrepreneurship CENTER	LFM

What does your Region Innovation Pipeline Look Like?



Prototype	Business Plan	Initial Funding	Liquidity Event	Operating Strategic Milestones
?	?	?	?	?
				

Overview of MIT Innovation Pipeline

- Where we are now:
 - 10,000 Students – 4,000 undergrads, 6,000 MSc/PhD
 - World class technical and management schools that collaborate
 - 40+ Courses in Entrepreneurship
 - ~ 80 Startup companies provide projects for our classes
 - 7+ major entrepreneurship clubs, including MIT Sloan Sales Club
 - 200+ formal mentors, countless more informal mentors
 - \$800,000 in annual sponsorship for the student clubs
 - 5 distinct centers focused on different parts of the pipeline
 - 1,000 Faculty, of which ~ 50 have been involved in founding
 - \$450 million in research at the Institute, \$500 Million in surrounding affiliated research institutes + other universities around Boston
- No Incubator – not needed
- No degree in Entrepreneurship
- 20+ licensed spin outs per year
- \$30 million in royalty flow, but aim is not to maximize revenue but to get Knowledge out into the world outside academic labs

Overnight success of a 100 years

- How we got here:
 - MIT founded in 1861 - ***Established for advancement and development of science, its application to industry, the arts, agriculture, and commerce***
 - Underscored the importance of education emphasizing laboratory instruction, which requires working closely with Industry
 - First graduating class in 1868 – handful of students
 - First spin-outs were engineering consulting firms in late 1800s – entrepreneurship continued to slowly increase
 - WWII transformed MIT and many other American universities
 - ARD founded in 1950s – provided financing beyond the family fortunes that had provided sporadic seed capital – The beginning of the modern venture capital industry

Overnight success of a 100 years

- How we got here (Continued):
 - One entrepreneurship course taught in 1958/61
 - Founded Enterprise Forum in 1960s
 - First Bank of Boston in 1989 found 636 firms in Massachusetts founded by MIT alumni employing more than 200,000 with aggregate world-wide sales of nearly \$40 billion.
(~1/3 of DR 2007 GDP: PP \$61 Billion)
 - By 1994 - 4,000 existing companies with combined aggregate revenues of \$232 billion with MIT roots

Overnight success of a 100 years

- How we got here (Continued):
 - Have seen at least two waves of boom and bust in life sciences, Information/Computing technology – demise of manufacturing since 1960's
 - Founded Entrepreneurship Center in 1990
 - Re-started Entrepreneurship Center in 1996
 - Founded Deshpande Center in 2000
 - Founded Legatum Center for Developmental Entrepreneurship in 2007
 - Next?

Critical Success Factors at MIT

- Porous borders between academia and Industry
 - Institution's Self-awareness of its mission
- Faculty-entrepreneurs are welcome and encouraged
- Entrepreneurial role models for students are ever-present on campus
- Collaboration between management school and science /engineering
- Instilling a global outlook from day one

Critical Success Factors at MIT (Cont)

- Multitude of Entrepreneurship events, clubs, activities - Mosaic of shiny pieces
- Global Networks
- Engaged Mentors and experienced funding – Angels, entrepreneurs, VC's, services firms
- Commitment to sales – listening to the customer and quantifying the value proposition
- Diversified technical workforce constantly being replenished

Discussion: Reflections on the Mountainous Regions

- Cultivate People – The most challenging obstacle is finding world class entrepreneurs
 - The importance of world class technical, business and government, universities, organizations
- Cultivate Diaspora Investments* and Network:
 - Everything you ever hoped for from a truly value-added VC, PLUS patience and heart
 - Brings talent, know-how and methods
 - Provides access to markets, and money
 - Takes the long-term view
 - Demanding, but fair and forgiving
- The advantage of having a large diasporas in a nearby and large market

Discussion: Reflections on the Mountainous Regions

- Cultivate invention + commercialization
- Maintain clear vision and strong, sustained leadership: difficult to unite the many existing initiatives which have their own constituencies, momentum and inertia
- Opportunities:
 - Focus but diversified clusters
 - Energy
 - Design
 - Infrastructure support / IT/ Logistics
 - Services for nearby markets
 - Robotics / Productivity
 - Local specialties – “Unique Flavor to Mass Customization”

An Example

Highlands & Islands in Scotland

- Over 10 years (Last three years)
 - The purpose of this collaboration is to **strengthen** the Highlands & Islands **entrepreneurial eco-system**
 - Building high grow businesses of scale with **global ambition** to become leaders in their field.
 - The E-Center helps HIE assess its eco-system and prioritise efforts on the weaknesses of the eco-system and achieve HIE targets
- **Some SAMPLE TARGETS: Next two years**
 - 200 business participants in international entrepreneurship education programs
 - 50 businesses engaging in international business development
 - 10 new businesses created
 - X new or improved products, processes or services developed
 - X businesses experiencing growth
 - X businesses engaged in Knowledge Transfer activities
 - X businesses implementing change
 - X businesses accessing new networks
 - X businesses accessing new partners
 - X businesses accessing external investment in to the region

The MIT EDP

MIT Entrepreneurship Development Program
23 – 28 January 2011 @ MIT

An intense one-week program tailored to the needs of future entrepreneurs, corporate venturing executives, economic development professionals, and university entrepreneurship faculty and staff.

- Participants learn from:
 - “Live case studies” of successful MIT entrepreneurs;
 - Our faculty and the MIT entrepreneurial spirit; and,
 - Route 128 venture capitalists, lawyers, and institutional investors.
- In 1999, 25 participants came from Cambridge (UK), Ireland, France, Germany, Thailand, Taiwan, & US.
- In 2000, 65+ persons came from 10+ countries.
- In 2001, 95+ persons came from 16+ countries.
- In 2002, 70 persons from 13 countries.
- In 2003, 93 persons from 9 countries.
- In 2004, 140 persons from 16 countries
- In 2005, 109 persons from 19 countries + storm of the decade
- In 2006, 100 persons from 21 countries
- In 2007, 130 persons from 22 countries
- In 2008, 136 persons from 28 countries
- In 2009, 136 persons from 28 countries
- In 2010, 114 persons from 23 countries

MIT Global Startup Workshop 2011

March 23 – 25, Seoul, Republic of Korea

14 Years • 6 Continents • 70 Nationalities

Building the Entrepreneurial Ecosystem



Why?

- Learn & be inspired
- Contribute your expertise
- Develop your ideas
- Build your region's ecosystem
- Form lasting relationships
- Have an adventure!

What?

- Keynote presentations
- Discussions & case studies
- BPC training & elevator pitch competition
- Ecosystem & startup consulting
- Offsite networking receptions
- Gala dinner



Massachusetts
Institute of
Technology

www.mitgsw.org

서울대학교

SEOUL NATIONAL UNIVERSITY

of Technology

Entrepreneur
CE

THANK YOU

Questions?

Jose Pacheco
jpacheco@mit.edu

2011 Newsletter:

Regional Entrepreneurship Activities

Send your contact information reap@mit.edu

THANK YOU

Questions – <http://entrepreneurship.mit.edu> ecenter@mit.edu

Managing Director - William (Bill) Aulet

AA - Audrey Dobek-Bell

Faculty Director - Prof. Fiona Murray

AA - Pat Fuligni

Chair - Prof. Ed Roberts

Sr. PM - Jose Pacheco

PM - Elliot Cohen

jpacheco@mit.edu

SUPPLEMENTARY INFORMATION

MIT Entrepreneurship Center Mission

The E-Center's mission is to build capability and inspire MIT's men & women to become the next generation of entrepreneurs who create successful, innovation-based, new ventures worldwide.

Entrepreneurship at MIT

"The ideas that drive the economy and improve our quality of life are increasingly emerging from inventive, interdisciplinary collaborations -- across different fields and with other institutions in the public and private sectors.

This spirit of openness, invention and teamwork are hallmarks of MIT and, I believe, are the keys to our future. MIT's intense creativity, passion, intensity and playfulness drive everything here -- the entrepreneurial ideas, the innovations, the discoveries."

*MIT President Susan Hockfield
May 2005*



Mission Statement of the MIT Entrepreneurship Center:

*To educate and develop leaders who will make
high tech ventures successful*

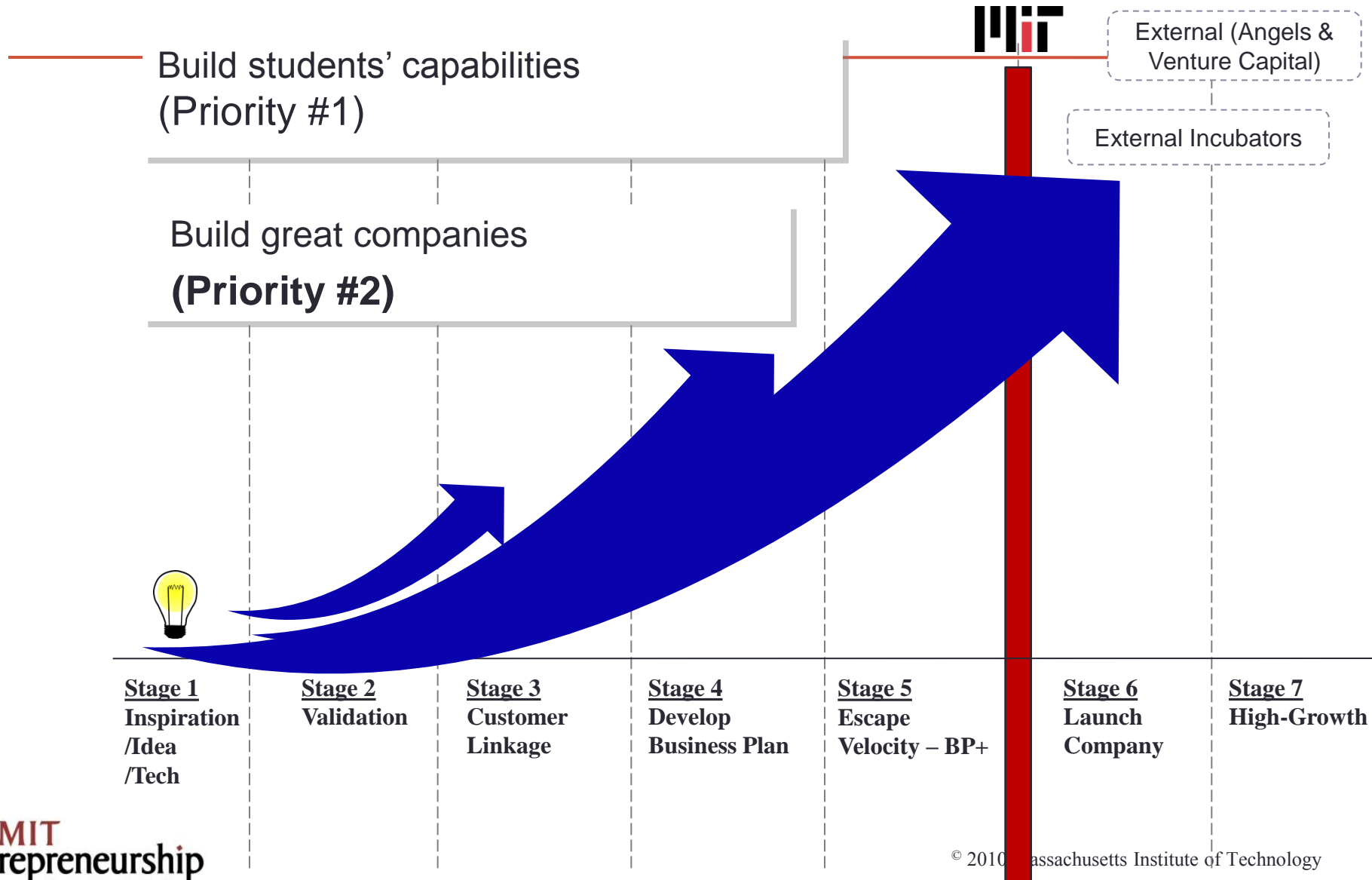
*“I want you to be the premier
global center for entrepreneurship,
and to be recognized as such.”*

*“We must not only be the best. We
must also serve as a model for
others and ensure that, together,
we all make a significant global
impact in this vital field.”*

MIT President Charles M. Vest,
July 1996



What Does That Mean?

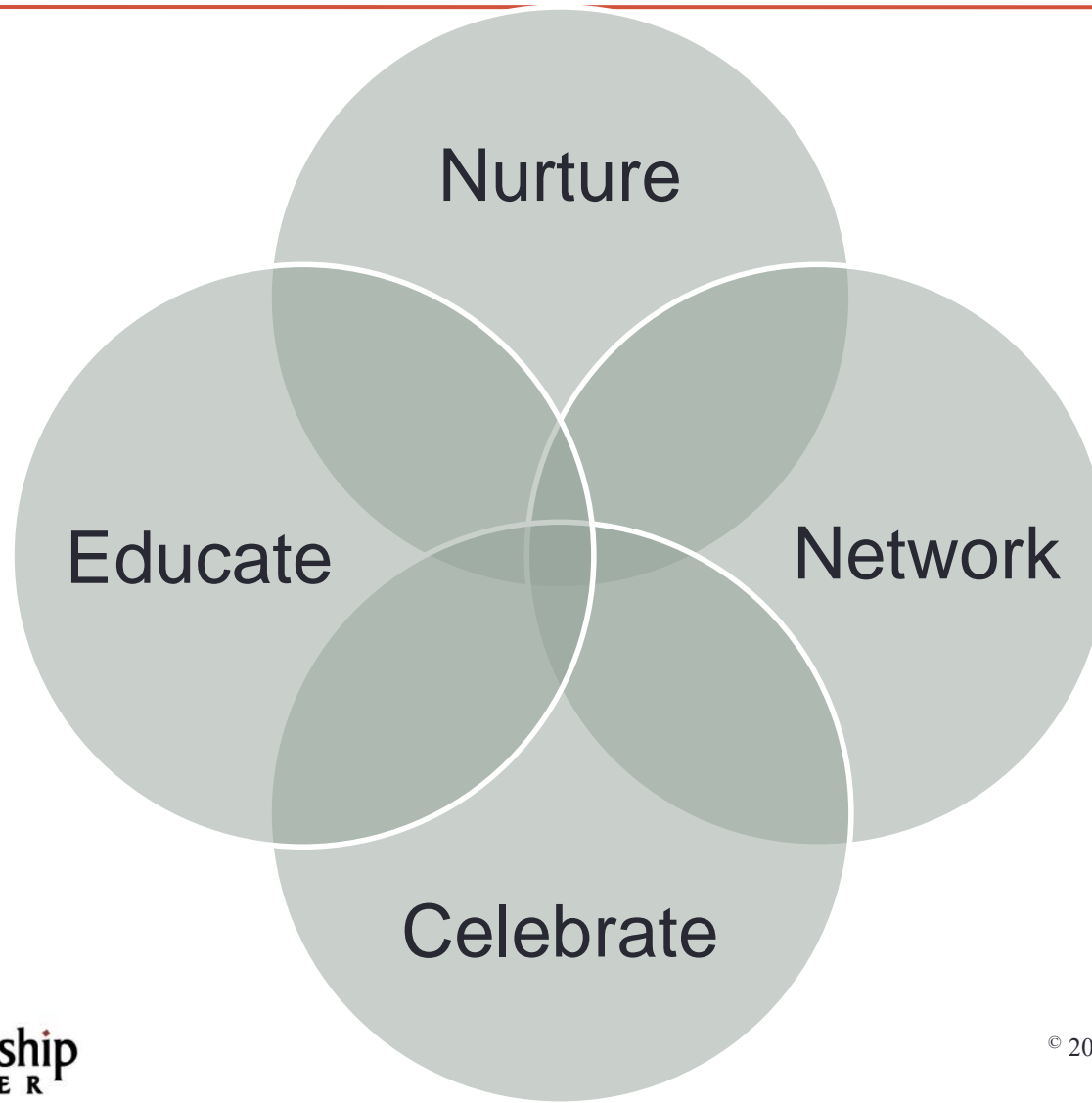


Principles of Operation



- Collaboration
- Diversity
- Experimentation
- Honest Broker
- Mens et Manus

Game Plan: Four Areas (2009-2011)



Educate

- We will deliver and support state of the art, comprehensive education in innovation-based entrepreneurship with a conceptual and practical emphasis.



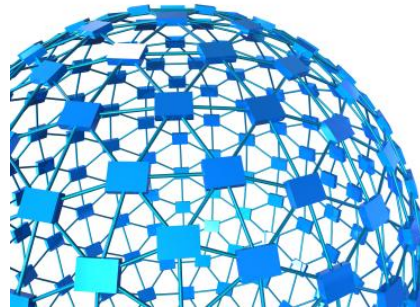
Nurture

- We will provide the MIT student body with both an environment and support services to accelerate effective entrepreneurial development.



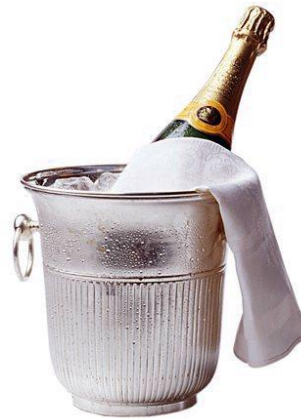
Network

- We will leverage the available resources at MIT to connect the students internally as well as externally to enhance their likelihood of success.



Celebrate

- We will work to celebrate entrepreneurial efforts related to MIT through publicity, events and other appropriate means.



Educate U



FALL 2019 COURSES



15.360 Introduction to Technological Entrepreneurship

Instructor(s): M. Cusumano

	W	
TA(s): Pedro Santos/ Ivy Chung	4:00	
	7:00	

Units: 3

Prereq(s)/Restr(s): Restricted to those in MIT Sloan MBA Entrepreneurship & Innovation option.

Description: Overview of the field of entrepreneurial theory and practice for development and growth of technology-based new enterprises. Introduction to the MIT ecosystem of entrepreneurship. Weekly lectures by students and practitioner faculty engaged in the MIT Entrepreneurship Program, supplemented by presentations by and discussions with leaders of MIT entrepreneurship-related activities, e.g., Technology Licensing Office, Disruptive Center, Venture Medicine Service, as well as successful entrepreneurs and venture capitalists. Required entry course for E.8.1 option.

15.385 H1 Innovation and Entrepreneurship

Instructor(s): A. Weik

	T	Th
TA(s): Chris Mitchell	10:00	10:00
	11:30	11:30

Units: 6

Prereq(s)/Restr(s): You must pre-register and participate in Sloan's Prioritization process to take this subject.

Description: Students work in teams to develop a feasibility plan for a social venture (either a for-profit or non-profit). Feasibility studies will integrate the marketing, financial, operational and organizational activities required to create an opportunity. Examines the theory and practice of social innovation (e.g., business, environmental, education, and human services) and entrepreneurship in the private, public, and nonprofit sectors. Discussion topics include social impact modeling, social capital markets, and social impact assessment. Students gain practical knowledge on how to identify potential social venture opportunities, develop skills and competencies for creating, developing and implementing ideas, and maximize ways to measure the success and value of social entrepreneurial activity.

15.399 Entrepreneurship Lab

Instructor(s): A. MacCormack

	W	
TA(s): Pamyl Halam	9:00	

Units: 12

Prereq(s)/Restr(s): Graduate student standing

Description: Teams of science, engineering, and management students participate actively one day a week on-site with the top management of high-tech start-ups in order to gain experience in starting and running a new venture. Student projects focus on one aspect of the start-up, such as selection of target market, design of market entry strategy, choice of a value approach to initial customers, etc. In addition to the regular MIT registration process, students should register at the course website one month before class to facilitate formation of student teams and matching of teams with potential host companies. Restricted to graduate students.

15.366 Energy Ventures

Instructor(s): T. Hynes/W. Adlet

	Th	
TA(s): Adam Patai	4:00	
	7:00	

Units: 12

Prereq(s)/Restr(s): N/A

Description: Project-based subject focusing on energy sector companies. Explores how innovation and entrepreneurial concepts apply (or do not apply) to the significant opportunities in this sector. Working in teams, students create new ventures specifically for the energy sector. Lectures guide teams through key elements of their project.

15.386 H2 Managing in Adversity: The CEO Perspective

Instructor(s): H. Anderson/P. Kuznetz

	T	Th
TA(s): Chris Mitchell	10:00	10:00
	11:30	11:30

Units: 6

Prereq(s)/Restr(s): N/A

Description: "Managing in Adversity" places you in the shoes of the Chief Executive Officer confronted by a high-adversity situation. We are not talking about "just normal" business problems. The high-adversity situation is the "split-second" moment of truth, the critical situation in which a CEO has to quickly define the issues and take critical and precipitous actions... actions which might well determine the fate of the company... and the CEO. The course uses cases and great CEO speakers who present real-life, high-adversity situations that you will be asked to deal with through role playing. The course brings together the critical skills required for dealing with complex problems under highly adverse conditions.

15.615 Basic Business Law for the Entrepreneur and Manager

Instructor(s): J. Aldea

	M	W
TA(s): Pamyl Halam	8:30	8:30
	10:00	10:00

Units: 9

Prereq(s)/Restr(s): N/A

Description: One of three alternative courses (15.615, 15.616, and 15.617) each designed to provide managers with the solid foundation in business law needed to exercise judgment and leadership when confronting a broad range of complex law-sensitive issues. Organizing a new company, venture capital, contracts, liability, employment, intellectual property, taking a company public, antitrust, managerial and corporate crime, govt/regional, ending a business, bankruptcy and reorganization, and business disputes. Focus on US law but comparison to other systems.

15.369 H2 Corporate Entrepreneurship: Strategies for Technology-Based New Business Development

Instructor(s): V. Lora

	T	
Units: 6	4:00	
	6:30	

Prereq(s)/Restr(s): N/A

Description: Strategic and organizational issues in the development of new technologies and new business areas for existing firms. Issues examined from the perspectives of both large corporations and emerging technology-based enterprises. Linkages between internal and external sources of technology to major new business development. Examination of internal entrepreneurial ventures, alliances (especially between large and lower companies), joint ventures, acquisitions, corporate venture capital investments, and licensing as alternative business development approaches. Covers aspects of corporate business development (both merger and acquisition (M&A) activities). Outside speakers supplement faculty lectures. Student teams prepare reports on a comprehensive analysis of some aspect of corporate business development.

15.387 H2 Technology Sales and Sales Management

Instructor(s): H. Anderson/W. Adlet

	T	Th
TA(s): Amanda Patai/Cater Dizon	8:30	8:30
	10:00	10:00

Units: 6

Prereq(s)/Restr(s): N/A

Description: Practical and tactical use and nuts of bolts to sell technical products to a sophisticated marketplace. How to build and manage a sales force, building compensation systems for a sales force, using various territories, resolving disputes, and dealing with channel conflicts. Focus on selling to customers, whether through a direct salesforce, a channel salesforce, or building an OEM relationship.

15.616 Basic Business Law, Tilted Towards Innovation and Strategy

Instructor(s): A. Arita

	T	Th
Units: 9	8:30	8:30
	10:00	10:00

Prereq(s)/Restr(s): N/A

Description: One of three alternative courses (15.615, 15.616, and 15.617) each designed to provide managers with the solid foundation in business law needed to exercise judgment and leadership when confronting a broad range of complex law-sensitive issues. Includes most topics covered at 15.615, some in a quicker pace. Extra attention to the legal frameworks of trademarks and patents, cutting-edge technology and products, and restructuring and reorganizing major corporations. May appeal to students interested in strategic management and consulting.

15.371J/ 10.807J Innovation Teams

Instructor(s): P. Murray/L. Pearce-Berna

	M	W
TA(s): Ravi Iyengar	5:30	5:30
	8:00	8:00

Units: 9

Prereq(s)/Restr(s): Permission of instructor

Description: Innovation teams of science, engineering, and management students evaluate the commercial feasibility of research generated by groups in School of Engineering faculty by the Disruptive Center for Technological Innovations. Projects cover critical aspects of commercialization such as developing an intellectual property strategy, performing competitive analysis, selecting the target geographic and market for the technology (identifying the appropriate business model for commercialization, designing go-to-market plan, and choosing the sales approach to generate critical customer). Lectures address key issues of technology transfer, new ventures creation, and commercialization. Students develop firm-specific business development plans. Prerequisites: Prerequisites including a brief statement of objectives are required in advance of registration to enable the best match of students to projects. **Do not use the Sloan's Prioritization process.** Please contact the instructor directly for details and application process.

15.389 A/B/C Global Entrepreneurship Lab: Latin America

Instructor(s): A. J. Latham/P. Cusumano/S. Lora/B. J. Latham/S. Johnson/C. A. Sater

	M	T	W	Th
TA(s): Ar. Caroline Birgin/B. Ivy Chung/C. Ivy Chung	4:00	4:00	4:00	4:00
	5:30	5:30	5:30	5:30

Units: 12

Prereq(s)/Restr(s): Restricted to graduate students

Description: Selected teams of students to work with top management of global start-ups and gain experience in starting and managing a new enterprise outside the US/Canada. Focus on start-ups operating in various emerging markets. Lectures expose students to the issues and policies that affect the climate for investment and start-up in the emerging markets. Begins all fall term and continues for three weeks during IAP, when students spend time in project sites. Candidates with prior intern in OLAB may be a beginning of the Spring term. Students must complete all three assignments to receive credit.

15.912 Technology Strategy

Instructor(s): J.P. Denis

	M	W
TA(s): Pamyl Halam	2:30	2:30
	4:00	4:00
	B	B
Units: 9	4:00	4:00
	5:30	5:30

Prereq(s)/Restr(s): You must pre-register and participate in Sloan's Prioritization process to take this subject.

Description: Defines tools for formulating and evaluating technology strategies including the patent law and a complete, in-depth of technological market change, and the structure and development of organizational capabilities. Topics include making business decisions, competitive technologies and the selection of technology, managing start-up ventures and collaborative innovation, organization of R&D and technology planning, and finance of R&D and adoption. Readings and case studies include Intel, Apple, Google, Toyota, IBM, Novartis, and Sun Microsystems, among others.

15.375.J Developmental Entrepreneurship Ventures

Instructor(s): S. Perelman

	Th	
Units: 12	4:00	
	6:00	

Prereq(s)/Restr(s): N/A

Description: Seminar on founding, financing, and building entrepreneurial ventures in developing nations. Challenge students to craft enduring and economically viable solutions to the problems faced by three countries. Cases illustrate examples of both successful and failed businesses, and the difficulties in deploying and diffusing products and services through entrepreneurial action. Explores a range of established and emerging business models, as well as new business opportunities enabled by emerging technologies in MIT labs and beyond. Students develop a business plan, executive summary suitable for submission in the MIT \$100K Entrepreneurship Competition. \$15K Warm-Up.

15.390 A 15.390 B/20.290 New Enterprises

Instructor(s): A.J. Anderson/W. Adlet/P. Lerner/H. Alst/B. N. Afsar

	M	W
TA(s): Ar. Tom Hesse/B. Josh Hanson/Amad Patai	4:00	4:00
	5:30	5:30
	B	B
Units: 9	6:00	6:00
	8:00	8:00

Prereq(s)/Restr(s): N/A

Description: Covers the process of identifying and quantifying market opportunities, conceptualizing, planning, and starting a new, technology-based enterprise. Topics include opportunity assessment, the value proposition, the enterprise, legal issues, entrepreneurial ethics, the business plan, the founding team, seeking customers and raising funds. Students develop detailed business plans for a start-up. Intended for students who want to start their own business, further develop an ongoing business, be a member of a management team in a new enterprise, or better understand the entrepreneur and the entrepreneurial process.

15.390 B 20.290 New Enterprises

Instructor(s): S. Lora/B. J. Latham

	T	Th
TA(s): Shuhui Zhu	4:00	4:00
	6:00	6:00
	8:00	8:00

Units: 6

Prereq(s)/Restr(s): N/A

Description: Focuses on the strategy as well as the tactics involved in negotiating and building effective, long-term relationships with investors, including venture capitalists and angels. Other topics include an introduction to understanding venture capital as a business, the legal framework of the investment process and its related jargon, market practice and standards for term sheet negotiation, and strategies in identifying the optimal form of early stage capital. Coursework is team-oriented. In two rounds of simulations, student teams assume the roles of founders of start-up and first meet with practicing lawyers to gain advice and practical experience working with professional advisors. Teams then negotiate final terms of investment for their company with leading local VCs. Simulations are outside of class, off-campus at lawyers' and VCs' offices.

15.380 Special Studies in Entrepreneurship

Instructor(s): Entrepreneurship Faculty

	Th	
Units arranged	4:00	
Prereq(s)/Restr(s): Graduate student standing	6:00	
Permission of instructor		

Description: Advanced work or special investigation of an entrepreneurial topic not specifically covered elsewhere and not qualifying as a thesis. Readings, conferences, laboratory and field work, and reports. Contact: Entrepreneurship Center Faculty.

15.391 H2 Early Stage Capital

Instructor(s): S. Lora/B. J. Latham

	T	Th
TA(s): Shuhui Zhu	4:00	4:00
	6:00	6:00
	8:00	8:00

Units: 6

Prereq(s)/Restr(s): N/A

Description: Focuses on the strategy as well as the tactics involved in negotiating and building effective, long-term relationships with investors, including venture capitalists and angels. Other topics include an introduction to understanding venture capital as a business, the legal framework of the investment process and its related jargon, market practice and standards for term sheet negotiation, and strategies in identifying the optimal form of early stage capital. Coursework is team-oriented. In two rounds of simulations, student teams assume the roles of founders of start-up and first meet with practicing lawyers to gain advice and practical experience working with professional advisors. Teams then negotiate final terms of investment for their company with leading local VCs. Simulations are outside of class, off-campus at lawyers' and VCs' offices.

Educate II



Spring 2010 Courses



15.351 A/B

Managing Innovation and Entrepreneurship

Instructor(s): G. Stein

Room: E51-076

Units: 9

Prereq(s)/Restr(s): Graduate student standing

M	T	W	Th
1:00	1:00		
2:30	2:30		
R	R		
2:30	2:30		
4:00	4:00		

Description: The basic, every manager needs to acquire successful technology-driven innovation in both entrepreneurial and established firms. This is not an adjunct to innovation theory. Instead, it centers how to build organizations that excel at identifying, building and commercializing technological innovations. Major topics include how the innovation process works, creating an organizational environment that rewards innovation and entrepreneurship, building successful innovative teams, designing appropriate incentive systems (or, they get), portfolio management, managing the advance of internal and external sources of innovation, and marketing entrepreneurial and established companies for effective innovation. Examine how entrepreneurs can shape those who then continuously build and commercialize valuable innovations. Many of the examples also focus on how established firms can become more entrepreneurial in their approach to innovation.

15.371J/ 10.807J

Innovation Teams

Instructor(s): F. Murray-L. Perez-Davea

Room: 32-144

Units: 12

Prereq(s)/Restr(s): Permission of instructor

M	T	W	Th
5:30	5:30		
8:00	8:00		

Description: Innovation teams of science, engineering, and management students evaluate the commercial feasibility of research presented by guests to the School of Engineering faculty by the DaVinci Center for Technological Innovation. Projects cover initial aspects of communication such as developing an initial proposal, property strategy, preference, competitive analysis, selecting the target application and market for the technology, identifying the appropriate business model for commercialization, developing a go to market plan, and choosing the sales approach to generate initial customers. Lecture addresses key issues of technology transfer, new venture creation, and commercialization. Students develop strong skills in communication and working in teams. Research and application include a brief statement of objectives as required in advance of registration to enable the best match of students with projects. The rest of the Sloan's Innovation process. These consist of the instructor directly for details and application process.

15.398

Corporations at the Crossroads: The CEO Perspective

Instructor(s): H. Anderson / P. Karlina

Room: E51-345

Units: 6

Prereq(s)/Restr(s): NA

M	T	W	Th
		9:00	
		8:00	

Description: Focus is on the role of the CEO. Students learn from some of the world's leading CEOs who are invited to speak in the class. Topics include the job of the CEO, corporate strategy, and career insights and advice. The seminar is highly interactive, with questions from the students. In addition, before each class, a small group of MIT students has dinner with the guest CEO, a truly unique experience for the students.

15.354

Innovation and Entrepreneurship: How to Do It

Instructor(s): J. Uebach

Room: E52-175

Units: 9

Prereq(s)/Restr(s): Restricted to Undergraduates

T	Th
10:00	10:00
11:30	11:30

Description: Examines how to be a successful innovator in a big company and how to be an entrepreneur. Covers both internet age and traditional business. Research findings are combined with practical advice from experienced innovators to help launch students on a successful innovation trajectory. Lecture-based course. Periodic, short projects enable students to explore topics of special interest to them independently or in small groups.

15.376J

Media Lab Enterprises: Digital Innovations

Instructor(s): S. Paulford

Room: Lecture: E54-525

Lab: E5-433

Units: 9

Prereq(s)/Restr(s): Permission of instructor

Y	Th
Lect	Lab
4:00	10:00
6:00	12:00

Description: Seminar surveys internal and external entrepreneurship, based on Media Lab technologies, to increase understanding of how digital innovations give rise societal change. Cases illustrate examples of both successful and failed businesses, as well as difficulties in deploying and diffusing products. Explores a range of business models and opportunities enabled by emerging Media Lab innovations. Students craft a business analysis form of the featured technology innovations. Part analysis has become the basis for research, publications, and new ventures. Particular focus on personal health care, mobile transactions, and new media.

15.399

Entrepreneurial Lab

Instructor(s): A. MacCombs

Room: E51-315

Units: 12

Prereq(s)/Restr(s): Graduate student standing

M	T	W	Th
		8:00	
		9:00	

Description: Teams of science, engineering, and management students participate actively one day a week on-site with the top management of high-tech start-ups to gain experience in starting and running a new venture. Student projects focus on one urgent aspect of the start-up, such as selection of target market, design of market-entry strategy, choice of sales approach to initial customers, etc. In addition to the regular MIT registration process, students should register at the course website one month before class to facilitate formation of student teams and matching of teams with potential host companies. Restricted to graduate students.

15.356 HI

How to Develop Breakthrough Products and Services

Instructor(s): R. von Hippel

Room: E51-149

Units: 6

Prereq(s)/Restr(s): NA

M	T	W	Th
10:00	10:00		
11:30	11:30		

Description: Finds most develop major innovations to prosper but they don't know how. Recent research into the innovation process has made it possible to develop breakthrough products systematically. Explores several practical idea generation development methods. Presentations of real cases by invited experts convey the art required to implement such. Half-term subject.

15.386H2

Managing in Adversity

Instructor(s): H. Anderson / P. Karlina

Room: E51-525

Units: 6

Prereq(s)/Restr(s): NA

T	Th
10:00	10:00
11:30	11:30

Description: "Managing in Adversity" places you in the shoes of the Chief Executive Officer confronted by a high adversity situation. We are not talking about "just normal" business problems. The high adversity situation is the "right" winning team, the "moment" of truth, the critical situation in which a CEO has to quickly decide the issues and take critical and prescriptive actions... actions which might well determine the fate of the company. The CEO. The course uses cases and guest CEO speakers who present real-time high adversity situations that you will be asked to deal with through role playing. The course brings together the critical skills required for dealing with complex problems under highly adverse conditions.

15.431 A/B

Entrepreneurial Finance

Instructor(s): A. Schorr

Room: E51-315

Units: 9

Prereq(s)/Restr(s): 15.402

M	T	W	Th
1:00	1:00		
2:30	2:30		
R	R		
2:30	2:30		
4:00	4:00		

Description: Examines the elements of entrepreneurial finance, focusing on technology-based start-up ventures, and the early stages of company development. Addresses key questions which challenge of entrepreneurs: how much money can and should be raised, when should it be raised and from whom, what is a reasonable valuation of the company, and how funding, employment contracts and exit decisions should be structured. Aims to prepare students for these decisions, both as entrepreneurs and venture capitalists. In-depth analysis of the structure of the private equity industry.

15.358

The Business of Software and Digital Platforms

Instructor(s): M. Conomos

Room: E51-395

Units: 9

Prereq(s)/Restr(s): NA

M	T	W	Th
			F
			9:00
			12:00

Description: Seminar-style course aimed at anyone interested in the business and technology sides of software and digital platforms. From enterprise and consumer software to mobile services and video games. Designed for students who want to found their own companies or work as project and product managers, industry analysts, or venture capitalists. Consider key strategic and technical concepts, with particular emphasis on product vs. service distinctions. Reviews how software became a business at IBM, Microsoft, and SAP; newer companies such as Google, and Salesforce.com; and start-ups. Students may analyze ongoing platform battlegrounds such as enterprise software, smart phones, Web 2.0, digital media, video games, and internet-based advertising and media. Examines what is special about marketing, sales, product development, and entrepreneurship in the case of software and digital markets. Student teams help weekly sessions and analyze emerging companies and sectors in live projects. Practitioners help teach the class and offer some special lectures.

15.387 H2

Technology Sales and Sales Management

Instructor(s): H. Anderson / W. Aulet

Room: E51-315

Units: 6

Prereq(s)/Restr(s): NA

T	Th
8:30	8:30

Description: Practical and tactical ins and outs of how to sell technical products to a sophisticated marketplace. How to build and manage a sales force; build the compensation system for a sales force; analyzing territories, resolving disputes, and dealing with channel conflicts. Focus on selling to customers, either through a direct salesforce, a channel salesforce, or building an OEM relationship. Half term course.

15.615

Basic Business Law for the Entrepreneur and Manager

Instructor(s): J. Altschul

Room: E51-145

Units: 9

Prereq(s)/Restr(s): NA

T	Th
8:30	8:30
10:00	10:00

Description: One of three alternative courses (15.612, 15.614, and 15.617) each designed to provide managers with the legal foundation in business law needed to exercise judgment and leadership when confronting a broad range of complex, law-sensitive issues. Organizing a new company, using new capital, contracts, liability, employment, intellectual property, selling a company, public, trademark, municipal and corporate law, going international, selling a business, bankruptcy and reorganization, and business disputes. Focus on US law but comparisons to other systems.

15.363J/ HST.971J

Strategic Decision Making in the Biomedical Business

Instructor(s): A. Fleming / A. Zemer

Room: E51-315

Units: 9

Prereq(s)/Restr(s): NA

T	Th
5:30	
8:30	

Description: Key strategic decisions faced by managers, inventors and scientists at each stage in the value chain of the life science industry. Aim to develop students' ability to understand and effectively assess these strategic challenges. Focus on the biotech sector, with additional examples from the pharmaceutical and medical device sectors. Case studies, analytical models and detailed quantitative analysis. Intended for students interested in building a life science company or working in the sector as a manager, consultant, analyst or investor. Provides analytical background to the industry for biological and biomedical scientists, engineers and physicians with an interest in understanding the commercial dynamics of the life sciences or the commercial potential of their research.

15.390 A/B

New Enterprises

Instructor(s): A. H. Anderson / F. Murray-L. Perez-Davea

Room: E51-345

Units: 9

Prereq(s)/Restr(s): NA

M	T	W	Th
A	A		
4:00	4:00		
5:30	5:30		
R	R		
9:00			

Description: Covers the process of identifying and quantifying market opportunities, then conceptualizing, planning and starting a new, technology-based enterprise. Topics include opportunity assessment, the value proposition, the business plan, intellectual property, ethics, the business plan, the founding team, selling customers and raising funds. Students develop detailed business plans for a start-up. Intended for students who want to start their own business, further develop an existing business, be a member of a management team in a new enterprise, or better understand the entrepreneur and the entrepreneurial process.

15.973 HI

Critical Issues in Entrepreneurship: Emerging Opportunities in Clean Hydrocarbon Energy: Natural Gas

Instructor(s): W. Aulet

Room: E51-361

Units: 6

Prereq(s)/Restr(s): NA

T	Th
4:00	4:00
5:30	5:30

Description: This seminar is an advanced graduate level course for selected engineering, science, business, and policy students to explore the potential economic opportunities presented by the latest development in the area of natural gas. Emphasis will be put on educating the students in depth on this possibly energy sector, its opportunities, challenges and potential. Students will be positioned to be cognizant and hopefully capable of new ventures in this high growth area in the future. This seminar will be designed to be complementary with 15.366 and 15.011, but they are not a prerequisite for the course. Course will be offered via instruction process only.

15.365 J/ ESD.58J

Disruptive Technologies: Predator or Prey?

Instructor(s): J. Uebach

Room: 1-300

Units: 9

Prereq(s)/Restr(s): NA

T	Th
2:30	2:30
4:00	4:00

Description: Focuses on the management of product and process innovation and on economic, management, and technological influences on innovation. Both sustaining and disruptive innovations in products and manufacturing processes covered in lectures and cases presented by the leaders of change in different industries. Emphasis on emerging and disruptive technologies as seen from the points of view of customer firms (predators) and incumbent firms (prey) we covered in a class exercise, and project (preferably done in small groups).

15.394 A/B

Designing and Leading the Entrepreneurial Organization

Instructor(s): M. Mates

Room: A: E51-149

Units: 9

Prereq(s)/Restr(s): NA

T	Th
10:00	10:00
11:30	11:30
R	R
1:00	1:00
2:30	2:30

Description: This subject is about building, running, and growing an organization. Subject has four central themes: (1) How to think analytically about designing organizational systems. (2) How leaders, especially founders, play a critical role in shaping an organization's culture. (3) What really needs to be done to build a successful organization for the long-term, and (4) What one can do to improve the likelihood of personal success. Not a survey of entrepreneurship or leadership, subject addresses the principles of organizational architecture, group behavior and performance, internal and external influences, leadership and motivation in entrepreneurial settings. Through a series of cases, lectures, readings and exercises develop deep competence in organizational design, human resource management, leadership and organizational behavior in the context of a new, small firm.

15.969 HI

Open-Centered Innovation in the Internet Age

Instructor(s): R. von Hippel

Room: 1-399

Units: 6

Prereq(s)/Restr(s): Restricted to Eng. Design & Mgmt. Students

M	T	W	Th
			F
			1:00
			4:00

ESD 938
Next, ab:
Mobile Innovation for Global Challenges
Instructor(s): J. Bolding
Room: 1-077
Units: 12
Prereq(s)/Restr(s): NA

Description: ESD.938 is a 12-week technology development and business design course in which interdisciplinary student teams collaborate with industry partners. Field reports and lab classes, as well as from university webinars to deploy ground-breaking solutions of worldwide technologies that address challenges of global significance. For Spring 2010, the course will focus on the use of smartphones for creating mobile, secure, transparent and flexible connectivity with the help of process (ESD.938), able to take a technology from the lab to the market.



Nurture I



MIT GSW



GLOBAL STARTUP
WORKSHOP



Energy &
Environment
Club

MIT Sloan School of Management



MIT Sloan Biomedical Business Club

mitenergyclub

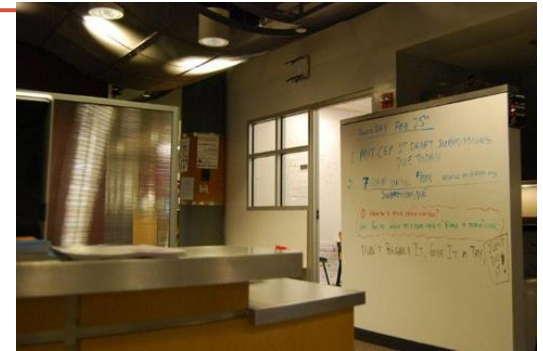
TechLink



Nurture II



Maddy Ryan
White Board
Walls



Nurture III



Jean Hammond



Katie Rae



Brian Shin



Reed
Sturtevant



Dharmesh
Shah



Brian Halligan



Rishi Dean



Susan
Whoriskey

Network

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MIT E-Lab CEO
Reception

Celebrate

Heller Awards
McGovern Awards



Heller Award 2009 Recipient
Meredith Fisher



McGovern Award 2009 Recipients:
Brian T. Cantwell, Amy M. Fazen,
Diana M. Huidobro, Sombit Mishra, Lara Pierpoint,
Pedro Santos, Marcio von Muhlen & The MIT
Clean Energy Prize, The MIT Energy Club





KOMMUNAL- OG REGIONALDEPARTEMENTET

VIIth European Mountain Convention

**Promising examples of innovative development
in the Norwegian Mountains**

*Liv Signe Navarsete,
Minister of Local Government and Regional Development
Lillehammer September 16th*











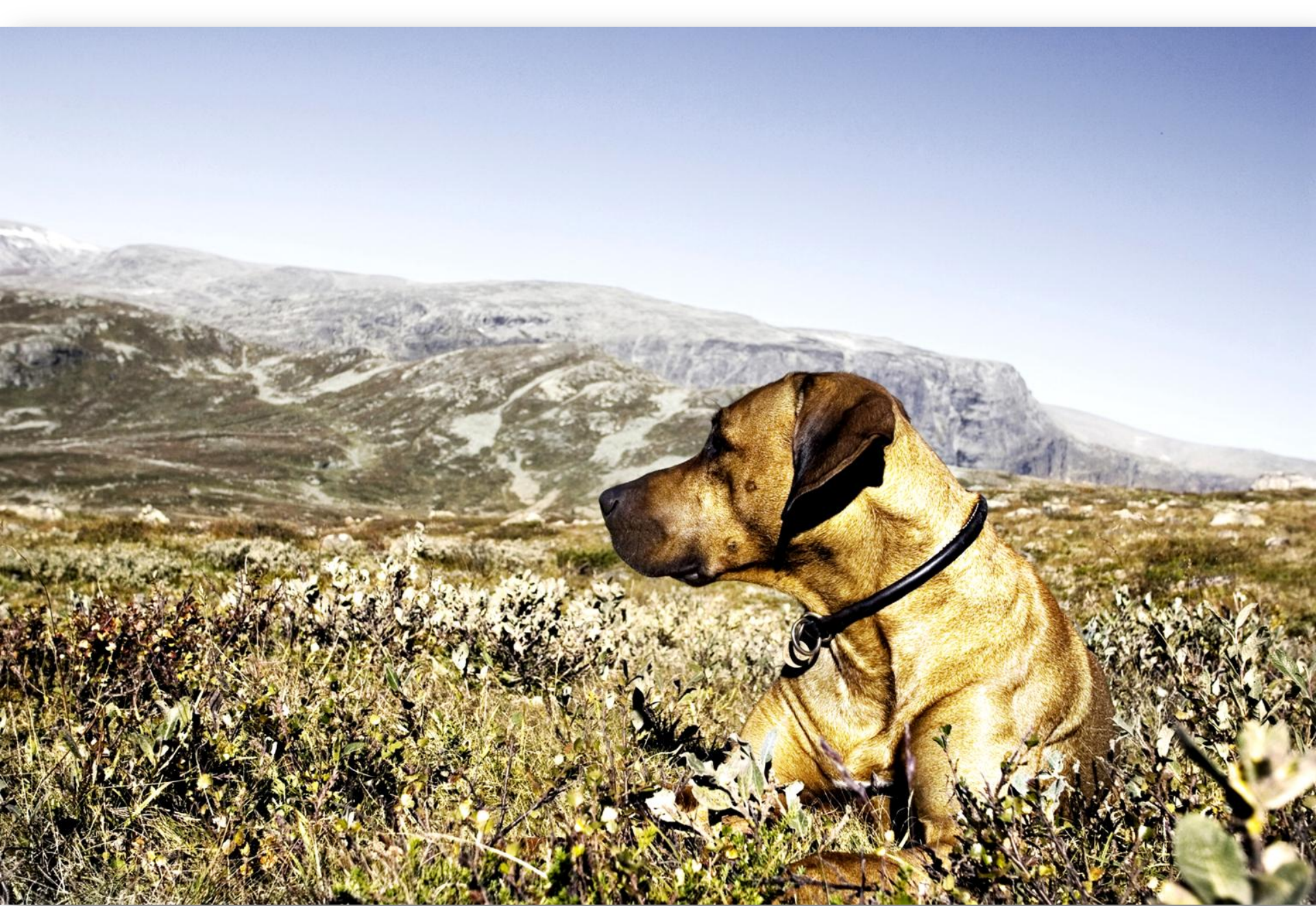














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