

An emerging Faroese Energy Policy



**Building energy
perspectives**



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I will tell you...

- New building areas e.g. in Tórshavn at 100-200 metres above sea level are in a sub arctic climate zone.
- Energy consumption and CO₂ emission has not been on the political agenda for many years so the required energy standard of buildings has not improved since 1970'ies

I will also tell you that...

- An energy policy is in its making that will focus on renewable energy and energy savings.
- Thus there will be a focus on energy savings in buildings and building energy codes.
- This venue is a good starting point for inspiration and possible cooperation on energy savings in the housing sector

Faroe Islands data



Faroe Islands in numbers

Land area km ²	1 400
Sea Area km ²	274 000
Population Jan '05	48 379

Climate in Tórshavn

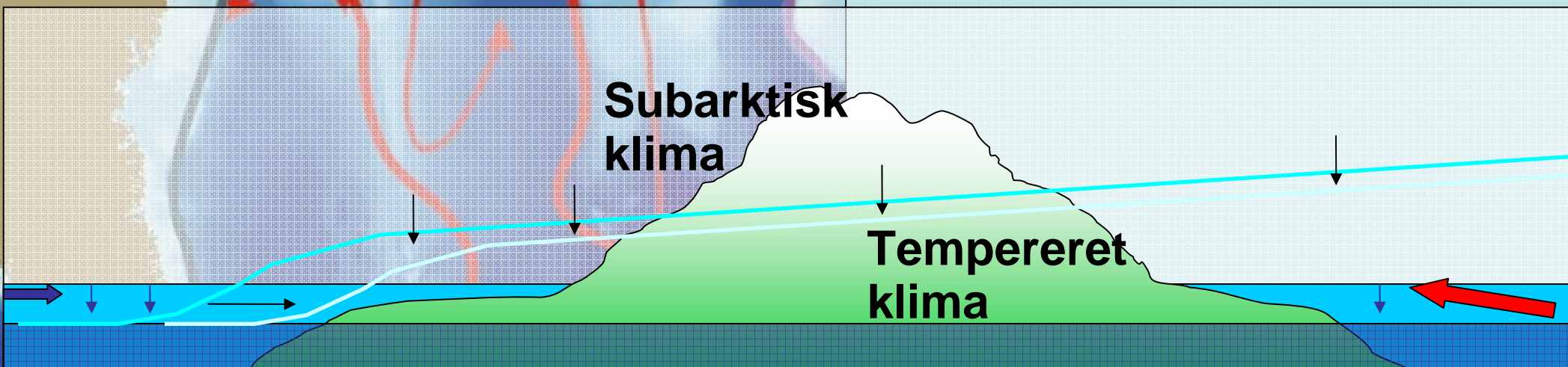
Av. temp. Jan °C	3.4
Av. min temp Jan °C	1.2
Av temp Aug °C	10.3
Av. max temp Aug °C	12.8
Sun hours per year	840
Precipitation mm/year	1 284
Av. vind speed m/s	5.9



Surrounded by the Gulf stream

The Faroe Islands are

- ⇒ **Small** pieces of land
- ⇒ **Surrounded** by the Gulf Stream
- ⇒ A dynamic region on the border between temperated and arctic climate.



Subarktisk
klima

Tempereret
klima

Climate Definitions

Arctic climate definition

Warmest month not exceeding $10\text{ }^{\circ}\text{C}$

Coldest month not exceeding $0\text{ }^{\circ}\text{C}$

Subarctic climate definition:

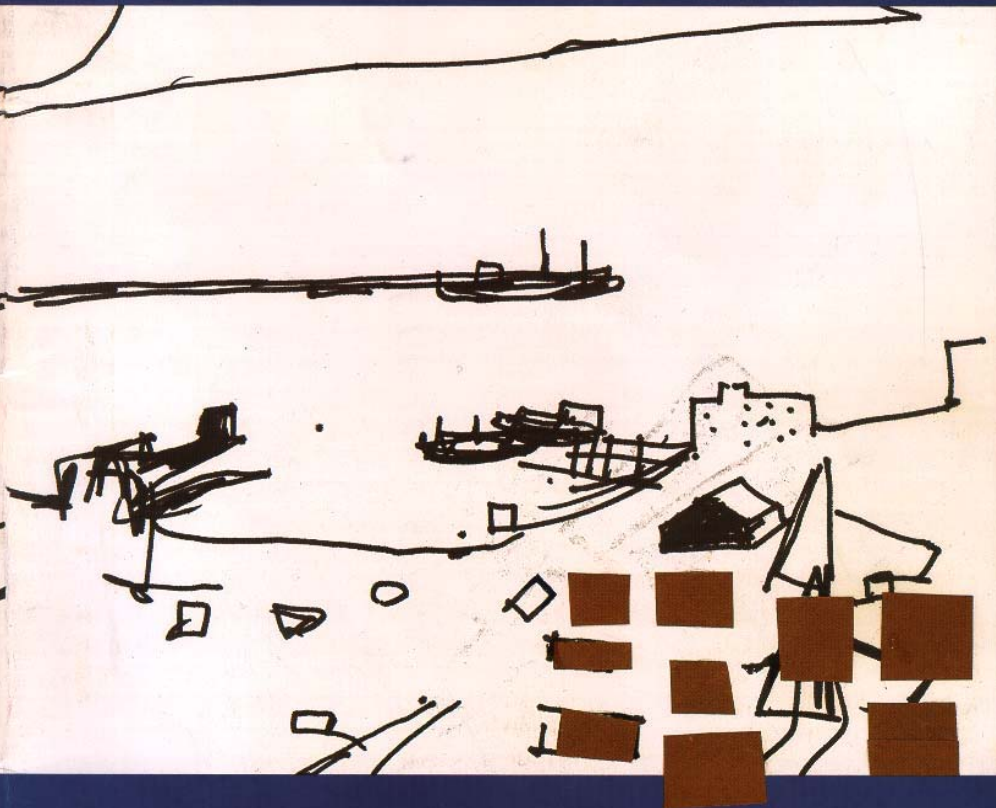
Temperature above $10\text{ }^{\circ}\text{C}$ in less than 4 months

Coldest month not exceeding $0\text{ }^{\circ}\text{C}$

20% Oceanic temperated

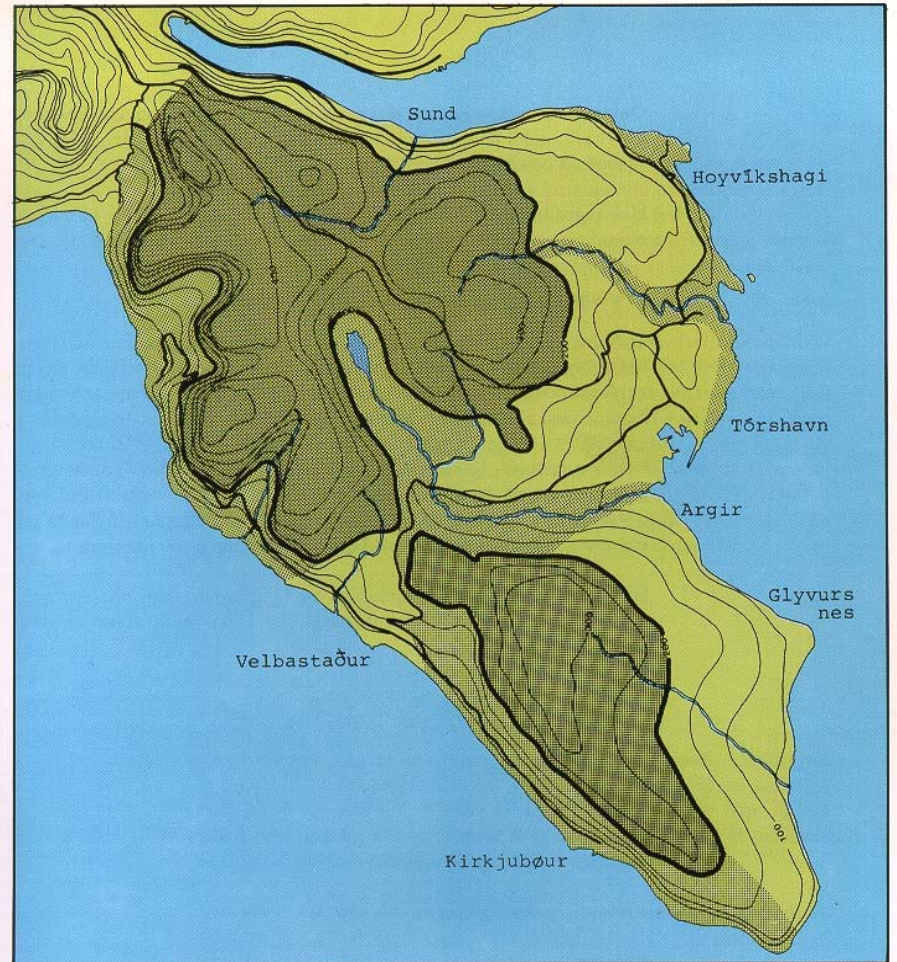
80% Sub arctic and Arctic climate

HAVNIN Í FRAMTÍÐINI



UPPSKOT TIL FRAMTÍÐAR ÚTBYGGING Í TÓRSHAVN

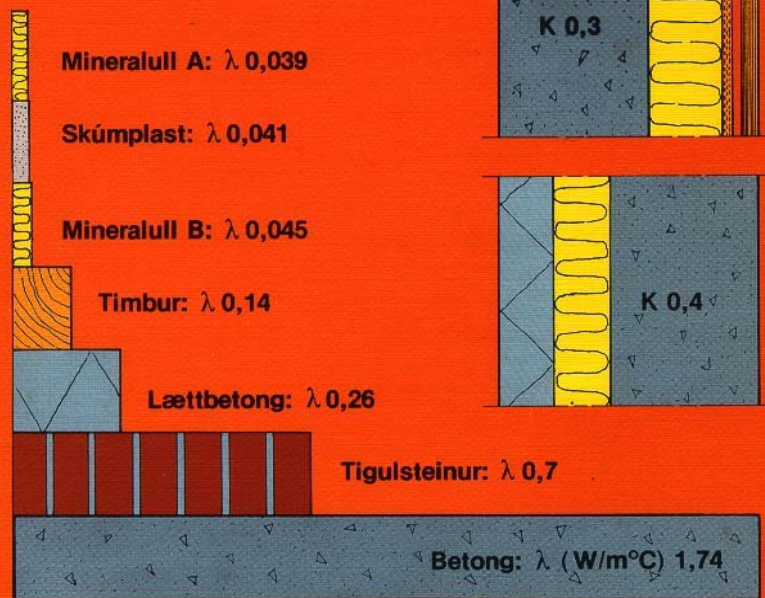
From 1986



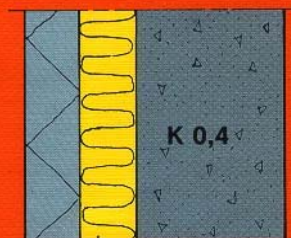
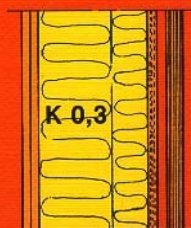
Øki oman fyri 200 m hædd, verður ikki bygt
Náttúruøki ið eiga at varveitast óbygd

New parts of Tórshavn are
100-200 metres above sea level
and thus in subarctic climate

BJÁLVIÐGARLEIÐBEINING

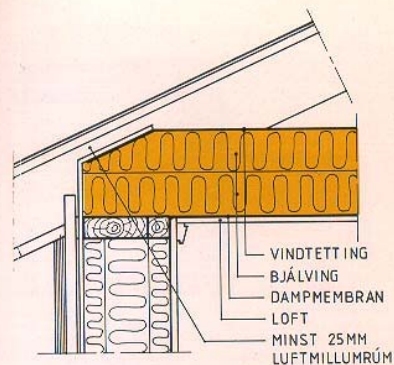


ORKURÁÐIÐ 1984



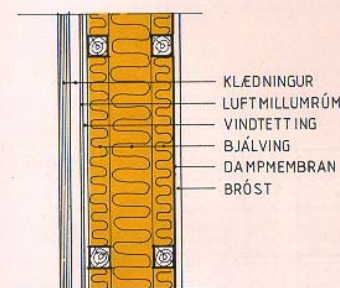
Bjálving av timburhúsi

18



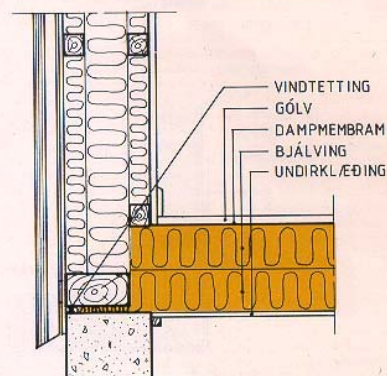
Loft á timburhúsi
 Bjálvað verður millum og oman á bitarnar. Ansast skal eftir, at skoytini á bjálvingini verða umskarað. Skoytini á dampmembranini skulu umskarast við 15 cm.

Bjálvingar-tjúkd	Slag av bjálving			
	A-batts	B-batts	A-batts	B-batts
	K-virði W/m ² · °C		Oljunýtsla fyri 100 m ² í eitt ár	
0 mm	2,24		3470	
150 mm	0,27	0,30	420	465
175 mm	0,24	0,26	370	405
200 mm	0,21	0,23	325	355
250 mm	0,17	0,19	265	295
300 mm	0,14	0,16	220	250



Útveggur á timburhúsi
 Á dampmembranini skulu skoytini umskarast við 15 cm, skoytast skal á okunum ella stólpunum. Membranin í veggnum skal verða ferd 15 cm inn yvir membranirnar í loftinum og gólvinum. Møgulig hol í membranini verða at bota við dampstøttum klístribandi.

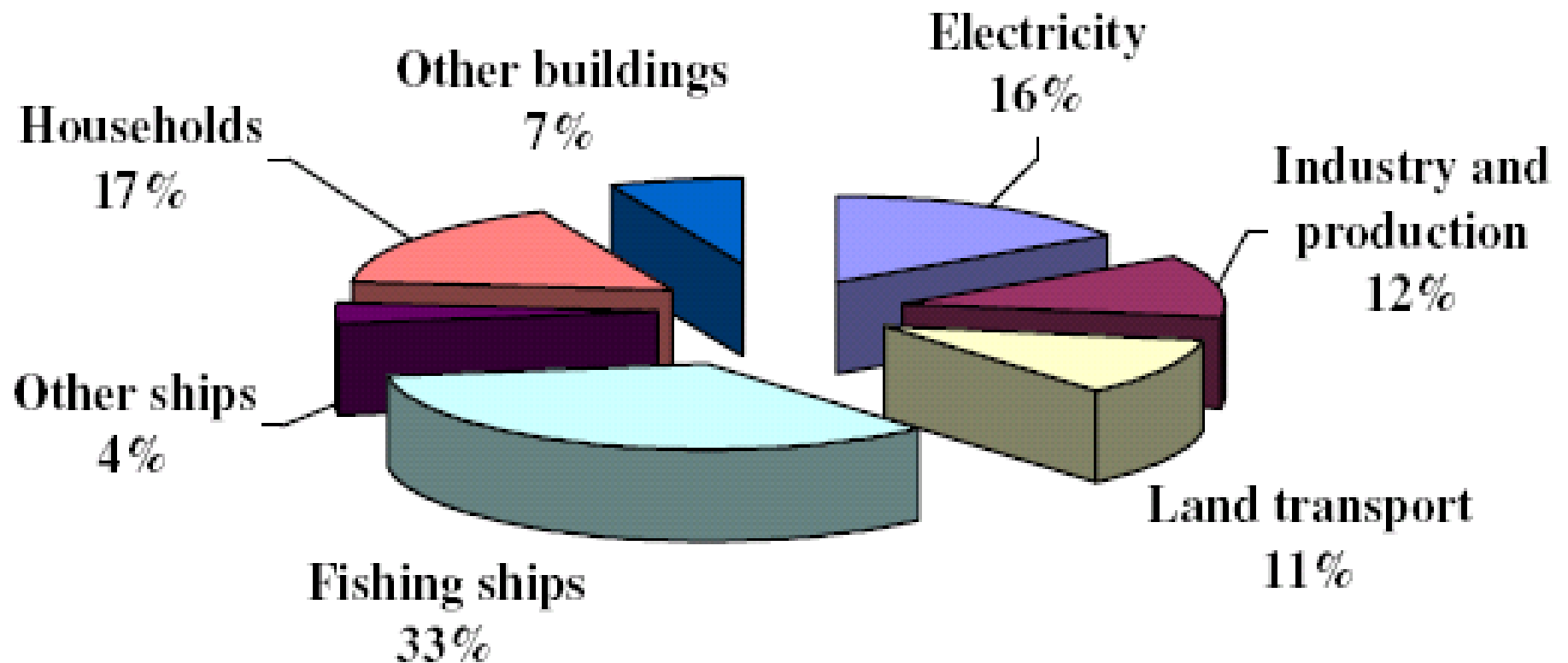
Bjálvingar-tjúkd	Slag av bjálving			
	A-batts	B-batts	A-batts	B-batts
	K-virði W/m ² · °C		Oljunýtsla fyri 100 m ² í eitt ár	
100 mm	0,34	0,37	480	520
125 mm	0,29	0,32	410	450
150 mm	0,25	0,27	350	380
175 mm	0,22	0,24	310	340
200 mm	0,20	0,22	280	310
250 mm	0,16	0,18	225	255
300 mm	0,14	0,15	195	210



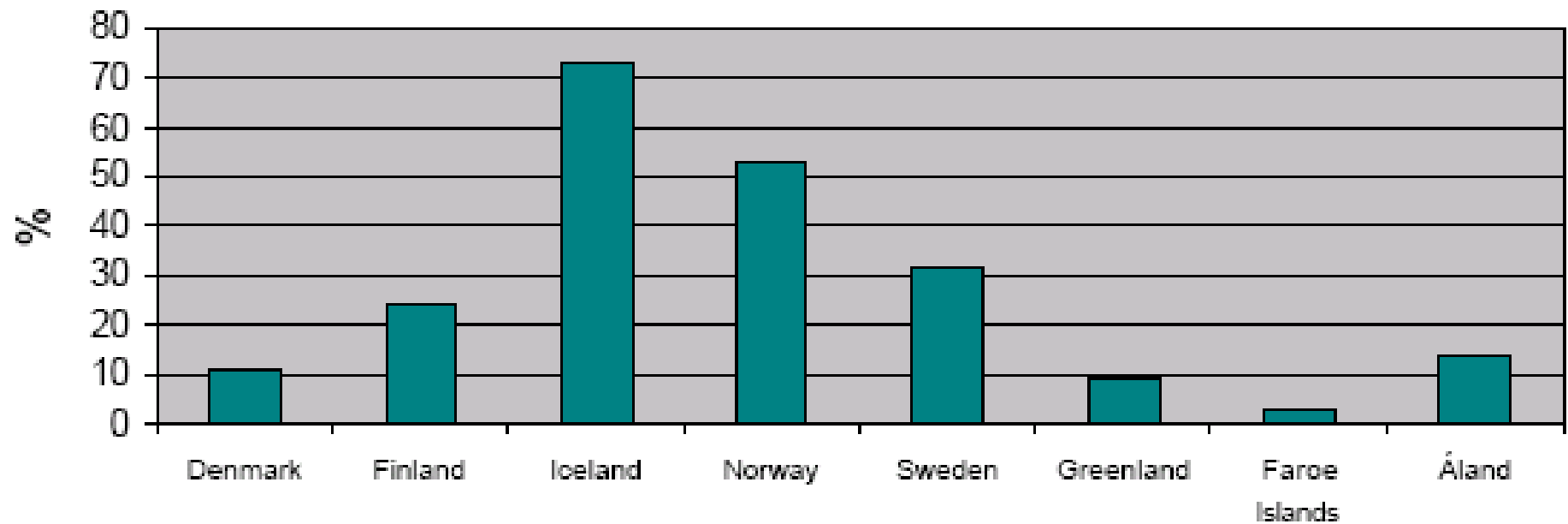
Gólv í timburhúsi
 Ansast skal eftir, at vindur ikki sleppur inn í bjálvingina millum syll og undirstøði; dampmembranin skal bert nýtast, har eingin kjallari er. Klædningurin skal ganga 10 cm niður um syllina.

Bjálvingar-tjúkd	Slag av bjálving			
	A-batts	B-batts	A-batts	B-batts
	K-virði W/m ² · °C		Oljunýtsla fyri 100 m ² í eitt ár	
0 mm	1,47		1725	
150 mm	0,27	0,29	315	340
175 mm	0,23	0,26	270	305
200 mm	0,21	0,23	245	270
250 mm	0,17	0,19	200	225
300 mm	0,14	0,16	165	190

Energy consumption 2003



The share of renewable energy relative to the total energy consumption in 2000



Source: OECD, SEV, Statistics Faroe Islands

Figure 5.1: The Share of Renewable Energy relative to the Total Energy Consumption in 2000

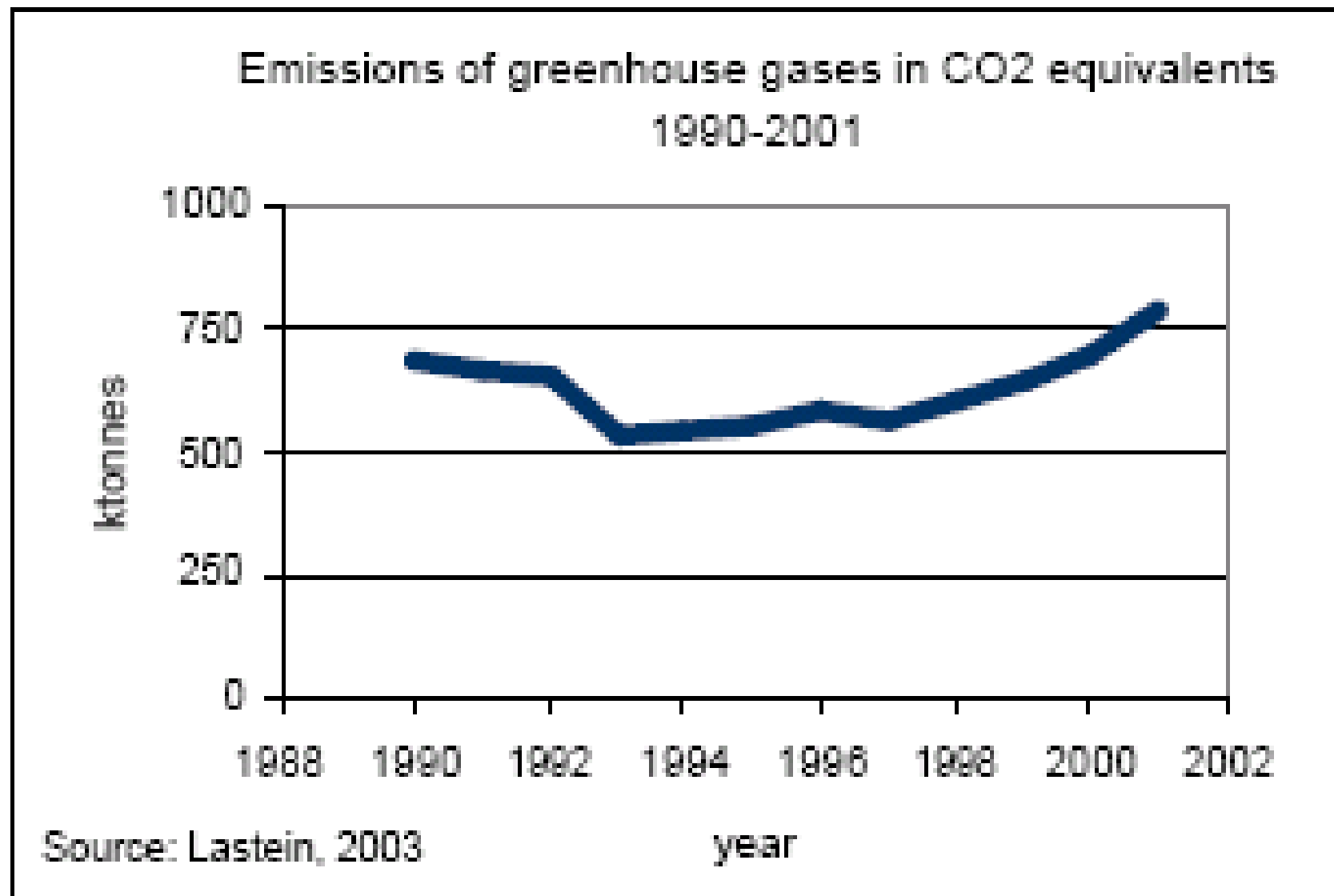
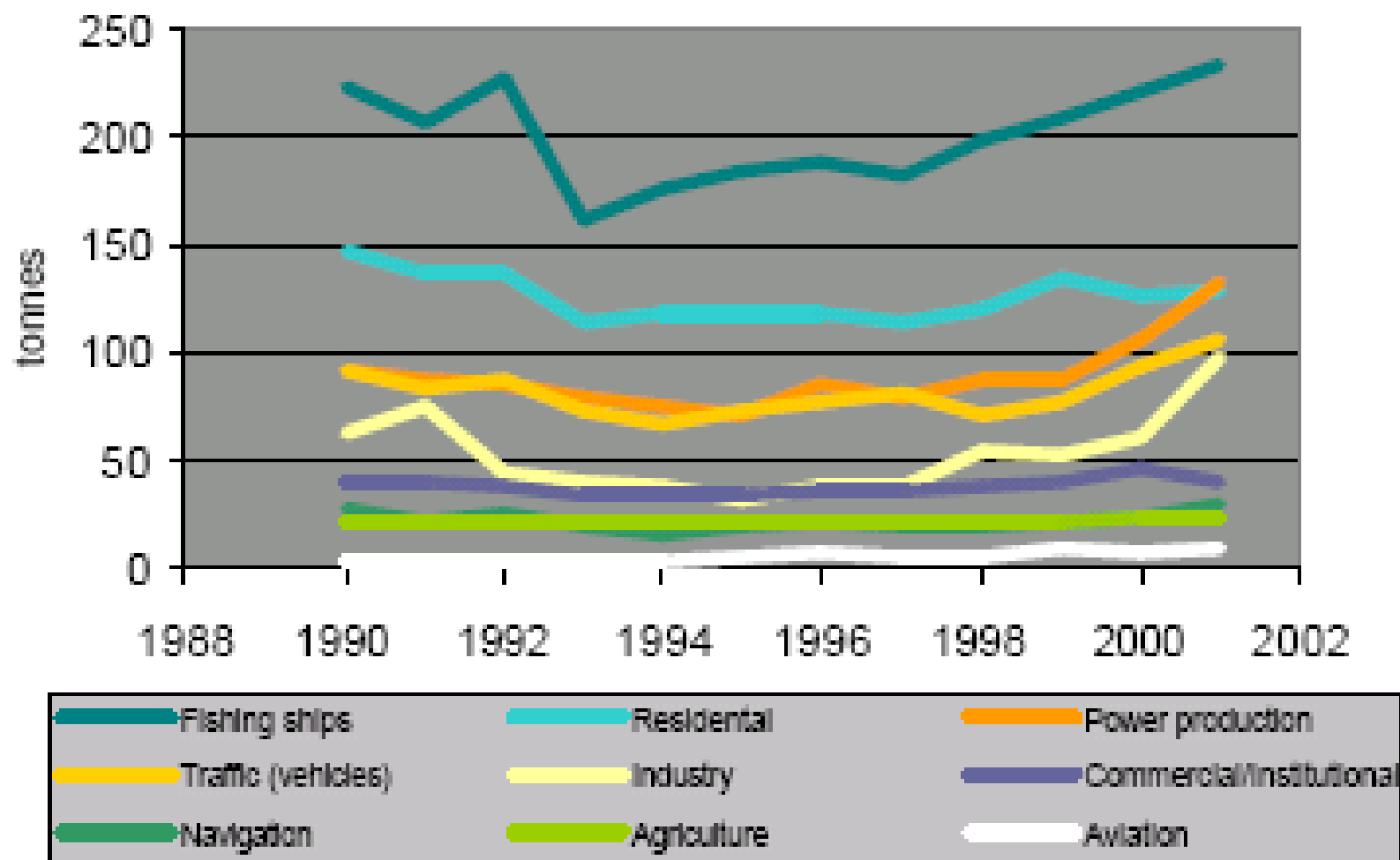


Figure 5.2: Emissions of Greenhouse Gases in CO₂ Equivalents 1990-2001

CO₂ emissions (in CO₂ equivalents) grouped by IPCC sector
1990-2001



Source: Lastein, 2003

Figure 6.7: CO₂ Emissions (in CO₂ Equivalents) grouped by IPCC Sector 1990-2001

Energy Policy

- Utilise renewable energy
- Waste heat shall be utilised
- Increase energy efficiency
- Price of energy should reflect environmental impacts
- Liberalisation of electricity supply
- Information, learning, research

Two steps energy policy

- Autumn 2005
 - Which goals should we have?
- Then
 - How do we get there?

And what about the Kyoto Protocol?

The building energy tasks

A photograph of a multi-story building under renovation. The building has several windows and is surrounded by scaffolding. A utility pole is visible in the foreground on the right. The sky is blue with some clouds.

- Set up a building energy code for the Faroe Islands that reflects standards that are common abroad – e.g. EU Directive
- Be aware that new houses are built in a colder climate than before
- Setting up an energy retrofitting scheme based on economic criteria - Which buildings should be targeted first?



Thank you.