

INDUSTRIAL CHANGE TOWARDS ENVIRONMENTAL SUSTAINABILITY

The case of chloroflourocarbons

Susanne Sweet

(M STOCKHOLM SCHOOL OF ECONOMICS
4 EFI, THE ECONOMIC RESEARCH INSTITUTE

CONTENTS;

Part I SUSTAINABLE DEVELOPMENT AND INDUSTRIAL CHANGE	
Chapter 1	Background and purpose. Choice of perspective in this study 2 Purpose 6 The CFC study and its organization 7 Structure and content of the thesis < 12
Chapter 2	Ecological problems and industrial change. Ecological threats and approaches to solve them 15 The governance of environmental problems in Sweden 18 Change of focus: from "end-of-pipe" to sustainable development 20 Changing complex systems to solve environmental threats 21 Society, business and the environment - approaches to environmental problems 23 Summary 31
Part II THEORETICAL ASPECTS OF INDUSTRIAL CHANGE	
Chapter 3	Inter-organizational, technological and institutional change processes: influences of structures and processes on industrial change. Introduction 33 Organizational change, and the organization of change activities in industrial systems: multi-level perspectives on change, its governance and its sources 35 Organization and functioning of industrial systems 45 Institutional theories and change 52 Understanding the substance of change and change processes in and of industrial systems 62 The importance of relationships in industrial development and change 62 Stability and change in industrial systems 68 Theoretical summary 82
Chapter 4	Understanding industrial environmental change. Analytical framework 84 Domain of the study 84 Processes and elements of change in firms, networks and institutions - levels of analysis 91

• The industrial system - a network of relational couplings and technological interdependencies	93'
• Industrial systems in institutional context	95
industrial system interdependencies - relational couplings and production system interdependence .	97
From analytical framework to empirical observations	104 .

PART III CHANGE PROCESSES TOWARDS ENVIRONMENT ALLY'SUSTAINABLE SYSTEMS •

Chapter 5	The case of replacing chloroflouorocarbons - achieving change and preserving stability	
	Background • . <	105
	Protection of the natural environment -	106
	Replacement of Chloroflouorocarbons in industry	107
	Discovering an ecological threat	110
	Controlling an ecological problem	111
	CFC manufacturers and activities towards finding solutions	115
	The case of refrigeration - co-ordination among .manufacturers and keeping the stability	120
	CFC as a solvent the electronic industry - re-defining the problem	139
	The replacement of CFCs "in polyurethane production - - industry coalition to comply	145
	The case of replacing CFCs - three applications - three processes	155

PART IV ANALYSIS ^CONCLUDING REMARKS

Chapter 6	Patterns and processes of change in the CFC-case. CFCs- beginning and end:, the case of Refrigeration	156
	Breaking up from institutionalized norms - the case of Electronics	; 173
	Changing positions in the network - the case of Flexible foams	177
	Change and inertia in our CEC case	183
	Organizational rationales, network behavior and- their implications for studies of environmental change	
	Conclusions	187
Chapter 7	Industrial change and sustainable development. Reviewing our.theoretical framing in light of our CFC case findings	190
	Change and inertia in our CFC cases	195,
	Implications	198
	Reflecting on possible future studies	199

REFERENCES	202
------------	-----