

CONTENTS

1	INTRODUCTION	1
2	BIOMASS TECHNOLOGIES AND OPTIONS	2
2.1	The technologies	2
2.1.1	<i>Sources of biomass</i>	2
2.1.2	<i>Renewable energy: scale of opportunity for forest-based biomass</i>	2
2.1.3	<i>Types of wood fuel</i>	4
2.1.4	<i>Grade, wood species and moisture content</i>	5
2.2	Integration into buildings	5
2.2.1	<i>Boiler types</i>	6
2.2.2	<i>Supply chain</i>	6
3	CASE STUDIES FROM COMMERCIAL, DOMESTIC AND INDUSTRIAL BUILDINGS	8
3.1	Commercial buildings using biomass energy	8
3.2	Public and educational buildings using biomass energy	16
3.3	Domestic buildings using biomass energy (local and district)	21
4	ECONOMICS AND FUTURE OPTIONS	25
4.1	The financial landscape	25
4.1.1	<i>Regulation and drivers</i>	25
4.1.2	<i>Economics</i>	26
4.1.3	<i>Costs of biomass boilers and stoves</i>	27
4.1.4	<i>Grants</i>	28
4.1.5	<i>Standards</i>	28
4.1.6	<i>Regulations and planning</i>	29
4.2	Biomass energy and carbon	29
4.3	Strengths and weaknesses of biomass energy	30
4.4	A look to the future	30
5	CONCLUSIONS	31
6	REFERENCES, FURTHER READING AND SOURCES OF INFORMATION	32