

CONTENTS

| | |
|---|------------|
| Preface | iii |
| Abbreviations | vi |
| Chapter 1 The Green Rating Project | 1 |
| 1.1 The imperative of the green rating project | 3 |
| 1.2 Green rating of the urea industry | 7 |
| Chapter 2 The Indian urea industry | 15 |
| 2 Profile of the Indian urea manufacturing industry | 17 |
| Chapter 3 Technology | 25 |
| 3.1 Hydrogen production..... | 27 |
| 3.2 Ammonia production | 29 |
| 3.3 Urea production | 34 |
| Chapter 4 Energy and emissions | 39 |
| 4.1 Energy consumption | 41 |
| 4.2 Greenhouse gas emissions | 46 |
| Chapter 5 Water and wastewater | 49 |
| 5 Water use and wastewater management | 51 |
| Chapter 6 Pollution and its control | 63 |
| 6.1 Water pollution and its control | 65 |
| 6.2 Air pollution and its control | 70 |
| 6.3 Solid waste management | 75 |
| Chapter 7 Environment management and compliance..... | 79 |
| 7 Environment management and compliance | 81 |
| Chapter 8 The final count | 89 |
| 8.1 Sector performance and industry report card..... | 91 |
| 8.2 The top rated plants | 95 |
| Chapter 9 Challenges and the way forward..... | 101 |
| 9.1 The controlled sector | 103 |
| 9.2 The way ahead | 109 |
| Annexures | |
| 1. Rating methodology | 113 |
| 2. Overall water consumption and specific water use .. | 124 |
| References and notes | 125 |