## Contents

## **Prelude**

Congratulations	6
Why convert at all?	7
How the climate benefits	8
7 Questions	12
Be a hero – for more than one day	16
Priority 1: Safety	22
Approval roadworthiness	24
Basic parameters Volvo 850 electric	26
Components from the Nissan Leaf	30
Additional components	36
The Roadmap	38

## That's how it works

Chapter 1: Battery boxes	40
1.1 Plan and build	42
1.2 Fitting in the modules	46
1.3 Brackets and mounting	54
Chapter 2: Traction Unit	60
2.1 Fixing the drive shaft	62
2.2 Coupling and mounting the traction unit	64
2.3 Inverter board swap	76
2.4 DC/DC converter, junction box, charger	80
Chapter 3: Additional components	86
3.1 Gas potentiometer, hydraulic pump and vacuum pump	88
3.2 Acoustic warning signal, HV heater, mini coole	r <b>91</b>

3.3 Cooling circuit, heating circuit

92

Chapter 4: Electrics and controls	94
4.1 The high-voltage system	9
4.2 Repurposing of the Volvo vehicle control unit	10
4.3 The CAN Bus	10
4.4 Cable connections	10
4.5 Connecting cables in the motor compartment	t <b>11</b>
Chapter 5: Charging infrastructure	118
5.1 Preparing and installing the charger	12
5.2 Connecting the charging socket	12
Chapter 6: Stability and protection	126
6.1 Frame reinforcement and impact protection	12
6.2 Splash and stone chip protection	13
Chapter 7: Almost there	134
7.1 Communication and display	13
7.2 Test rides 7.3 Inspection for road approval	13 14
•••••••••••••••••••••••••••••••••••••••	

## What else

And what about the cost?

Second-Life components

**Abbreviations** 

Partners you need	148
Tools one can't do without	150
It's better with music	152
Epilogue	154
Appendix	······
Battery boxes	156
Mountings	162
Cable routings	172
Cooling and heating	184
Impact, splash and stone chip protection	186
Connectors	194

146

195

196