

Our Ref. / Ons verw: **5000** Date /Datum: **2020-10-23**
From / Van: **DJ de Vries** Cell/ Sel: **082 822 3389**

RE: BDE CONSULTING ENGINEERS: SELECTED SOLAR PROJECTS

Introduction

The graduated electrical and mechanical Engineers of BDE's George office have 120 years' experience in electrical bulk supplies (power lines & substations, up to 132 kV), electrical distribution networks, photovoltaic (PV) solar plants, various mechanical installation and building installations. BDE Engineers have done various electricity masterplans (including Eskom) as well as various load flow analysis for renewable energy plant grid integration:

Solar Projects

Since 2014 the following selected photovoltaic module solar projects were done by Professional Engineers currently employed by BDE:

1. George Airport: 750kWp (designed for upgrade to 1000kWp with storage);
2. Upington Airport 500kWp;
3. Kimberley Airport: 500kWp;
4. Bloemfontein Airport: 500kWp;
5. Port Elizabeth Airport: 1000kWp;
6. George, Various Commercial: Up to 57kWp;
7. Kleinbrak, Commercial: 85.5kWp;
8. The Craggs, Farm: 20.1kWp with 62 kWh storage capacity;
9. Residential: Various systems between 3 & 15kWp with storage.

Embedded Generation (EG) Integration Studies for Independent Power Producers (IPP)

Since 2012 the following sites were investigated, and Network Integration Plans were compiled by BDE and the Professional Engineers currently employed by BDE:

1. Market Square Mall 600kW PV – Plettenberg Bay;
2. Checkers Mall 440kW PV – Plettenberg Bay;
3. Platinum Square Mall 1291kWp PV - Rustenburg;
4. Victoria West 95MW Wind;
5. Sonvanger 75MW PV – Theunissen;
6. Modderfontein 140MW Wind – Victoria West;
7. Matjhabeng 200MW & 300MW PV – Welkom;
8. Kalkbult 75MW PV – De Aar;
9. Linde 37MW PV – De Aar;
10. Taaibos 40MW PV – De Aar;
11. Dreunberg 75MW PV – Eastern Cape;

12. Schmidtsdrift 30MW PV;
13. Padrooi 8MW PV - Augrabies;
14. Richtersveld 40MW PV - Oranjemund;
15. Soutdrift (Letsatsi project) 64MW PV – Bloemfontein;
16. !Xun & Khwe 75MW PV & 100MW CSP - Kimberley;
17. Metsimatala 50MW PV & 50MW CSP - Postmasburg;
18. Humansrus 75MW PV & 100MW CSP - Postmasburg;
19. Hertzogville 75MW PV;
20. Chatty 75MW PV – De Aar;
21. Osborne 75MW PV - Douglas;
22. De Aar 2 75MW PV;
23. Ritchie 1 (75MW PV) & 2 (75MW PV);
24. Wilger 75MW PV – Lime Acres;
25. Kalkaar 100MW CSP - Koffiefontein;
26. Limestone (Ariesfontein) 100MW CSP;
27. Kotulo Tsatsi Energy 3 X 200MW CSP Tower, 2 X 200MW CSP Trough & 2 X 100MW PV – Kenhardt;
28. Rooipunt 100MW CSP – Upington;
29. Blaauwbospan 100MW CSP – Groblershoop.

Solar Projects Glare Studies

Since 2014 glare studies the following sites were done by Professional Engineers currently employed by BDE:

1. George Airport, ground mounted system: 750kWp;
2. Upington Airport, ground mounted system: 500kWp;
3. Kimberley Airport, ground mounted system: 500kWp;
4. Bloemfontein Airport, ground mounted system: 500kWp;
5. Port Elizabeth Airport, ground mounted system: 1000kWp;
6. West Coast Mall, roof top mounted system: 1000kWp;

Please contact us if any further information or clarification is required.

Yours faithfully



D. de Vries Pr. Eng.

On behalf of: **BDE CONSULTING ENGINEERS**