

Esi sibonelelo senziwe ukuba sibe khona ngeNkqubo
yoLawulo lwaMandla oMbane aCocekileyo
aseNtshona Koloni

Ngolwazi oluthe vetshe nceda utyelele
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INkqubo yoLawulo lwaMandla oMbane
aCocekileyo aseNtshona Koloni iXhaswa
yi-Ofisi yooNozakuzaku baseBhritani
de ibe ngu-2010 ibambisene naMandla
oMbane aLondolozwayo ase-Afrika
(Sustainable Energy Afrika) kunye
neSebe leMicimbi yokusiNgqongileyo
kunye noYilo loPhuhliso. INkqubo
ijolise ekuphuhliseni umgaqo-nkqubo
wamandla azinzileyo kunye nemisebenzi
yamandla ombane awoneleyo
kwiPhondo leNtshona Koloni.



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Imifanekiso ngu-Mark Lewis

Ulungiso kunye nemifanekiso: yi-dotted line design

Olu xwebhu lushicilelwe kwiphepha elilungileyo kokusingqongileyo

INtshona Koloni: ikhaya elilondolozayo labo bonke



British High Commissioner





UMgaqo-nkqubo waMandla oMbane aLondolozweyo eNtshona Koloni

U MXHOLO

Ubunzima kumandla ombane baktsha nje eNtshona Koloni buqaqambise ukubaluleka konikezo lombane olulondolozwayo ekukhuleni koqoqosho kunye nakuphuhliso lommandla. ISebe leMicimbi yokusiNgqongileyo kunye noYilo loPhuhliso (Department of Environmental Affairs and Development Planning (D: EA &DP) baye baphuhlisa iSicwangciso saMandla oMbane oLondolozwayo kunye neNkqubo yokuSebenza ukuba “kuthathwe isitokhwe” sobunzima bamandla ombane kwiphondo ukulungisa umceli mngeni wokuphuhlisa imithombo ekhuselekileyo yamandla ombane acocekileyo, angangcolisiyo nanokuhlaziywa. Isicwangciso sijolise:

- ⊙ Ekuxhaseni uphuhliso lwezoqoqosho kunye nezentlalo, ukuphuliswa kobuhlwempu kunye nophuhliso lwezakhiwo;
- ⊙ Ukulungisa imiba yokusingqongileyo efana nobulunga bomoya, ulondolozo lwamandla ombane kunye notshintsho lwemozulu;
- ⊙ Ukwamkela uphuhliso lwecandelo lwamandla ombane elicokekileyo; kunye
- ⊙ Nokuxhasa kunye nokuphakamisa iinkqubo zotyalo-mali zephondo ngendlela esebenzayo

AMANYATHELO EPHONDO

Igunya likaRhulumente wePhondo lokuphuhlisa isicwangciso livela kwigunya lawo elicacileyo elijikeleze uphuhliso lwezoqoqosho, izindlu, ulungiselelo lwezithuthi zikawonke-wonke kunye nokhuselo lokusingqongileyo. Ukusetyenziswa kwamandla ombane kuphemelela ezinye izibonelelo zendalo, ezifana namanzi, kwaye iPhondo kufuneka lisebenzise indlela elondolozayo ngokungaphaya ukuxhasa usetyenziso jikelele, amandla ombane iyenye yazo.

Nangona imizamo yesizwe eyahlukeneyo sele isenziwa ukunyusa ulungiselelo lwemozulu eNtshona Koloni, uRhulumente wePhondo ukholwa ukuba imizamo eyongezelekileyo kufuneka yenziwe ukulungisa imiceli mngeni yamandla ombane ejongene nePhondo oko kusenziwa ngolawulo olunemfuno yamandla ombane olumiselweyo kunye nenkxaso yobuchwepheshe obuxutyiweyo obunokuhlaziywa kunye nobamandla ombane obucocekileyo, kuqukwa nemiceli mngeni:

- ⊙ Yokunika ufikelelo kumandla ombane kubo bonke abemi kwiphondo.
- ⊙ Ukulungisa iingxaki ezininzi zempilo, ezentlalo kunye nezokusingqongileyo ezinxulumyaniswa neepateni zethu zangoku zokusetyenziswa kwamandla ombane.
- ⊙ Ukwehlisa umfanekiso (footprint) wePhondo wekhabhoni.

Izinto ezikhathazayo ezinxulumene namandla ombane azibekwanga zodwa kwicandelo elilodwa okanye kwisebe likarhulumente – amandla ombane axhasa yonke imiba yoshishino, urhwebo, kwiindawo zokuhlala, kukhathalelo lwempilo, uphuhliso lwentlalo, uphuhliso loqoqosho, izithuthi njl. njl. kunye nemithetho-siseko yamandla ombane ahlaziywayo kwaye izicwangciso kufuneka zifakwe kwizicwangciso ezichaphazela le mimandla.

Kananjalo, kubalulekile ukuba indlela yokusebenza kaRhulumente wePhondo kuyilo lwamandla ombane ihlanganiswe kwezi zicwangciso kunye noyilo olungundoqo lulandelayo:

- ⊙ INkqubo-sikhokelo yokuKhula noPhuhliso lwe-Ikapa
- ⊙ INkqubo-sikhokelo yoPhuhliso lweziThuba
- ⊙ UYilo lwesiCwangciso sesaKhiwo
- ⊙ UYilo lokuPhumeza loPhuhliso oluLondolozayo
- ⊙ IsiCwangciso soPhuhliso kuQoqosho lweMali encinane
- ⊙ IsiCwangciso soSabelo kuTshintsho lweMozulu eNtshona Koloni

NINI?

Izinto ekujoliswe kuzo zibekiwe nguRhulumente wePhondo ukwenza ukuba amandla ombane anokuhlaziywa adlale indima ebalulekileyo ekwenziweni kwamandla ombane kwiphondo. Ukuphumeza izinto ekujoliswe kuzo ezifunekayo ukwehliswa kokukhutshwa kwe-



CO₂ kunye nokuvumela ukukhula kwezozoqoqosho, ukuphucula amandla ombane awoneleyo, kwaye ngokulula ukugcina ukhuselo lwamandla ngumceli mngeni omkhulu kakhulu. Ezi zinto kujoliswe kuzo zinokuphunyezwa kuphela ukuba ngaba kukho iphulo elihlaselayo ukuze kulandelwe amanyathelo okonela kwamandla ombane kunye namanyathelo okuhlaziywa kwamandla ombane.

URhulumente wePhondo uyakuqinisekisa ukuba ezi njongo ziphunyezwa ngoYilo lokuSebenza nokujoliswe kuko okubekwe apha ngasezantsi:

UKUSEBENZA	EKUJOLISWE KUKO	UMHLA
1. Ukwenziwa kwamandla ombane anokuhlaziywa (umbane kuphela) eNtshona Koloni oko kusuka ekusetyenzisweni kwangoku okungama4200MW	15%	ngo-2014
2. Ukwehliswa kokukhutshwa kweKhabondioxide (kumanqanaba angama-2000)	14%	ngo-2014
3. Amandla ombane anokuhlaziywa athengwe nguRhulumente wePhondo	10%	ngo-2010

UPHUNYEZO KWICANDELO

IiNkcazo ngendlela ebalulekileyo yokusebenza kwaMandla oMbane zeXa eliZayo eziphuhlisiweyo zancedile ekulungiseni isicwangciso samandla ombane ngendlela ebalulekileyo. Uluhlu lweNkcazo zokusebenza zokuphunyezwa kwaye kwafuniselwa ngazo ukuhlola iimpembelelo zazo kunye nokuba nokusetyenziswa kwazo. Ukufikelela kokujoliswe kuko kwe-15% yamandla ombane anokuhlaziywa ngo-2014 iPhondo liyakufuneka lijolise ekuphumezeni uYilo lokuSebenza olusekelwe kwinkcazo yendlela ebalulekileyo yokusebenza “yoHlaziyo oluPhezulu, iMfuno eQonda aMandla oMbane”.

Iinkcazo ngeendlela ezibalulekileyo zokusebenza zihlole imimandla engundoqo yokusetyenziswa kwamandla ombane kwicandelo ngalinye zaze zayila iimodeli ukumisela ukuba yintoni na enokwenziwa ukwehlisa ukusetyenziswa kwamandla ombane. Umzekelo;

Izithuthi

- ⊙ UTshintsho kwiModali
 - ⊙ Ukukhuthaza utshintsho oluya kwindlela engcono yezithuthi zikawonke-wonke
- ⊙ Ukutshintshela kwidizili kweeteksi
 - ⊙ Izithuthi zoluntu zikawonke-wonke kufuneka zisebenzise idizili

UShishino

- ⊙ Ukwanela kwamandla ombane
 - ⊙ Ukuphuculwa kokwanela ekukhanyiseni, kwiimoto, ukwanela okuphuculiweyo kwezibilisi, njl. njl.
- ⊙ Utshintsho lwamafutha
 - ⊙ Ukutshintsha emalahleni uye kwigesi yendalo

Ezorhwebo norhulumente

- ⊙ Ukukhanyisa
 - ⊙ Ukutshintsha ii-light bulbs ngezibane ze-compact ezoneleyo (compact lights) (CFLs)
- ⊙ Ukufudumeza, ukungenisa umoya kunye nokupholisa (Heating, ventilation and cooling) (HVAC)
 - ⊙ Ukuphucula ukwanela ngotshintsho lokuziphatha ekusebenziseni



Indawo yokuhlala

- ⊙ Izifudumezi zamanzi ezisebenzisa ilanga
 - ⊙ I-10% yeegiza zombane kufuneka zitshintshwe nge-SWH
- ⊙ Ukukhanyisa kwiindawo zokuhlala
 - ⊙ Ukutshintsha kwizibane ze-incandescent uye kwi-CFLs

UYilo lokuSebenza lwaMandla oMbane olunokuHlaziywa eNtshona Koloni

UYilo lokuSebenza lwaMandla oMbane olunokuHlaziywa olucetywayo luyinxenye ebalulekileyo yesiCwangciso saMandla oMbane aLondolozwayo. Lubophelela iPhondo leNtshona Koloni ukuba lihlangabezane ne-15% yaMandla oMbane anokuHlaziywa ekujoliswe kuwo ngo-2014.

UYilo lweSenzo lubonelela ngeendlela zonikezo olunokubakhona "Iwamandla anokuvuselelwa" eNtshona Koloni. Ubuchwepheshe bamandla ombane obunokuvuselelwa obahlukeneyo bunoluhlu oluqala kumandla elanga, amandla omoya, ne-hydroelectricity ukuya kwi-biomass kunye nee-biofuels kwaye kuxoxwa ngazo apha ngasezantsi.

Amandla aVela eLangeni

Amandla elanga asetyenziswa ngokufanayo namandla ombane avela elangeni okanye ngokungaphaya kubhekiselele ekuguqulweni kokukhanya kwelanga kube ngumbane. Oku kunokwenziwa mhlawumbi ngesiphumo se-photovoltaic okanye ngokutshisa ulwelo oludlulisiweyo ukuba liveze umphunga wokusebenza komatshini wokwenza umbane. Zininzi iindlela ezahlukeneyo ekunokukhethwa

kuzo ezinokusetyenziswa ezifana namandla elanga

ahlanganisiweyo, i-solar photovoltaic (PV), kunye nezifudumezi

zamanzi ngelanga. Ukuba nokusebenza kwamandla

elanga eNtshona Koloni kulunge kakhulu kuba kukho

amanqanaba aphezulu otshiso afanelekileyo ngemitha

yesikwere. Ukwenziwa kwamandla ombane elanga

kubiza kakhulu, koko ixabiso ekulindelwe ukuba

linyuke lamandla ombane avela emalahleni linokwenza

ukuba amandla elanga ngokwezoqoqosho ibe yindlela

enokukhethwa efikelekayo. Okwangoku kufanelekile

kwimisebenzi ebekwe yodwa kwigridi, efana neekliniki

zasemaphandleni kunye nemizi, kunye nakwiiprojekithi

ezikhethekileyo apho abasebenzisi bazimiseleyo ukuhlawula

iprimiyam yamandla elanga.

IZifudumezi manzi zelanga zezinye zezibonelelo ezinokuvuselelwa ezithembisa kakhulu kwixesha elifutshane, kwaye ukuphunyezwa kwezikim ngobuninzi kubonakala kulula ngaphandle kokuba izibonelelo zenkxaso ezifana nokuxhasa ngemali okuzinzileyo kunye nemisebenzi yolondolozo iyasebenza.



Ukuba nokusetyenziswa kwamandla elanga eNtshona Koloni
kungashwankathelwa ngale ndlela ilandelayo:

Ukuba nokusetyenziswa eNtshona Koloni	Ukulondolozeka
<ul style="list-style-type: none"> • Kunokwenzeka ngokuphakathi ukuya kokuphezulu • Utshiso ngemitha lohluka luqala kuma-6, 501 – 7000 MJ/m² ngonyaka kwiphondo xa lilonke. • Ubuchwepheshe belanga be-PV bubiza kakhulu. • Kunokwenzeka ukuba kudaleke amathuba emisebenzi aphezulu – ukwenza, ukufaka, ukusasaza; • Ukubaluleka kokwenzeka kweeprojekithi ze-SWH mhlawumbi kwisikayile esikhulu seendawo zokuhlala okanye kwinqanaba elilodwa 	<ul style="list-style-type: none"> • Ubuchwepheshe obucocekileyo obuvela kumthombo onokuhlaziywa • Akhona amathuba amashishini amancinane • Abenzi bengingqi abambalwa be-PV ne-SWH bahlangabezane nokwenyuka kwemfuno okulindelekileyo • Kungenzeka kubekho inkxaso yemali evela kumaqumrhu esizwe • Ayakwenziwa kwingqingqi ; akukho luqhagamshelo lwegridi luyimfuneko

Umoya

Amandla omoya kukugququlwa kwamandla ombane omoya ukuba abe luhlobo olusebenzisekayo, njengombane, kusetyenziswa iinjini ezijikeleziswa ngumoya oshushu. Imithombo yomoya eNtshona Koloni yomelele – iphakathi kweyona igqwesileyo elizweni. I-avareji yesantya somoya njengoko ilinganiswa kwiPhondo nge-12m isisi-6mm/s. Uhlolo lokuqala lweNkqubo yaMandla oMbane woMoya yoMzantsi Afrika lwemimandla engundoqo enxuse uNcweme lweNtshona ngokunjalo nomphakathi (i-Karoo) kunye namaZantsi eKoloni luqaqambisa ukuba nokuba khona ngamandla kwamandla ombane. Uhlolo lokuqala lubonisa ukuba kunokwenzeka ukuba kuvezwe ama-2800MW amandla ombane omoya eNtshona Koloni kuthathelwa ingqalelo unyino lophuhliso oluthile.



Isishwankathelo sokuba nokwenzeka kwamandla ombane omoya kwiphondo:

Ukuba nokusetyenziswa eNtshona Koloni	Ukulondolozeka
<ul style="list-style-type: none"> • Okunokwenzeka ngokuphezulu (malunga nama-3000 MW) eNtshona Koloni, kodwa kusafuneka kuqinisekiswa izibonelelo. • Iindleko zobuchwepheshe kunye nenkunzi ziyehla ngokuthe chu. • Ulondolozo lusezantsi. • Kunokwenzeka udaleko misebenzi oluphezulu 	<ul style="list-style-type: none"> • Indlela yokhetho ecocekileyo. • Unikezo lwesiqabu kunye nemiba yokugcina kufuneka isonjululwe. • Ayinakunikeza umthwalo osisiseko ngaphandle kokuba kusetyenzwa ngezisombululo ezixubileyo. • Anokufakwa msinyane kwimimandla efuna unikezo olutsha. • Anokwenziwa kwingingqi.

I-Biomass ne-methane

I-Biomass ibhekisele kwizinto zebhayoloji eziphilayo kunye nezisanda kufa ezinokusetyenziswa njengamafutha okanye kwiimveliso zeshishini. Kunokubakhona isikowupu sombane okanye ukuvezwa kobushushu kwinkunkuma ye-biomass evela kwimizi mveliso yamaplanga, okanye kwintlama yezityalo, kwiindawo ezikhethekileyo kwiphondo. Ukufikeleleka kwiindleko kunye nobuninzi bamandla ombane abaziwa. Kunokwenzeka ukusetyenziswa kwe-biomass eNtshona Koloni, kodwa ke ubuninzi bamandla ombane obuya kufumaneka kufuneka kuphandwe ngabo ngokungaphaya.



Uphando lukhombise ukuba ukuvezwa kwamandla ombane kwiindawo ze-landfill methane gas kunokwenzeka, kakhulu ngenxa yokungeniswa kwekhabhoni efumanekayo ekuncitshisweni kokukhutshwa kwe-methane. Eli thuba kusenziwa ngalo umfuniselo kwi-landfills ezinkulu zelizwe, kwaye anokufumaneka kwimimandla emincinane kwixa elizayo. INtshona Koloni okungenani inemimandla yee-landfills zegesi ezintandathu ekungafunyanwa kuzo amandla ombane ngokuphezulu.

Ukuba nokusetyenziswa kwe-Biomass ne-Methane:

Ukuba nokusetyenziswa eNtshona Koloni	Ukulondolozeka
<p>I-BIOMASS</p> <ul style="list-style-type: none"> • Ukuba nokusetyenziswa okuphakathi: 1 ukuya kuma-50 GJ/ha/pa. • Uhlolo olungonelanga lokwenzeka kwezorhwebo eNtshona Koloni. • Amathuba eeprojekithi ezincinane ze-biomass ingakumbi kwishishini lezamazalathi nezolimo. • Alukho uhlolo olucacileyo lokunye ukusetyenziswa kwe-biomass umzekelo inkunkuma yezogutyulo 	<ul style="list-style-type: none"> • Umthombo onokuhlaziywa. • Ukudalwa kwemisebenzi kumashishini amancinane namakhulu. • Ukhutsho olusezantsi ukuba ngaba ubuchwepheshe besandi buyasetyenziswa. • Avelisi bafumana ezabo iimfuno zamandla ombane kulo mthombo, oko ke kusehlisa imfuno yegridi.
<p>I-METHANE</p> <ul style="list-style-type: none"> • Ukuba nokusetyenziswa okuphezulu ekufunyanweni kwamandla ombane kwinkunkuma – ingakumbi kwi-landfill gas (umzekelo iziza ezi-6 eKapa). • Utyalo-mali oluyinkunzi luphezulu 	<ul style="list-style-type: none"> • Kunokuphikiswa kwimeko yokutshiswa kwenkunkuma ethile. • Iiprojekithi zegesi ye-landfill zinokwenzeka kwaye zinokuxhamla kwinkxaso ngemali yeNdlela yoPhuhliso loCoceko (Clean Development Mechanism) (CDM). • Inwaxaso yemali inokwenzeka kodwa ayibalulekanga kangako kodwa ke ubuchwepheshe obutsha bunokukuphucula oku. • Inokoveliswa kwingingqi.

Amandla ombane avela emanzini (Hydro)

Kubonakala ngathi ziya kuba ninzi iindawo apho amandla ombane avela emanzini esikeyile esincinane zinokwenzeka khona – ingakumbi ezintabeni zemimandla emanzi kwiphondo. Iyantlukwano yokugeleza kakhulu kumaxesha athile kwamanzi kungaba yingxaki kulo mthombo wamandla ombane. Ukwenziwa kwalo mthombo okunokwenzeka akwaziwa, nangona kucingelwa ukuba kunokungenzeki ukuba ibe ngumfaki sandla obonakalayo ekuxutyweni kwamandla ombane. Ukusetyenziswa kwawo kulindeleke ukuba kakhulu kube kwezo ndawo zingafikeleliyo kwigridi.

Ukuba nokusetyenziswa kwamandla ombane avela emanzini kunokushwankathelwa ngale ndlela ilandelayo:

Ukuba nokusetyenziswa eNtshona Koloni	Ukulondolozeka
<ul style="list-style-type: none"> • Ukuba nokusetyenziswa okusezantsi. • Ngokuxhomekeke kuhlolo lwemithombo, ukwenzeka kwiiprojekithi ezizimeleyo zesikeyile esincinane kunokuba khona. • Oku akuyi kufaneleka kuhlanganiso negridi. 	<ul style="list-style-type: none"> • Ngumthombo onokuhlaziya kodwa iimpembelelo zinokuba phezulu ingakumbi kwiindlela zamanzi ezinobuntununtunu. • Ngeke yenzeke ngokwezimali ngaphandle kweenkxaso ezibonakalayo okanye ubunjini bezimali obuveza izinto ezintsha. • Inokwenziwa kwingingqi.

Amandla ombane avela kumaza

Upuhliso lwamandla ombane avela kumaza lusaqala kodwa ke luthembisa kakhulu kwaye kunokwenzeka ukuba lube ngumthombo wamandla ombane amaninzi anokuhlaziya. Ngexa iNtshona Koloni isikelelwe ngonxweme olude kwaye iziphumo zokuqala zibonisa ukuba umthombo wamaza womelele, azikho iiprojekithi zesikeyile esikhulu esele ziqhuba.

Ukuba nokusetyenziswa kwamandla ombane amaza eNtshona Koloni kunokushwankathelwa ngele ndlela ilandelayo:

Ukuba nokusetyenziswa eNtshona Koloni	Ukulondolozeka
<ul style="list-style-type: none"> • Ukuba nokusetyenziswa okuphezulu. • Imithombo ebonakalayo enxuse uNxweme oluseNtshona ingakumbi i-Cape Columbine ukuya kummandla we-Cape Agulhas. • Ukufumaneka kobuchwepheshe obufanelekileyo kusaza kuhlolwa. • Iindleko eziphezulu zenkunzi. 	<ul style="list-style-type: none"> • Umthombo wamandla ombane anokuhlaziya • Akukho kukhutshwa kwe-CO2 kodwa kunokuba neempembelelo eziphezulu kwizinto eziphilayo kunye neendawo eziphila kuzo. • Ukudalwa kwamathuba emisebenzi okunokuba khona akukaqinisekiswa kodwa kubalulekile. • Inokwenziwa kwingingqi.

Ampontshelwe ukuba agcinwe

Ampontshelwe ukuba agcinwe awangomthombo ekuvelisweni, kodwa iyindlela yokugudisa imithwalo yencochoyi. Onele kokujikeleze ama-70% - athelekisa amandla

ombane ampontshiweyo emandleni ombane awenziweyo. I-Eskom inendawo enkulu yogcino olumpontshiweyo kwiphondo, e-Palmiet, eyisebenzisela ukulawula iincochoyi kwigridi yesizwe, kwaye iSixeko saseKapa sinendawo encinane kwiDama lase-Steenbras esizisebenzisela lona. Ingqalelo encinane inikwa ugcino olumpontshiweyo njengenye indlela yokhetho kwiPhondo

UkweNza uMbono waMandla oMbane aLondolozweyo

Siphi ngoku ngo-2007/8?

IsiCwangciso saMandla oMbane aGcinakeleyo

Sifuna ukuba phi ngo-2015?

- ⊙ Umgaqo-nkqubo waMandla oMbane anokuLondolozeka kunye nokwenzeka kwemithombo ye-RE
- ⊙ I-CES yaseKapa – SWH, umoya
- ⊙ Iiprojekithi kunye neenkubo ezenzelwe injongo ethile
- ⊙ Ukufaka amandla ombane kwiinkqubo ezingundoqo
- ⊙ Uphononongo lokungakhuseleki kwamandla ombane kunye nobuhlwempu kumandla ombane.
- ⊙ Ukungabikho/ukunqongophala kwamandla ombane
- ⊙ Ungcoliseko zizithuthi
- ⊙ Ukujonga umThetho woQuquzelelo lwaMandla oMbane onokuLondolozeka

- ⊙ Ukhuselo lwamandla ombane lunyusiwe
- ⊙ Utyalo-mali lwezigididi zezigididi ezisi-R8
- ⊙ Imisebenzi yecandelo eli-15 000
- ⊙ Iphulo lokusebenza kweziThuthi okuCocekileyo – amafutha acocekileyo, izithuthi zikawonke-wonke eziphuculiweyo, ukwehliswa ekusetyenzisweni kwezithuthi zabucala, ukwehliswa kwi-brown haze nongcoliseko
- ⊙ Iiprojekithi ezingundoqo ezili-10 ze-DSM zisebenze (iiprojekithi zokufudumeza amanzi ngelanga) unikezo lwezindlu luhlanganise nolondolozo lwamandla ombane, inkqubo yokwanela kwamandla ombane kumashishini; ulondolozo lweendawo zokuhlala

OKUSILUNGELAYO KWETHU OKUKODWA

Ukuyila, ubunkokheli obunamandla
 Utyalo-mali kunye nophuhliso oluphezulu olunokubakhona – CCGT, umoya, iliza, ilanga, i-biomass
 Ubunkokheli obunamava kwicandelo lamandla ombane nokubanako ukufezekisa izithembiso
 Ukulungela imariki nokuba ngumtyali-mali

- ⊙ I-15-20 % yamandla ombane evela kwizinto ezinokuhlaziywa
- ⊙ Ii-IPP zibe phambili kuphuhliso lwamandla ombane
- ⊙ Ishishini elitsha le-RE – isiseko soqoqosho esitshintsha kungabi yinto enye
- ⊙ Ubunkokheli kunikezo lwamandla ombane acocekileyo