



# Silent Valley Waste Site



System Design & Power Output									
Pipe length	210 m	Gross head	45.0 m	Efficiencies		Set 1	Set 2		
HPPE diameter	180 mm	Net head	43.1 m	Pipeline		96%	-		
Ductile diameter	n/a mm	Headloss	4.2%	Turbine & generator		77%	-		
GRP diameter	n/a mm	Catchment	0.690 km2	Drive/coupling		100%	-		
Pipe gradient	21%	ADF (total)	24 l/s	Overall system		74%	-		
Set 1		Set 2		Power (kW)		7.8	0		
Turbine	Vertical Axis Turgo	n/a		Electrical transmission		100%	-		
Max Flow	24.0 l/s	0 l/s		Total Power:		7.8 kW			
Min Flow	2 l/s	0 l/s							
Drive/coupling	Overhung	n/a							
Generator	Induction	n/a							
Generation									
Month	ADF (l/s)	Set 1 kWh	Set 2 kWh	Total kWh	Predicted Annual Generation				
Jan	45	4,798	-	4,798	Lost Generation	2.0%			
Feb	40	3,898	-	3,898	Total Generation	32,585 kWh/y			
Mar	27	3,839	-	3,839	Capacity Factor	47.7%	32.6 MWh/y		
Apr	22	3,093	-	3,093					
May	14	1,957	-	1,957					
Jun	10	1,126	-	1,126					
Jul	8	688	-	688					
Aug	8	676	-	676					
Sep	12	1,350	-	1,350					
Oct	28	3,172	-	3,172					
Nov	35	4,079	-	4,079					
Dec	41	4,574	-	4,574					
Total	-	33,250	-	33,250	kWh	Based on monthly data set			
Capacity factor		49%	0%	49%		Excluding downtime			
Yearly	24	33,363	-	33,363	kWh	Based on annual data set			
Monthly Generation									
									