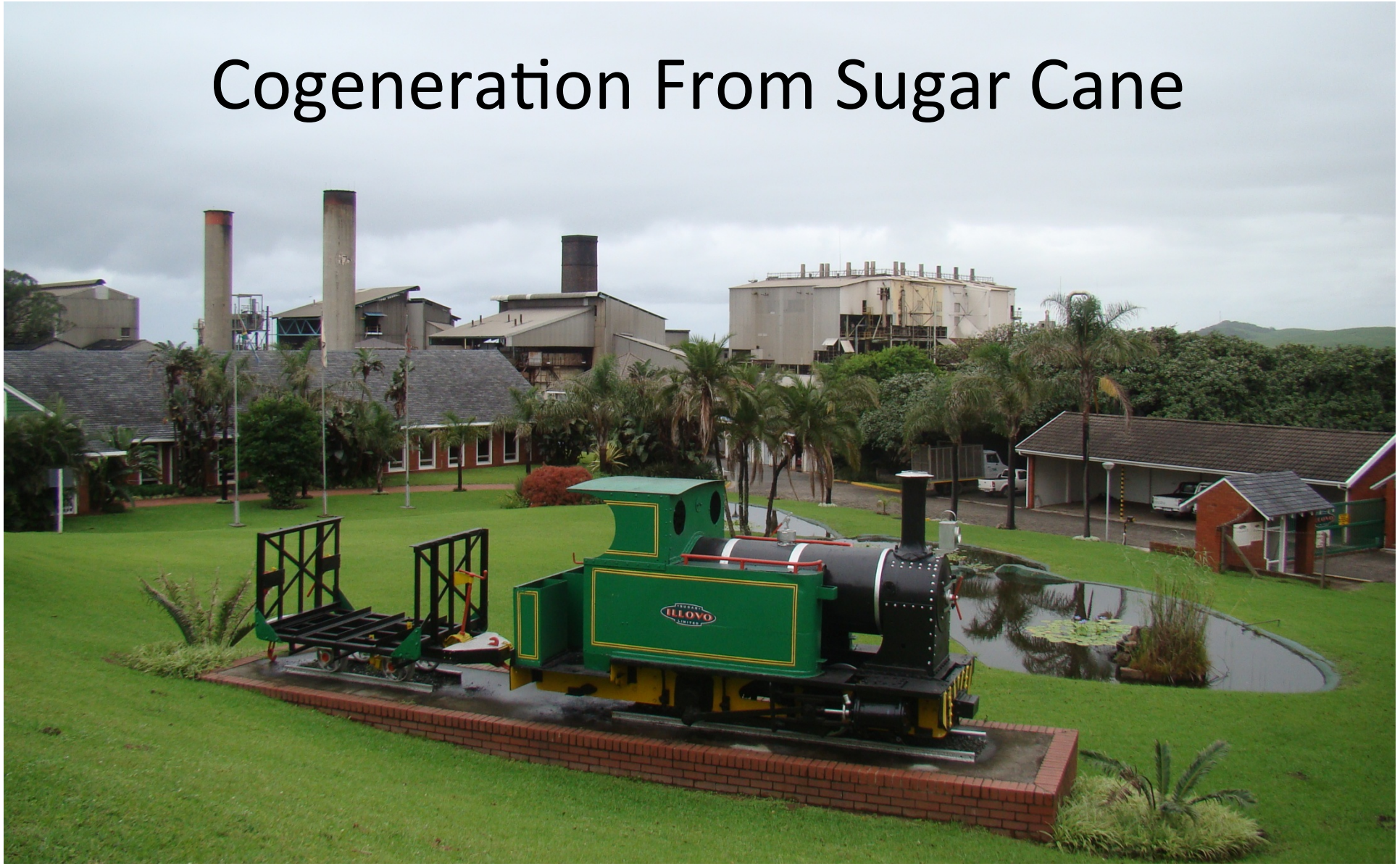
Cogeneration From Sugar Cane



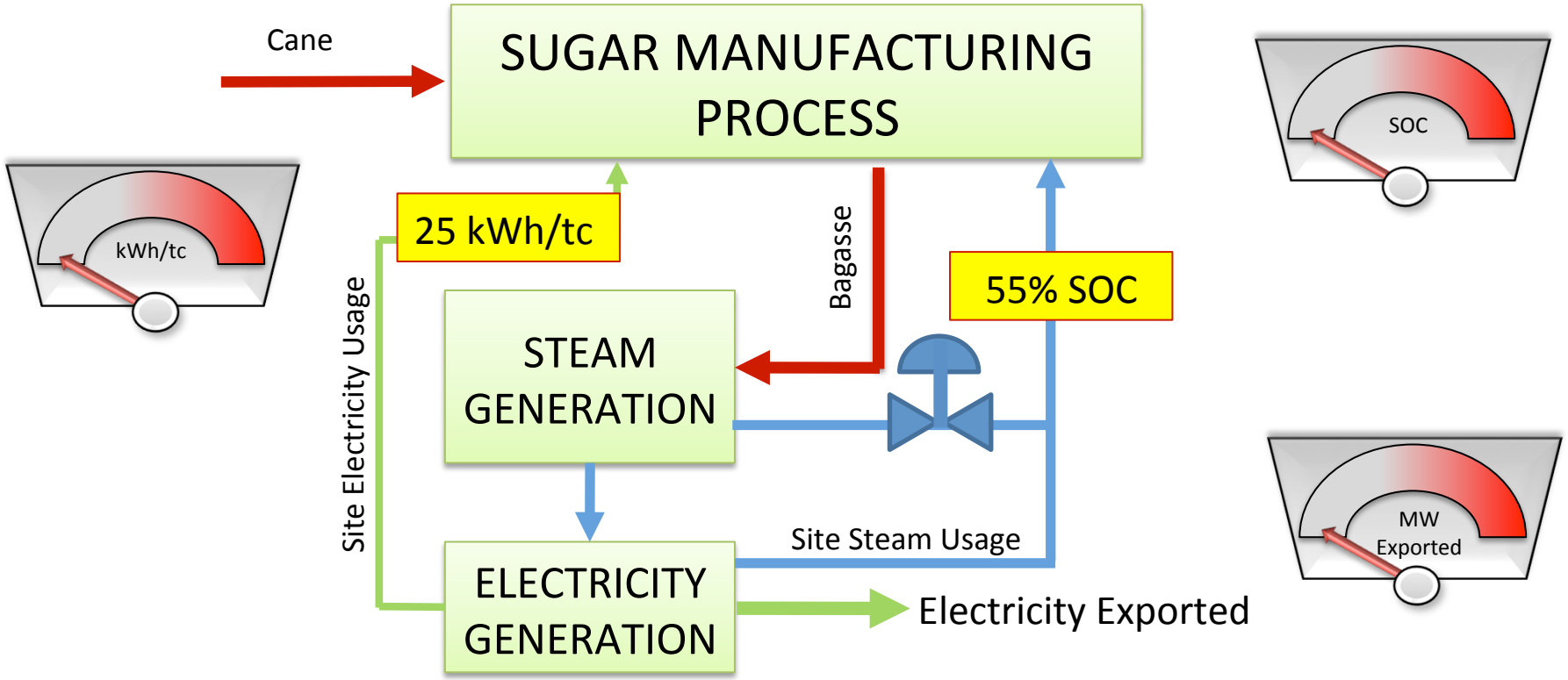
Azucarera BRITISH SUGAR BSO An ABF Company GTG Germain's Technology Group SUGAR ILLOVO LIMITED vivergofuels

Initial Assumptions

Cane throughput	12,000 tonnes per day
Season length	250 days
Time efficiency	85%
Steam economy	55% steam on cane
Electrical usage	25kWh/tonnes of cane
Cane fibre content	14%
Bagasse moisture	50%

Generation of electricity during the cane processing period only

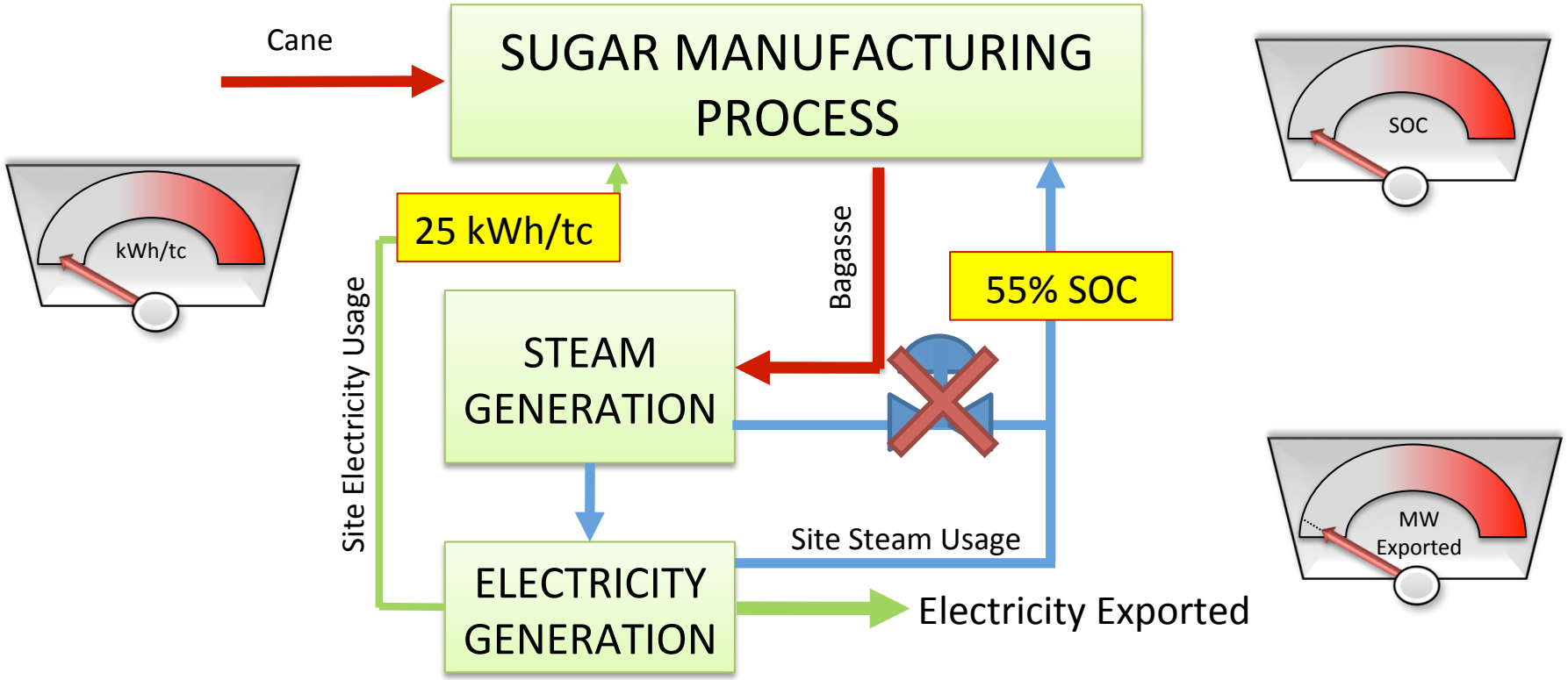
1st Generation Cogeneration



Current

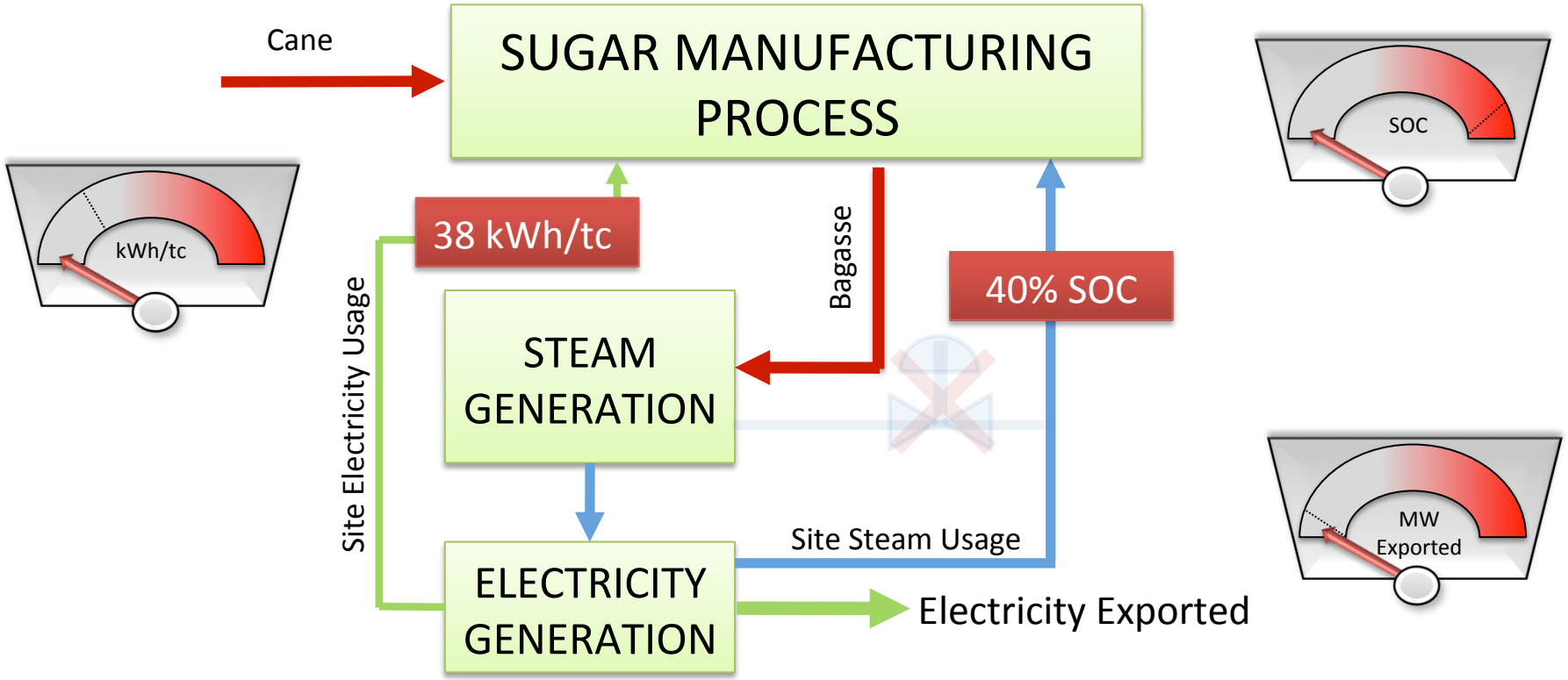
0 MW

1st Generation Cogeneration



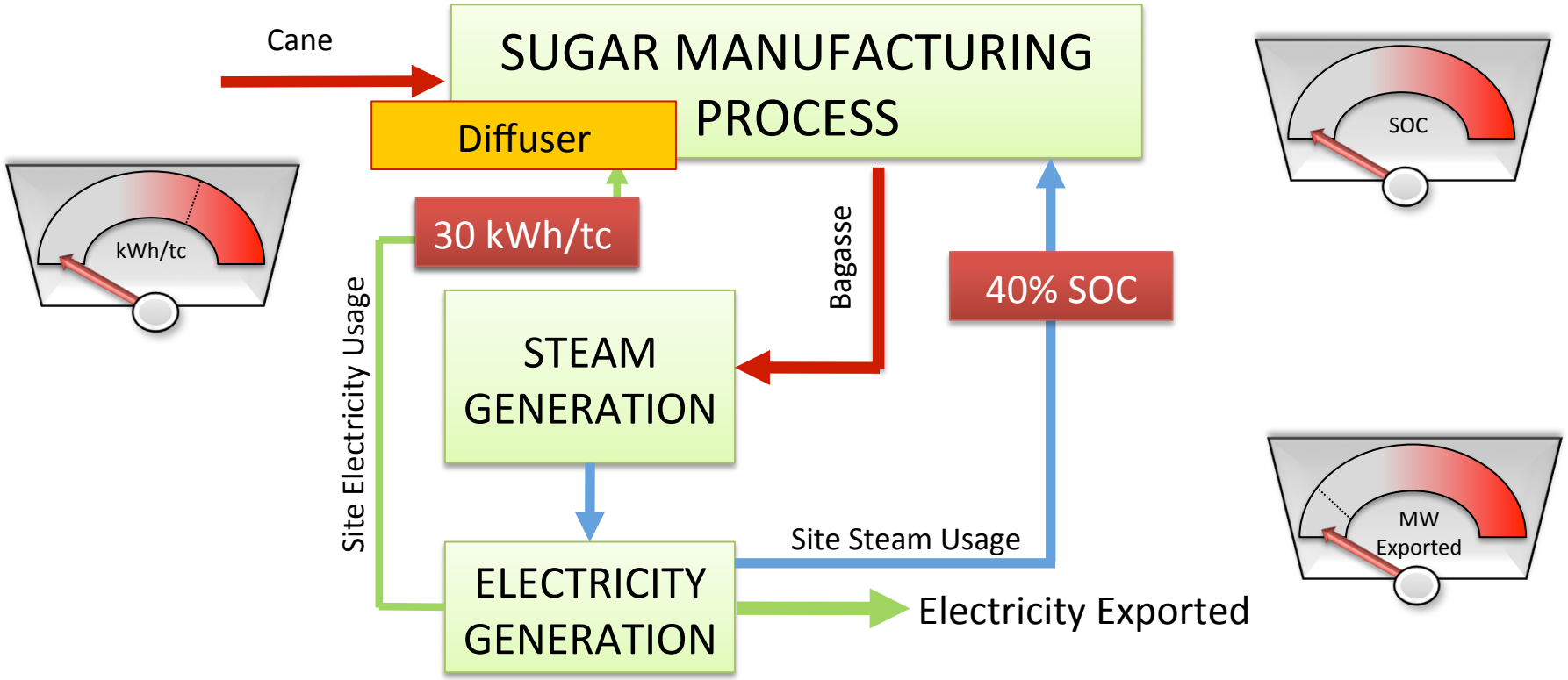
Current	No Letdown
0 MW	4.2 MW

1st Generation Cogeneration



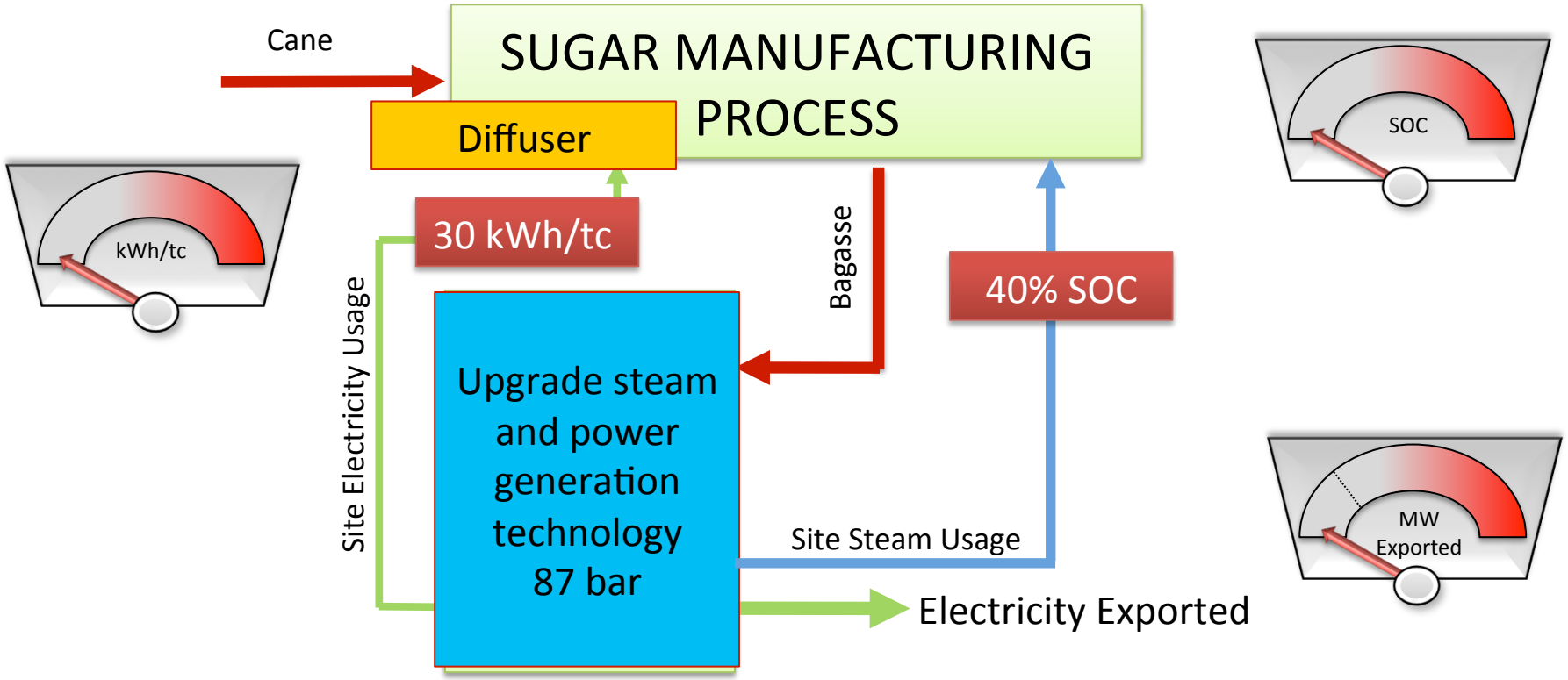
Current	No Letdown	Steam economy 55-> 40% Electrification of drives
0 MW	4.2 MW	11.9 MW

1st Generation Cogeneration



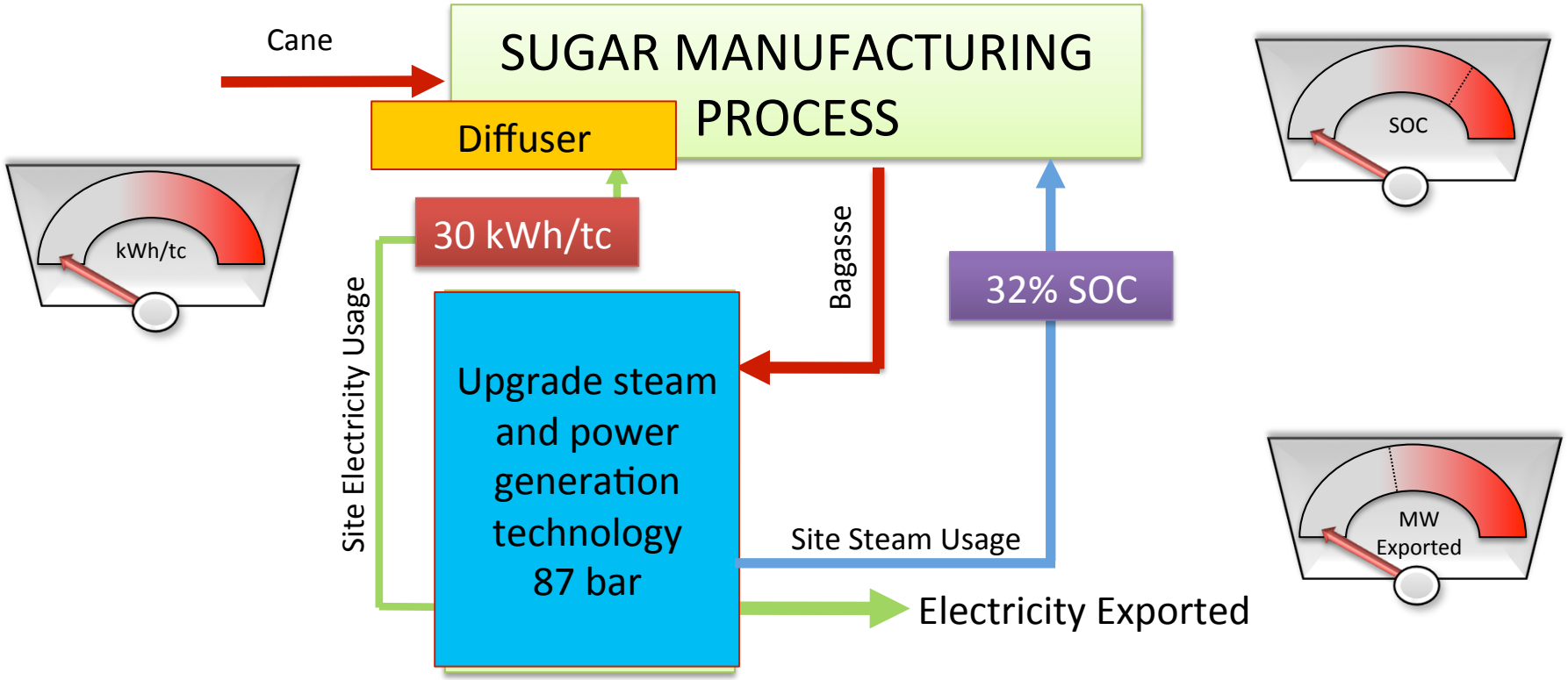
Current	No Letdown	Steam economy 55-> 40% Electrification of drives	Diffuser Installation
0 MW	4.2 MW	11.9 MW	15.7 MW

1st Generation Cogeneration



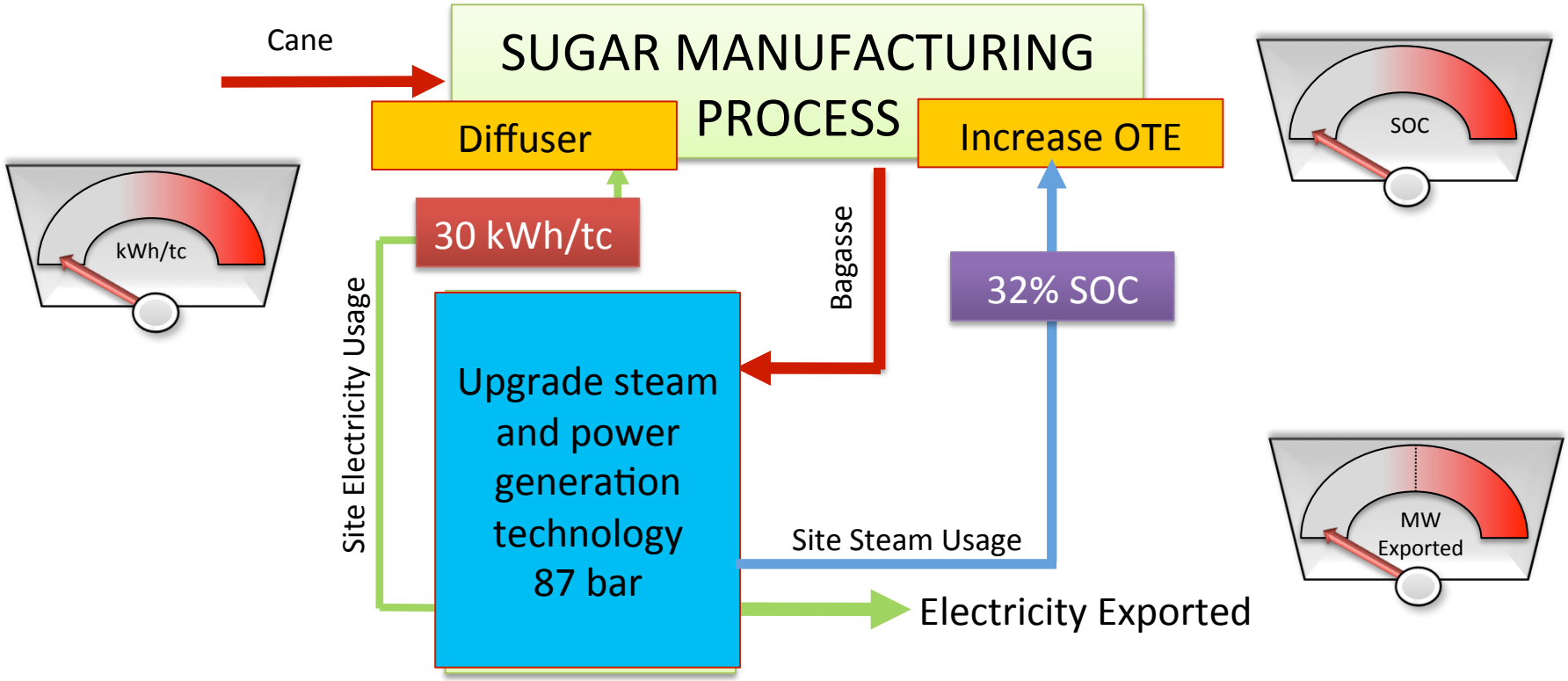
Current	No Letdown	Steam economy 55-> 40% Electrification of drives	Diffuser Installation	High Efficiency 87 bar boiler
0 MW	4.2 MW	11.9 MW	15.7 MW	36.8 MW

1st Generation Cogeneration



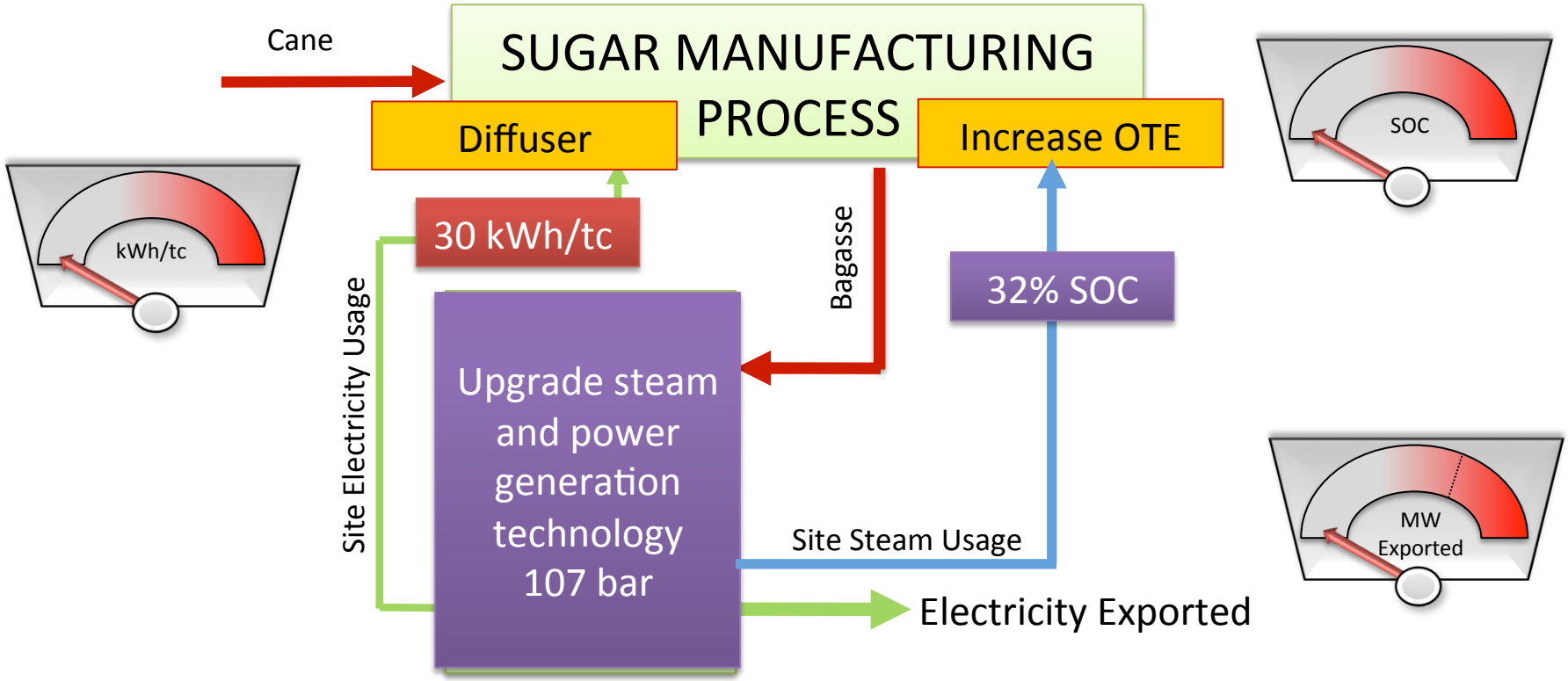
Current	No Letdown	Steam economy 55-> 40% Electrification of drives	Diffuser Installation	High Efficiency 87 bar boiler	Steam Economy 40->32%
0 MW	4.2 MW	11.9 MW	15.7 MW	36.8 MW	39.6 MW

1st Generation Cogeneration



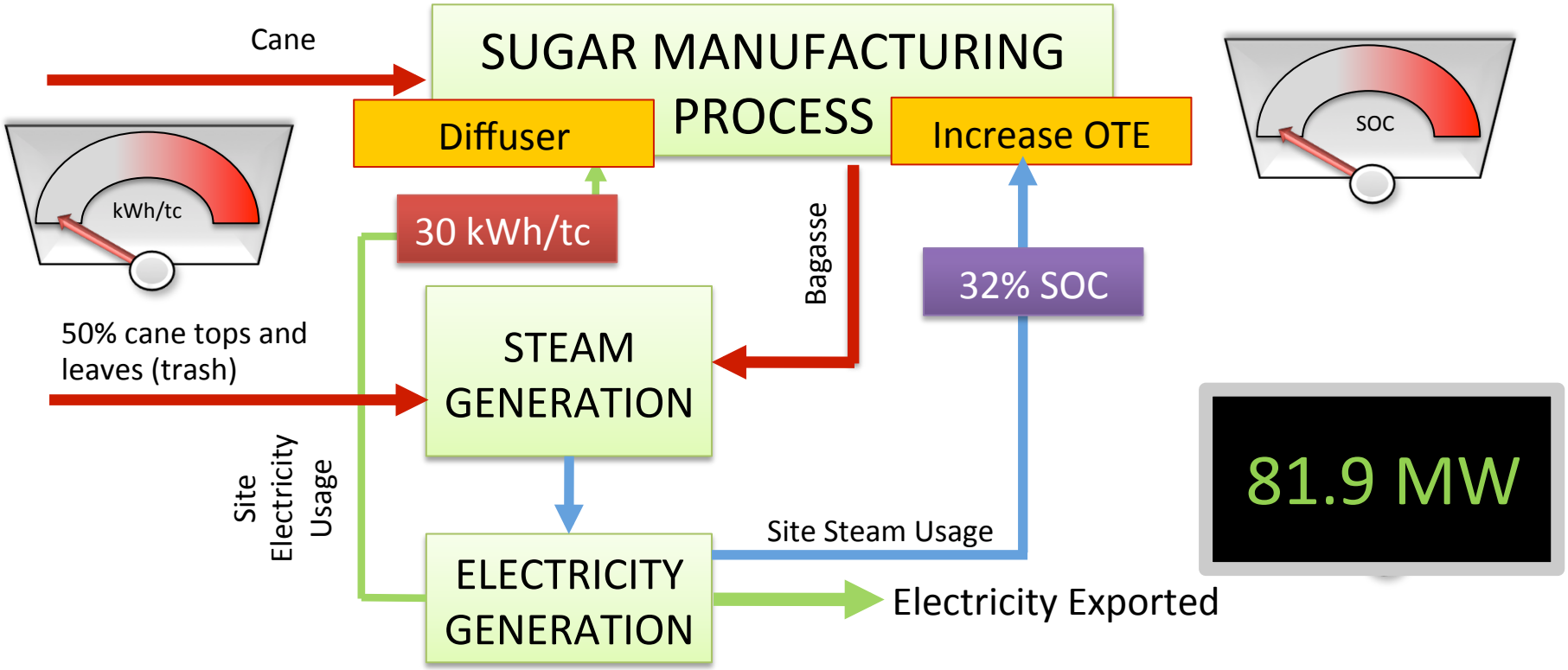
Current	No Letdown	Steam economy 55-> 40% Electrification of drives	Diffuser Installation	High Efficiency 87 bar boiler	Steam Economy 40->32%	OTE increased to 95%
0 MW	4.2 MW	11.9 MW	15.7 MW	36.8 MW	39.6 MW	46.7 MW

1st Generation Cogeneration



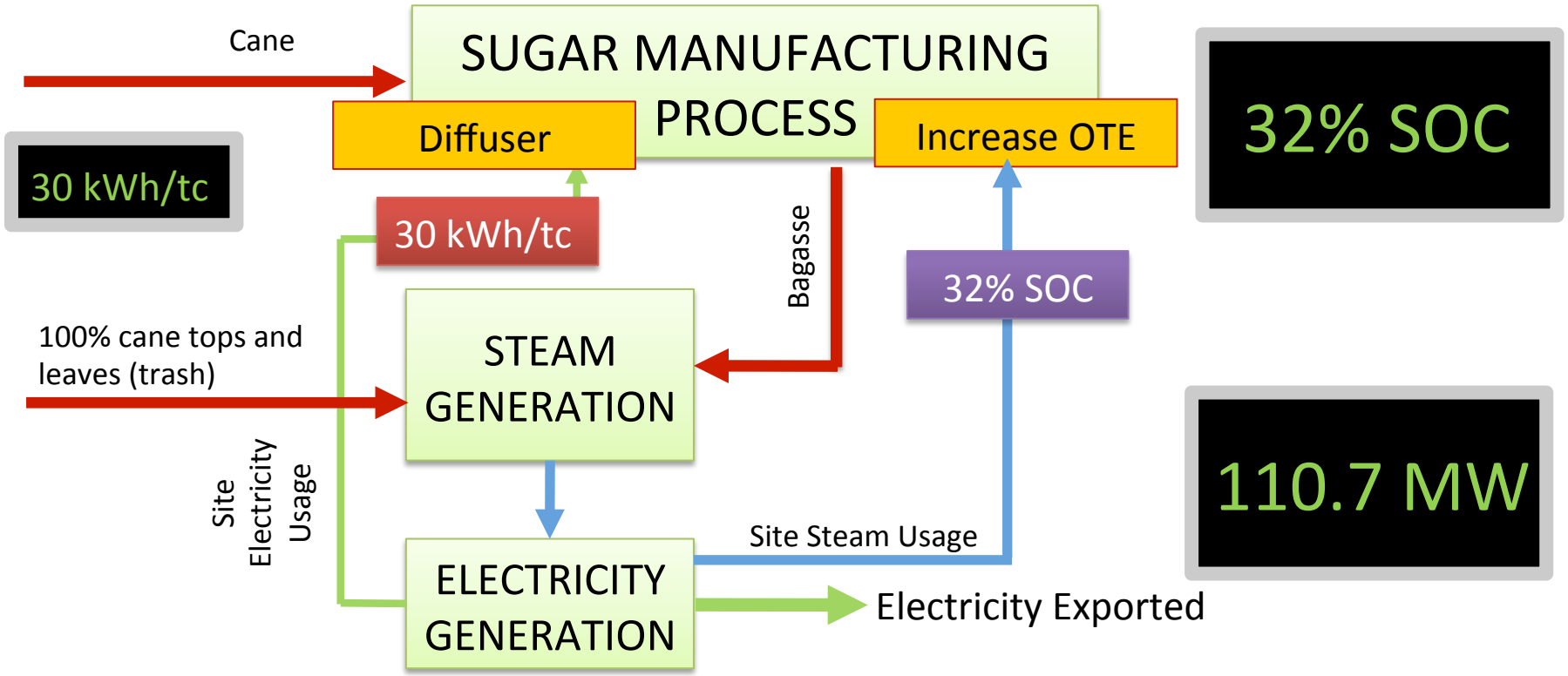
Current	No Letdown	Steam economy 55-> 40% Electrification of drives	Diffuser Installation	High Efficiency 87 bar boiler	Steam Economy 40->32%	OTE increased to 95%	Advanced 107 bar boiler
0 MW	4.2 MW	11.9 MW	15.7 MW	36.8 MW	39.6 MW	46.7 MW	49.3 MW

2nd Generation Cogeneration



Steam economy 55-> 40% Electrification of drives	Diffuser Installation	High Efficiency 87 bar boiler	Steam Economy 40->32%	OTE increased to 95%	Advanced 107 bar boiler	50% Trash Utilisation
11.9 MW	15.7 MW	36.8 MW	39.6 MW	46.7 MW	49.3 MW	81.9 MW

2nd Generation Cogeneration



Steam economy 55-> 40% Electrification of drives	Diffuser Installation	High Efficiency 87 bar boiler	Steam Economy 40->32%	OTE increased to 95%	Advanced 107 bar boiler	50% Trash Utilisation	100% Trash Utilisation
11.9 MW	15.7 MW	36.8 MW	39.6 MW	46.7 MW	49.3 MW	81.9 MW	110.7 MW

3rd Generation Cogeneration

