



Plastic liquefaction system

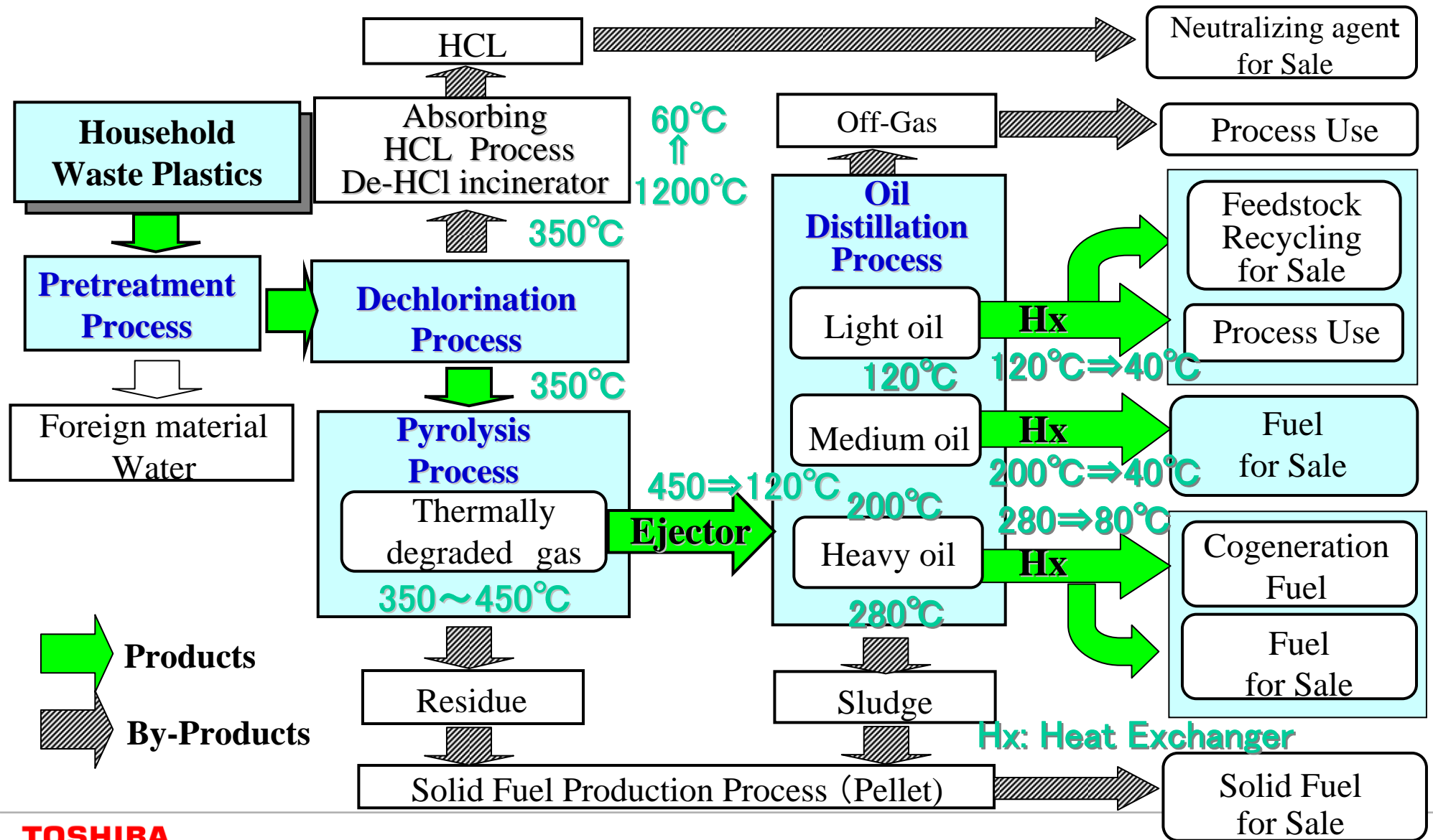
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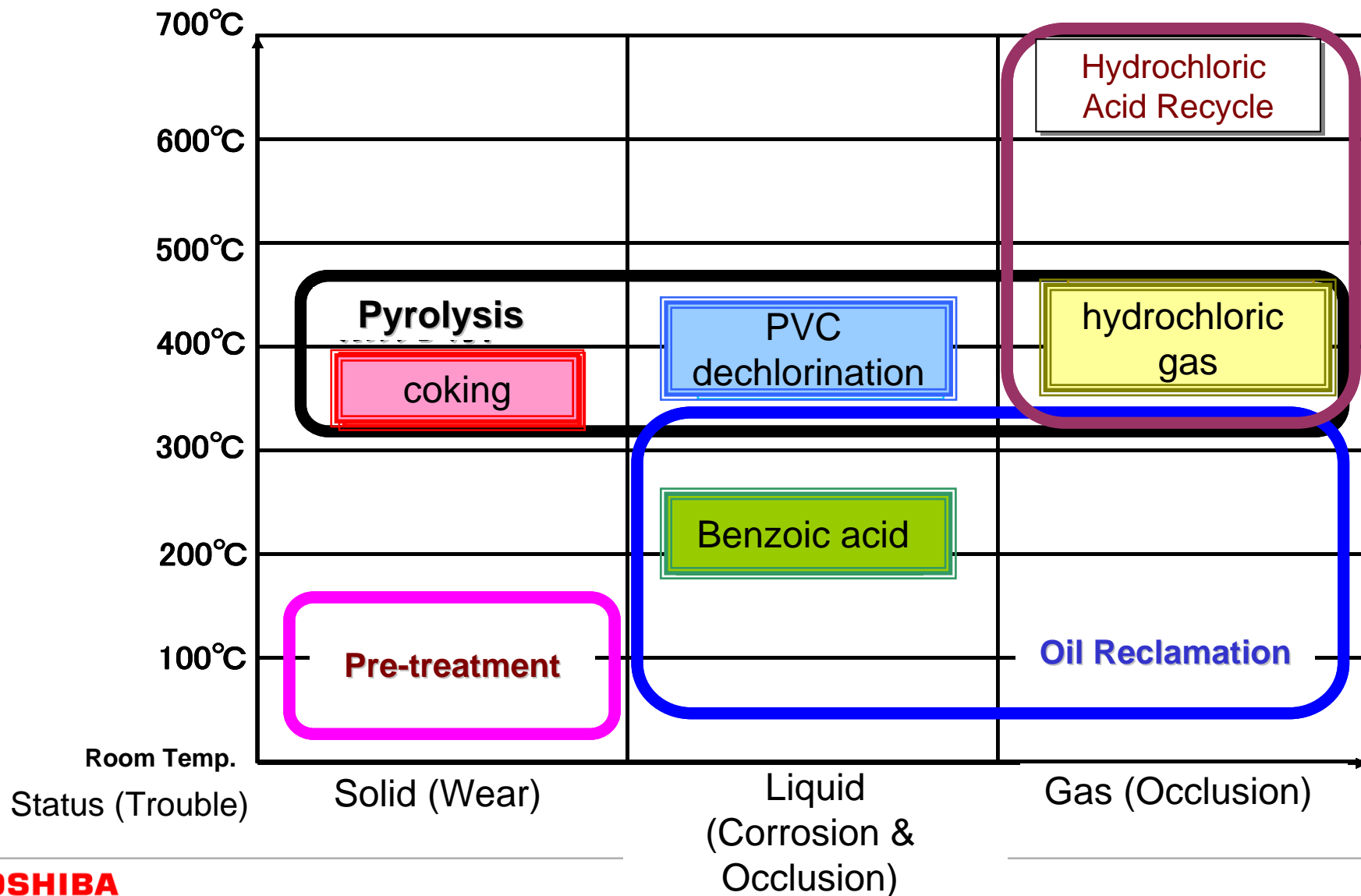
Introduction of PTL (Plastic to Liquid) system



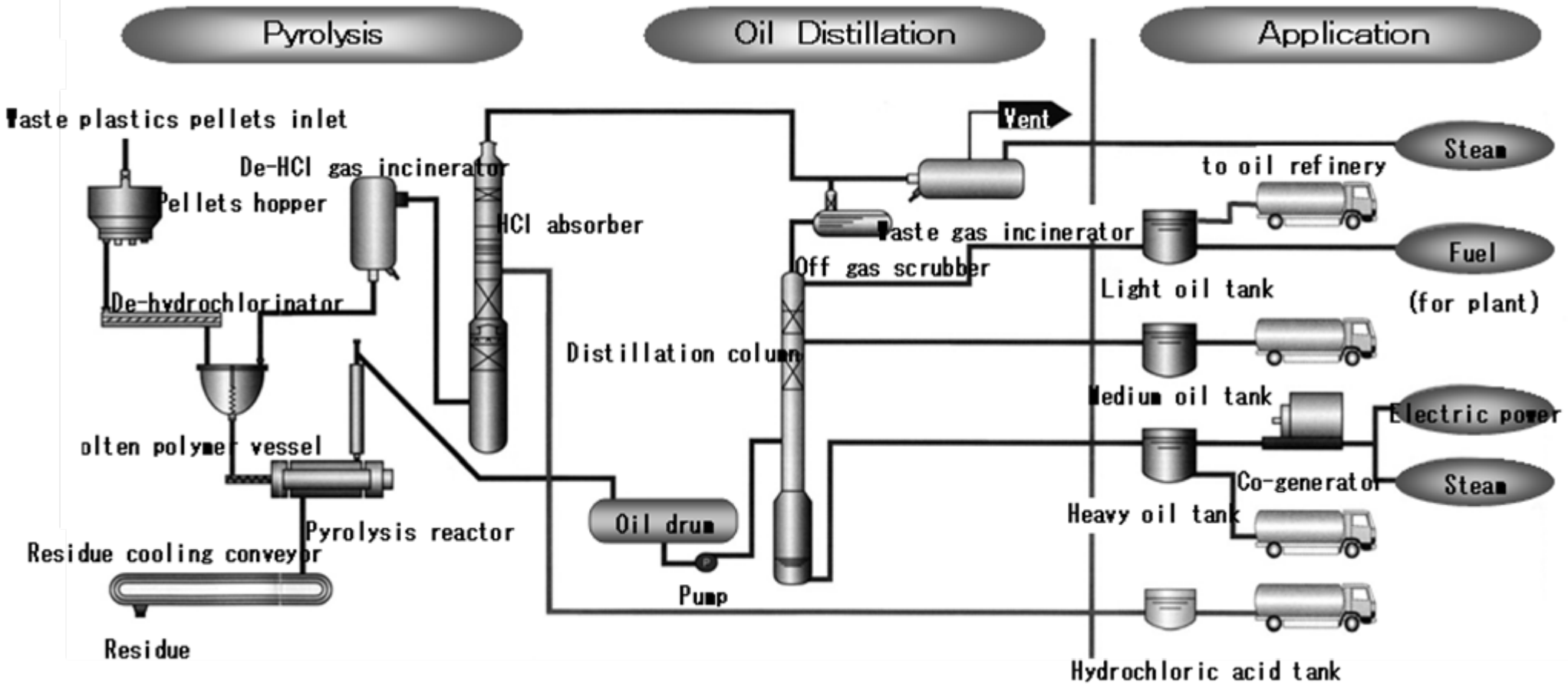
Process Concept



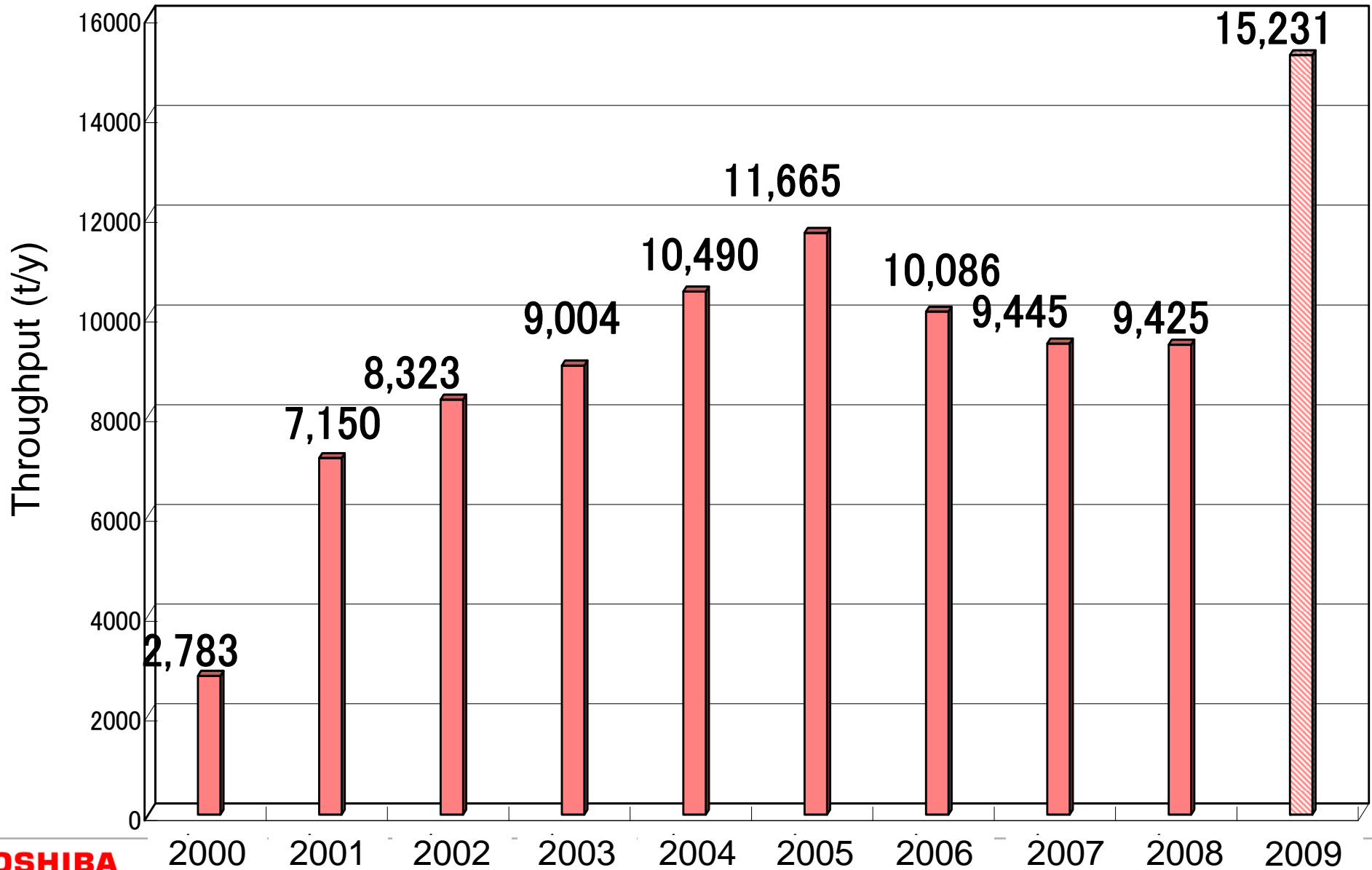
Past Technical Challenge



Conventional PTL Process



Experience



Produced Liquid

Produced liquid		Light oil	Medium oil	Heavy oil	JIS TS Z0025
Destiny	g/cm ³ (15°C)	0.821	0.832	0.854	
Flash point	°C	<21	82	112	
Pour point	°C	<-50	-35.0	47.5	
Residual carbon	Wt%	0.29	0.32	0.38	
Reaction		neutral	neutral	neutral	
Viscosity	mm ² /s	0.6831 (30°C)	1.83 (50°C)	7.09 (60°C)	
Water	Wt%	0.025	<0.1	<0.1	
Ash	Wt%	<0.001	<0.01	0.01	<0.05
Sulfur	Wt%	0.002	0.06	0.08	<0.2
Nitrogen	Wt%	0.08	0.16	0.1	<0.2
Chlorine	ppmw	60	70	90	<100
Calorific value	kJ/kg	42,070	45,240	45,520	

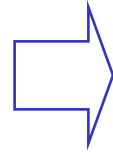
Products



Waste plastics

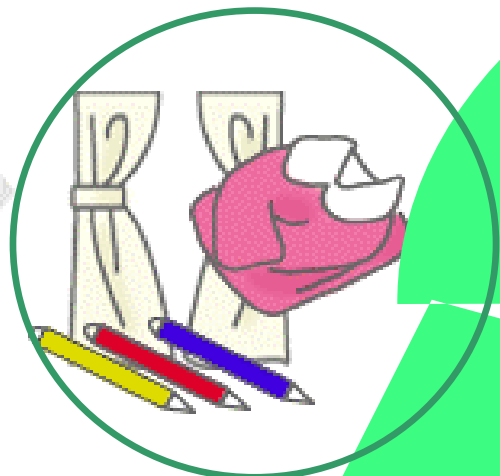
SPR

Collection by type



Liquefaction
Plants

PTL sys



consumer



Urban Oil field

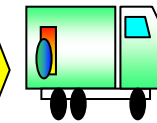


Petrochemical Firm



Oil refinery

naphtha



fuels