

		Title: Esterification Plant				
		Area		Livorno Plant		
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		Plant Location		Livorno		
		Project:		600 ton/d Biodiesel		
No	DESCRIPTION	ISBL		OSBL		GRAND TOTAL
		Cost (€)	Cost Subtotal (€)	Cost (€)	Cost Subtotal (€)	(€)
<b>1</b>	<b>Civil works</b>		<b>1.020.000</b>		<b>120.000</b>	<b>1.140.000</b>
	<b>ISBL</b>					
	a. Metalic Structure ISBL	800.000				
	b. Foundation & Pilings	220.000				
	<b>OSBL</b>					
	a. Relocate Loading Station			5.000		
	b. Methanol Water Recovery Tank Foundation			5.000		
	c. Foundation of cooling tower, chiller&pumps, pipe rack, tank farm			60.000		
	d. Site Preparation and Demolition			50.000		
<b>2</b>	<b>Engineering / Permits / Project management</b>		<b>625.000</b>		<b>0</b>	<b>625.000</b>
	a. Permitting	180.000				
	b. Engineering	300.000				
	c. Risk Management	25.000				
	d. Safety	40.000				
	e. Project management	80.000				
<b>3</b>	<b>Mechanical and Piping Installation</b>		<b>845.000</b>		<b>875.000</b>	<b>1.720.000</b>
	<b>ISBL</b>					
	a. Piping and fittings	250.000				
	b. Piping installation	450.000				
	c. Equipment installation	100.000				
	d. Support and consumable	20.000				
	e. Painting	25.000				
	<b>OSBL</b>					
	a. Fire hydrant system piping			80.000		
	b. Industrial Water Supply Piping			15.000		
	c. Gas Supply Line			20.000		
	d. Erection methanol recovery tank			15.000		
	e. Erection of feed pump			15.000		
	f. Relocation of loading station			50.000		
	g. Piping & valves + Installation of OSBL pipe			500.000		
	h. Support and piping installation consumables			30.000		
	i. Painting			15.000		
	j. Waste Water Pipe Modification			10.000		
	k. Anionic column erection			10.000		
	l. Cooling tower erection			10.000		
	m. Chiller Erection			25.000		
	n. Utilities pipe rack			45.000		
	o. Air Compressor erection			5.000		
	p. Boiler Accessories			15.000		
	q. Fire hydrant system installation			15.000		
<b>4</b>	<b>Electricals amd Instrument</b>		<b>530.000</b>		<b>130.000</b>	<b>660.000</b>
	<b>ISBL</b>					
	a. Medium and Low Tension MCC	70.000				
	b. Electrical Panel Low Tension	120.000				
	c. Lighthing protection	20.000				
	d. Lights (material and installation)	50.000				
	e. ISBL power cable installation & motor control	100.000				
	f. Emergency and evacuation plant	40.000				
	g. Installation of instrument + cable	130.000				
	<b>OSBL</b>					
	a. Site CCTV			10.000		
	b. Site lighting modification			20.000		
	c. Loading station electrical installation			25.000		
	d. Instrumentation OSBL+cable			20.000		
	e. Electrical installation boiler			5.000		
	f. Electrical installation air compressor			10.000		
	g. Electrical installation for fire hydrant system			30.000		
	h. Lighting for new boiler house and MCC room			10.000		
<b>5</b>	<b>Insulation + Electrical Tracing</b>		<b>400.000</b>		<b>200.000</b>	<b>600.000</b>
<b>6</b>	<b>Other (crane Scaffolding Freight)</b>		<b>250.000</b>		<b>115.000</b>	<b>365.000</b>
	<b>ISBL</b>					
	a. Freight & Insurance	150000				
	b. Scaffolding & Crane	100000				
	<b>General</b>					
	a. Scaffolding & Crane OSBL			35.000		
	b. Erection Power and Water Supply			50.000		
	c. Insurance			30.000		
<b>7</b>	<b>Equipment ISBL</b>		<b>2.500.000</b>			<b>2.500.000</b>
<b>8</b>	<b>Equipment OSBL</b>				<b>820.000</b>	<b>820.000</b>
	a. Methanol recovery tank and chilled water tank & pumps			70.000		
	b. Oil feed pump (DFA)			20.000		
	c. Boiler and accessories			350.000		
	d. Flare			80.000		
	e. Cooling tower & pumps			70.000		
	f. Chillers and pumps			100.000		
	g. Fire hydrant equipment & accessories			90.000		
	h. Air compressor			20.000		
	i. Anionic column			20.000		
<b>9</b>	<b>Tank Farm</b>				<b>2.000.000</b>	<b>2.000.000</b>
	<b>TOTAL</b>		<b>6.170.000</b>		<b>4.260.000</b>	<b>10.430.000</b>
	<b>GRAND TOTAL</b>		<b>6.170.000</b>		<b>4.260.000</b>	<b>10.430.000</b>