

Principal Assumptions made in the Cost Model

Assumption	Source/Reference	Details	
Mass of HCRW collected/treated	DACEL 2000 study	Total HCRW for Province: includes public & private hospitals + clinics, and "small" sources (GP's, Dentists, laboratories, pharmaceutical companies, etc.): 1,175 tonnes/month.	Provincial facilities only : includes public hospitals + clinics only: 574 tonnes/month.
Split: dry waste, wet waste, sharps	Deduced from DACEL 2000 study data	Hospitals (by mass): Dry: 88.5% Wet: 7.5% Sharps: 4.0%	Clinics (by mass): Dry: 89.5% Wet: 0.5% Sharps: 10.0%
Average mass of HCRW plus container	DACEL 2000 study data	142 L cardboard box: 9.0 kg; 50 L cardboard box: 8.0 kg; 20 L bucket: 10.4 kg; 85 L plastic bag: 4.1 kg; 7.5 L sharps container: 1.9 kg	
Average mass of HCRW plus container	Extrapolated from DACEL 2000 study data	50 L plastic bag: 2.4 kg; 10 L sharps container: 2.5 kg	
In-house HCRW workers	WHO Report "Safe Mgmt. of wastes from health-care activities", 1999 *	Institutions generating less than 200 kg HCRW/day: nil Institutions generating more than 200 kg HCRW/day: one worker per 200 kg HCRW/day * As adapted: WHO Report mentions one worker per approx. 525 kg of HCW /day	
Disposable containers	Present Study	Prices are as listed in 'Scenario Costs: All Facilities' sheet of <i>Excel</i> model. No stock-holding costs included in model.	
Wheelie-bins and re-usable plastic containers	Present Study	Prices as listed in 'Scenario Costs: All Facilities' sheet of <i>Excel</i> model. HCRW capacities assumed: 240 L wheelie-bin : 20 kg; 770 L wheelie-bin : 70 kg; 130 L plastic container (dry waste): 8.5 kg; 50 L and 12 L plastic containers (wet waste): 8kg and 6 kg, respectively.	
Number & location of treatment facilities	Present Study	Alternatives investigated are: one facility at "centre" of HCRW generation in province; three facilities, located at 'top' three HCRW generators; 10 facilities, located at 'top' 10 generators; 20 facilities, located at 'top' 20 generators	
Vehicle description	Present Study	Rigid-chassis trucks with closed van bodies, capacity 18 to 32 cubic metres, max. load mass 3,000 to 5,000 kg; vehicles for wheelie-bin transport have lifting tailgates.	
Transport scenarios	Present Study	HCRW transported to & treated at nearest facility; average round-trip distance between major generators and nearest treatment facility calculated for each alternative described above, and applied to all loads.	
Truck loading & unloading times	Present Study	Load plus unload times: 140 L boxes = 21 mins (fixed) + 0.9 mins/box; 240 L wheelie-binsbins = 25 mins + 1.88 min/bin 770 L bins = 27 mins + 4.5 min/bin 130 L plastic containers: 25 min + 0.9 min/container (assumes that containers are palletised, with 12 x 130 L containers or equivalent per pallet.)	
Interest & Depreciation charges	Present Study	User-defined in model.	
Maintenance costs	Present Study	User-defined in model, except as follows: trucks: 52 – 76 cents/km, depending on vehicle; treatment facilities: plant, other equipment & infrastructure: 5% of capital cost p.a., except for incinerators , where 10% of capital cost p.a. is provided.	
Profit markup	Present Study	User-defined in model.	