Arlington County, Virginia WPCP Solids Master Plan

	ECONOMIC
A	**Capital cost**
	This criterion assesses upfront project costs including design, construction, construction oversight, capitalized internal labor expenses and other soft costs including legal and administrative expenses.
B	**Annual Cost O&M Cost**
	This criterion reflects the annual expenses to operate and maintain the facilities delivered by the alternative, as well as offsite costs for solids end use/disposal and potential revenues/offsets for byproduct (solids, biogas) use.
C	**LifeCycle Cost**
	This criterion reflects the total cost of the project considered over a 20-year planning period, considering upfront capital costs, annual operating costs, annual maintenance costs, potential revenues or offsets from resource recovery, periodic refurbishments, periodic replacements, and a salvage value measured at the end of the twentieth year.
D	**Financial Options/ Risk Offset**
	This criterion addresses financing options like private public partnerships, PPA, ESCO. Could also include innovative financing or ownership and lease options, where they exist and can offset the risk both financially by the County or operationally through vendor maintenance/performance agreements.
E	**End Use Management and Control**
	This criterion measures the reliability of the end use outlet (e.g., how likely is it that the final use outlet will be available during the project life), as well as the ability to control/mitigate and respond to off-site problems (e.g., "bad load" applied, odor incident in field, hauling problems off-site).
	OPERATONAL
F	**Flexibility**
	This criterion addresses flexibility with respect to implementation (construction phasing), expansion potential, and diversification potential for outlets. Greater product flexibility means there are multiple different final use outlets (based on availability and cost) that can be accessed with little or no impact on equipment or operations.
G	**Operability and Safety**
	This criterion focuses on a broad range of O&M issues, including complexity, potential training needs, and safety. The criterion considers that complex systems will generally be more susceptible to downtime than less complex systems. Complexity also impacts the skill level required for O&M staff, and most likely require more training. This criterion also considers the level of operational safety provided by the system.
H	**Proven System/Technology**
	This criterion measures the relative experience of candidate systems, focusing on operating history and performance.
I	**Reliability**
	Reliability is the ability to effectively monitor, assess, predict and generally understand the working of an alternative and its assets and successfully deploy a cost-effective and optimal maintenance strategy. Reliable functioning allows routine and predictive maintenance to be identified, dominant failure modes to be ascertained, and consequences of failure to be estimated with a degree of confidence.

Arlington County, Virginia WPCP Solids Master Plan

OPERATONAL (continued)	
J	**Constructability**
	This criterion measures both the ability to construct an alternative, and reflects both unforeseen site conditions as well as physical limitations that might presented with respect to site constraints and/or existing facilities.
K	**MOPO/ Impacts on Plant Processes and Facilities**
	Key considerations include: maintenance of plant operations (MOPO) during construction (e.g., minimization of plant outages); the impact of constructed facilities on plant processes and the potential need for additional processes to address those impacts (i.e., side-stream treatment, PEW treatment required); and the ease of integration with other plant processes.
ENVIRONMENTAL	
L	**Resource Recovery Potential**
	This criterion addresses the level of product resource recovery that can be achieved with an alternative, with a focus on heat, energy, nutrients, and organics.
M	**Energy Intensity**
	It also considers the relative energy requirements (energy intensity) that might be required for the system.
N	**Carbon Footprint**
	This criterion assesses the magnitude of air emissions impacts including greenhouse gas (GHG) emissions. For example, what is the estimate of GHG emissions for the anticipated process and final use associated with that process? This also includes carbon sequestration.
O	**Regulatory Permits**
	This criterion deals with the difficulty and timeframe needed to permit the technology with respect to air quality, process and selected final product use.
P	**Gas and Product Quality**
	This criterion addresses the expected energy and biosolids product quality characteristics and the ability to produce them reliably and consistently to meet the intended product use (e.g., digester gas, CHP, steam, etc. and various biosolids products).
SOCIAL	
Q	**Odor Generation Potential/Reduction**
	This criterion considers both process and product odor. For processing, it reflects the odor potential associated with the process exhausts at the plant site and how easily they can be mitigated. With respect to products, it assesses the comparative odor of the product compared to other biosolids products.
R	**Acceptability**
	This criterion assesses community impacts and acceptability associated with both the process and final use option. It encompasses noise, visual impacts, odor concerns, and other concerns that might be voiced by communities around the WPCP and at product end use locations.
S	**Hauling**
	This criterion reflects the potential for neighbor impacts and complaints due to truck traffic at the plant site and product end use locations (land application sites), and potential mitigation needs to address related concerns.