

Supplementary material

SUPPLEMENTARY SCHEDULE S1 1-9 point scale method

Value	Description	Value	Description
1	Equal importance	7	Very much more importance
3	Somewhat more importance	9	Absolutely more importance
5	Much more importance	2, 4, 6, 8	Intermediate values between the two adjacent judgments

SUPPLEMENTARY SCHEDULE S2 Random index (R.I.) values

Order	2	3	4	5	6	7	8	9	10	11	12	13	14
R.I.	0.00	0.52	0.86	1.10	1.26	1.34	1.40	1.43	1.49	1.51	1.54	1.56	1.58

SUPPLEMENTARY SCHEDULE S3 Consistency check of judgment matrix

Matrix	R ₁₁ - R ₁₅	R ₂₁ - R ₂₆	R ₃₁ - R ₃₅	R ₁ - R ₃
C.R.	0.003	0.002	0.005	0.005

SUPPLEMENTARY SCHEDULE S4 The final score of the sustainability assessment indexes

First-level index	Second-level index	Value	First-level index	Second-level index	Value
Economy R ₁	Construction cost R ₁₁	8.733	Services & management R ₂	Safety R ₂₄	8.644
	Equipment cost R ₁₂	8.784		Durability R ₂₅	9.333
	Ancillary facility cost R ₁₃	8.667		Operation and maintenance requirement R ₂₆	8.244
	Operation and maintenance cost R ₁₄	8.311	Environment R ₃	Waste reuse R ₃₁	9.256
	Policy support R ₁₅	8.656		Water conservation R ₃₂	9.167
Services &	Treatment effect R ₂₁	7.367		Energy conservation R ₃₃	9.244

management	Treatment capacity R ₂₂	7.356	Noise control R ₃₄	9.233
R ₂	Convenience R ₂₃	7.486	Odor control R ₃₅	8.278

SUPPLEMENTARY SCHEDULE S5 Single-index unascertained measure matrix

$$\mu_1 = \begin{bmatrix} 0.233 & 0.767 & 0.000 & 0.000 & 0.000 \\ 0.167 & 0.833 & 0.000 & 0.000 & 0.000 \\ 0.167 & 0.833 & 0.000 & 0.000 & 0.000 \\ 0.000 & 0.811 & 0.189 & 0.000 & 0.000 \\ 0.156 & 0.844 & 0.000 & 0.000 & 0.000 \end{bmatrix} \quad (1)$$

$$\mu_2 = \begin{bmatrix} 0.000 & 0.000 & 0.867 & 0.133 & 0.000 \\ 0.000 & 0.000 & 0.856 & 0.144 & 0.000 \\ 0.000 & 0.744 & 0.256 & 0.000 & 0.000 \\ 0.144 & 0.856 & 0.000 & 0.000 & 0.000 \\ 0.833 & 0.167 & 0.000 & 0.000 & 0.000 \\ 0.000 & 0.000 & 0.722 & 0.278 & 0.000 \end{bmatrix} \quad (2)$$

$$\mu_3 = \begin{bmatrix} 0.756 & 0.244 & 0.000 & 0.000 & 0.000 \\ 0.667 & 0.333 & 0.000 & 0.000 & 0.000 \\ 0.744 & 0.256 & 0.000 & 0.000 & 0.000 \\ 0.733 & 0.267 & 0.000 & 0.000 & 0.000 \\ 0.000 & 0.778 & 0.222 & 0.000 & 0.000 \end{bmatrix} \quad (3)$$