

Supplementary Tables:

Table S1: Decision matrices of energy sources

| The opinions of expert N°1 | | | | | | | | | | | |
|----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|
| EX ₁ | C ₁ | C ₂ | C ₃ | C ₄ | C ₅ | C ₆ | C ₇ | C ₈ | C ₉ | C ₁₀ | C ₁₁ |
| A ₁ | S | F | F | F | MW | MW | S | F | F | F | F |
| A ₂ | MS | F | MS | MS | F | F | MS | MS | MS | AS | MS |
| A ₃ | S | W | S | S | F | S | S | S | S | S | S |
| A ₄ | F | MS | VW | VS | S | F | S | W | W | W | W |
| A ₅ | MS | S | S | S | MW | F | F | F | MS | F | MS |
| A ₆ | AS | AS | AS | AW | AW | AW | AW | AW | AW | S | AS |
| A ₇ | VS | VS | VS | VW | VW | VW | VW | VW | VW | VW | VS |
| A ₈ | VS | VS | AS | F | AW | AW | AW | AW | S | AW | VS |
| The opinions of expert N°2 | | | | | | | | | | | |
| EX ₂ | C ₁ | C ₂ | C ₃ | C ₄ | C ₅ | C ₆ | C ₇ | C ₈ | C ₉ | C ₁₀ | C ₁₁ |
| A ₁ | MS | F | MS | MS | F | F | MS | MS | MS | MS | MS |
| A ₂ | F | MS | MS | F | F | S | MS | MS | F | MS | F |
| A ₃ | MS | MW | S | F | S | VS | VS | S | S | S | S |
| A ₄ | F | S | VW | VW | F | S | S | W | VW | W | VW |
| A ₅ | S | MS | F | MS | F | F | F | MS | S | MS | S |
| A ₆ | AS | AS | AS | AW | AW | AW | AW | AW | AW | AW | AS |
| A ₇ | VS | VS | VS | VW | VW | VW | VW | VW | VW | VW | VS |
| A ₈ | S | VS | ASF | AW | AW | AW | F | MS | AW | W | AS |
| The opinions of expert N°3 | | | | | | | | | | | |
| EX ₃ | C ₁ | C ₂ | C ₃ | C ₄ | C ₅ | C ₆ | C ₇ | C ₈ | C ₉ | C ₁₀ | C ₁₁ |
| A ₁ | S | MS | MS | F | F | MW | S | S | S | S | S |
| A ₂ | F | MS | S | S | F | MS | S | VS | VS | VS | VS |
| A ₃ | S | MS | MS | MS | S | S | VS | S | S | S | S |
| A ₄ | F | MS | VS | VS | S | S | MW | VS | S | VS | S |
| A ₅ | MS | MS | MS | MW | F | MW | F | MS | S | MS | S |
| A ₆ | AS | AS | AS | AW | AW | AW | AW | AW | AW | AW | AS |
| A ₇ | VS | VS | VS | VW | VW | W | VW | F | VW | VW | VS |
| A ₈ | AS | VS | VS | AW | AW | F | AW | AW | F | AW | VS |
| The opinions of expert N°4 | | | | | | | | | | | |
| EX ₄ | C ₁ | C ₂ | C ₃ | C ₄ | C ₅ | C ₆ | C ₇ | C ₈ | C ₉ | C ₁₀ | C ₁₁ |
| A ₁ | S | F | F | F | MW | MW | S | F | F | F | F |
| A ₂ | MS | F | MS | MS | F | F | MS | MS | MS | MS | MS |
| A ₃ | S | W | S | S | F | S | S | S | S | S | S |
| A ₄ | F | MS | VW | VS | S | F | S | W | W | W | W |
| A ₅ | MS | S | S | S | MW | F | F | F | MS | F | MS |
| A ₆ | AS | AS | AS | AW | AW | AW | AW | AW | AW | AW | AS |
| A ₇ | VS | VS | VS | VW | VW | VW | MW | VW | F | VW | VS |
| A ₈ | S | MS | VS | AW | AW | F | AW | AW | F | AW | AS |

Table S2: Decision opinions of sectors

| The opinions of expert N°1 | | | | | | | | | | | |
|----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|
| EX ₁ | C ₁ | C ₂ | C ₃ | C ₄ | C ₅ | C ₆ | C ₇ | C ₈ | C ₉ | C ₁₀ | C ₁₁ |
| S ₁ | AW | AS | AW | F | W | F | AW | AW | AS | AW | AS |
| S ₂ | AW | VW | F | F | S | MS | W | F | MS | W | F |
| S ₃ | MW | S | F | MW | F | F | AS | AS | S | MW | VS |
| S ₄ | AW | AS | F | MS | AS | AS | S | W | AW | AW | W |
| S ₅ | AS | AS | AS | AW | AW | VW | AW | VW | AW | VW | AS |
| The opinions of expert N°2 | | | | | | | | | | | |
| EX ₂ | C ₁ | C ₂ | C ₃ | C ₄ | C ₅ | C ₆ | C ₇ | C ₈ | C ₉ | C ₁₀ | C ₁₁ |
| S ₁ | AW | AS | AW | F | F | MW | AW | AW | AS | W | AS |
| S ₂ | AW | MW | W | S | S | MS | MW | VW | MS | AW | F |
| S ₃ | MW | S | F | MW | F | MS | AS | AS | MS | MW | S |
| S ₄ | AW | AS | MS | MS | VS | AS | AW | W | AW | AW | W |
| S ₅ | AS | AS | AS | AW | AW | W | AW | MW | AW | VW | AS |
| The opinions of expert N°3 | | | | | | | | | | | |
| EX ₃ | C ₁ | C ₂ | C ₃ | C ₄ | C ₅ | C ₆ | C ₇ | C ₈ | C ₉ | C ₁₀ | C ₁₁ |
| S ₁ | AW | AS | AW | F | W | MW | AW | AW | AS | W | AS |
| S ₂ | AW | VW | F | MW | S | MS | AW | F | MS | W | F |
| S ₃ | MW | MS | S | MW | F | F | AS | AS | MS | VW | AS |
| S ₄ | AW | AS | F | MS | AS | AS | S | W | AW | AW | W |
| S ₅ | AS | AS | AS | AW | AW | AW | MS | S | MW | VW | AS |
| The opinions of expert N°4 | | | | | | | | | | | |
| EX ₄ | C ₁ | C ₂ | C ₃ | C ₄ | C ₅ | C ₆ | C ₇ | C ₈ | C ₉ | C ₁₀ | C ₁₁ |
| A ₁ | F | AS | AW | F | W | MW | AW | AW | AS | AS | AS |
| A ₂ | AW | VW | F | F | S | MS | W | F | MS | W | F |
| A ₃ | AS | F | S | MW | F | F | AS | AS | S | MW | S |
| A ₄ | AW | AS | F | MS | AS | AS | S | W | AW | AW | W |
| A ₈ | AS | AS | AS | AW | AW | VW | AW | VW | AW | VW | AS |

Table S3: Aggregate matrix of decision energy sources

| | A1 | | | A2 | | | A3 | | | A4 | | | A5 | | | A6 | | | A7 | | | A8 | | |
|------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| C1 | 3.72 | 4.73 | 5.00 | 3.46 | 4.47 | 5.00 | 4.73 | 5.73 | 6.44 | 3.00 | 4.00 | 5.00 | 4.23 | 5.23 | 5.44 | 7.00 | 7.00 | 7.00 | 6.00 | 7.00 | 7.00 | 5.69 | 6.48 | 7.00 |
| C2 | 3.22 | 4.23 | 5.00 | 3.46 | 4.47 | 5.00 | 1.68 | 2.78 | 3.41 | 4.23 | 5.23 | 5.44 | 4.47 | 5.48 | 5.92 | 7.00 | 7.00 | 7.00 | 6.00 | 7.00 | 7.00 | 5.42 | 6.44 | 6.44 |
| C3 | 3.46 | 4.47 | 5.00 | 4.23 | 5.23 | 5.44 | 4.73 | 5.73 | 6.44 | 1.57 | 2.74 | 2.74 | 4.16 | 5.18 | 5.92 | 7.00 | 7.00 | 7.00 | 6.00 | 7.00 | 7.00 | 6.32 | 7.00 | 7.00 |
| C4 | 3.22 | 4.23 | 5.00 | 3.94 | 4.95 | 5.44 | 4.16 | 5.18 | 5.92 | 3.83 | 5.12 | 5.12 | 3.76 | 4.82 | 5.21 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.32 | 1.41 | 1.50 |
| C5 | 2.45 | 3.46 | 3.87 | 3.00 | 4.00 | 5.00 | 3.87 | 4.90 | 5.92 | 4.40 | 5.42 | 6.44 | 2.45 | 3.46 | 3.87 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| C6 | 2.21 | 3.22 | 3.41 | 3.66 | 4.68 | 5.44 | 5.23 | 6.24 | 7.00 | 3.87 | 4.90 | 5.92 | 2.71 | 3.72 | 4.40 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.21 | 1.73 | 2.00 | 2.24 |
| C7 | 4.73 | 5.73 | 6.44 | 4.23 | 5.23 | 5.44 | 5.48 | 6.48 | 7.00 | 3.98 | 5.05 | 5.66 | 3.00 | 4.00 | 5.00 | 1.00 | 1.00 | 1.00 | 1.19 | 2.21 | 2.21 | 1.32 | 1.41 | 1.50 |
| C8 | 3.66 | 4.68 | 5.44 | 4.43 | 5.44 | 5.44 | 5.00 | 6.00 | 7.00 | 1.57 | 2.74 | 3.71 | 3.46 | 4.47 | 5.00 | 1.00 | 1.00 | 1.00 | 1.32 | 2.38 | 2.51 | 1.41 | 1.50 | 1.50 |
| C9 | 3.66 | 4.68 | 5.44 | 4.12 | 5.14 | 5.44 | 5.00 | 6.00 | 7.00 | 1.50 | 2.63 | 3.35 | 4.47 | 5.48 | 5.92 | 1.00 | 1.00 | 1.00 | 1.32 | 2.38 | 2.51 | 2.59 | 3.13 | 3.64 |
| C10 | 3.66 | 4.68 | 5.44 | 5.09 | 5.92 | 5.92 | 5.00 | 6.00 | 7.00 | 1.57 | 2.74 | 3.71 | 3.46 | 4.47 | 5.00 | 1.50 | 1.57 | 1.63 | 1.00 | 2.00 | 2.00 | 1.00 | 1.19 | 1.32 |
| C11 | 3.66 | 4.68 | 5.44 | 4.12 | 5.14 | 5.44 | 5.00 | 6.00 | 7.00 | 1.50 | 2.63 | 3.35 | 4.47 | 5.48 | 5.92 | 7.00 | 7.00 | 7.00 | 6.00 | 7.00 | 7.00 | 6.48 | 7.00 | 7.00 |

Table S4: Aggregate matrix of decision sectors

| | A1 | | | A2 | | | A3 | | | A4 | | | A5 | | |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| C1 | 1.32 | 1.41 | 1.50 | 1.00 | 1.00 | 1.00 | 2.74 | 3.71 | 3.71 | 1.00 | 1.00 | 1.00 | 7.00 | 7.00 | 7.00 |
| C2 | 7.00 | 7.00 | 7.00 | 1.19 | 2.21 | 2.21 | 4.16 | 5.18 | 5.92 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| C3 | 1.00 | 1.00 | 1.00 | 2.28 | 3.36 | 4.40 | 3.87 | 4.90 | 5.92 | 3.22 | 4.23 | 5.00 | 7.00 | 7.00 | 7.00 |
| C4 | 3.00 | 4.00 | 5.00 | 3.08 | 4.12 | 4.79 | 2.00 | 3.00 | 3.00 | 4.00 | 5.00 | 5.00 | 1.00 | 1.00 | 1.00 |
| C5 | 1.32 | 2.38 | 3.41 | 5.00 | 6.00 | 7.00 | 3.00 | 4.00 | 5.00 | 6.74 | 7.00 | 7.00 | 1.00 | 1.00 | 1.00 |
| C6 | 2.21 | 3.22 | 3.41 | 4.00 | 5.00 | 5.00 | 3.22 | 4.23 | 5.00 | 7.00 | 7.00 | 7.00 | 1.00 | 1.68 | 1.86 |
| C7 | 1.00 | 1.00 | 1.00 | 1.19 | 1.86 | 2.28 | 7.00 | 7.00 | 7.00 | 3.34 | 3.83 | 4.30 | 1.41 | 1.50 | 1.50 |
| C8 | 1.00 | 1.00 | 1.00 | 2.28 | 3.36 | 3.98 | 7.00 | 7.00 | 7.00 | 1.00 | 2.00 | 3.00 | 1.78 | 2.91 | 3.03 |
| C9 | 7.00 | 7.00 | 7.00 | 4.00 | 5.00 | 5.00 | 4.47 | 5.48 | 5.92 | 1.00 | 1.00 | 1.00 | 1.19 | 1.32 | 1.32 |
| C10 | 1.63 | 2.30 | 2.82 | 1.00 | 1.68 | 2.28 | 1.68 | 2.71 | 2.71 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| C11 | 7.00 | 7.00 | 7.00 | 3.00 | 4.00 | 5.00 | 5.69 | 6.48 | 7.00 | 1.00 | 2.00 | 3.00 | 7.00 | 7.00 | 7.00 |