# **Text-based representation for training the agent**

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Stages of ESG and sustainability maturity for “Target setting, planning and decarbonisation”

* **Stage 0: Entry-level tooling**
  + No formal ESG or emissions reduction targets for Scope 1, Scope 2 or Scope 3
* **Stage 1: Foundational/ Compliance-driven**
  + Informal or broad ESG or emissions reduction target with e.g. reduce emissions by X% by year YYYY, or net zero emissions by YYYY
  + May have a public disclosure of ESG or emissions reduction target
  + No or little evidence of planning that shows the organisation is thinking about a pathway to reducing emissions
* **Stage 2: Operational/ Efficiency-oriented**
  + Formal ESG or emissions reduction targets defined e.g. reduce emissions by X% by year YYYY, or net zero emissions by YYYY
  + Evidence of broad but not formal tracking of progress against emissions reduction targets.
  + May have ESG or emissions reduction targets that are aligned to formal methodologies and frameworks e.g. SBTi, GHG Protocol, ISO 14064, ISO 14068, ACT Initiative, CDP, PAS 2060, TCFD/ISSB, Net Zero commitment
  + Has a public disclosure of ESG or emissions reduction target
  + Some evidence of planning processes that try and define a pathway to emissions reduction
  + May be tracking progress towards formal ESG or emissions reduction targets
* **Stage 3: Strategic/ Value-creation focused**
  + Formal ESG or emissions reduction targets defined e.g. reduce emissions by X% by year YYYY, or net zero emissions by YYYY
  + Evidence of systematic tracking of progress against emissions reduction targets.
  + Has ESG or emissions reduction targets that are aligned to formal methodologies and frameworks e.g. SBTi, GHG Protocol, ISO 14064, ISO 14068, ACT Initiative, CDP, PAS 2060, TCFD/ISSB, Net Zero commitment
  + Has a public disclosure of ESG or emissions reduction target
  + Evidence of planning processes that try and define a pathway to emissions reduction
  + Emissions reduction plans show alignment to long-range ESG or emissions reduction targets on a company-level
  + Evidence of tracking historical progress against formal ESG or emissions reduction targets
  + Evidence of decarbonisation efforts to better understand sources of Scope 3 emissions, including:
    - Tools to evaluate data quality describing suppliers
    - Supplier scorecards or a rating system comparing suppliers based on the supplier’s ESG performance
* **Stage 4: Transformational**
  + Formal ESG or emissions reduction targets defined e.g. reduce emissions by X% by year YYYY, or net zero emissions by YYYY
  + Evidence of systematic tracking of progress against emissions reduction targets
  + Evidence of governance oversight (e.g. committees, boards) monitoring progress against ESG or emissions reduction targets.
  + Has ESG or emissions reduction targets that are aligned to formal methodologies and frameworks e.g. SBTi, GHG Protocol, ISO 14064, ISO 14068, ACT Initiative, CDP, PAS 2060, TCFD/ISSB, Net Zero commitment
  + Has a public disclosure of ESG or emissions reduction target
  + Evidence of planning processes that define a clear pathway to emissions reduction or net zero targets
  + Emissions reduction plans show alignment to long-range ESG or emissions reduction targets with company-level breakdowns
  + Evidence of scenario modeling, what-if analysis or simulation tools to explore potential emissions reduction or decarbonisation pathways
  + Scenario modeling, what-if analysis or simulation tools don’t incorporate financial information for investments in emissions reduction action plans and programs. Financial information includes things like capital expenditure (CAPEX), operational expenditure (OPEX)
  + Evidence of tracking historical progress against formal ESG or emissions reduction targets
  + Evidence of forward-looking KPIs, metrics or milestones to understand trajectory towards towards emissions reduction targets or net zero targets
  + Evidence of decarbonisation efforts that go beyond understanding Scope 3 emissions, and attempt to reduce those emissions through initiatives like:
    - Engaging with suppliers to help them reduce their own scope 1 and 2 emissions;
    - Reducing the number of tiers or simplifying the supply chain so you have better control and visibility;
    - Designing for circularity: reuse, remanufacturing, recycled materials, take‑back schemes.
    - Low‑carbon / sustainable procurement: Actively choosing materials, processes, and suppliers that are greener from the start
  + Evidence of conducting risk assessments to identify suppliers whose ESG record could improve the organisation’s own Scope 3 performance. These assessments can also be referred to as “supplier risk”.
  + Emissions reduction planning and supplier risk assessment are siloed or done separately

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Stages of ESG and sustainability maturity for “Operational structure and processes”

* **Stage 0: Entry-level tooling**
  + No formal sustainability team
  + Lack of stated ESG governance or process owners - No repeatable processes
* **Stage 1: Foundational/ Compliance-driven**
  + Emerging ESG or sustainability team focused on compliance (Mention of establishing governance or assigning ESG responsibilities)
  + Basic documentation of ESG processes, but still fragmented
  + ESG processes are primarily reactive and compliance-focused
* **Stage 2: Operational/ Efficiency-oriented**
  + Dedicated ESG staff with standardized internal processes (References to internal ESG training or standard operating procedures)
  + Some documented procedures for GHG data collection and validation
  + Partial automation of data gathering (utility data, facility-level uploads)
  + Defined reporting calendar and ownership roles
* **Stage 3: Strategic/ Value-creation focused**
  + Dedicated ESG staff with standardized internal processes (References to internal ESG training or standard operating procedures)
  + ESG operationalized across procurement, operations, and finance
  + Detailed documented procedures for GHG data collection and validation
  + Integrated GHG data collection and reporting across value chain
  + Supplier engagement and Scope 3 process integration
  + Defined reporting calendar and ownership roles
  + Continuous improvement process for ESG data quality and validation (3rd party audits)
  + Internal ESG performance KPIs tied to business units
* **Stage 4: Transformational**
  + Dedicated ESG staff with standardized internal processes (References to internal ESG training or standard operating procedures)
  + ESG operationalized across procurement, operations, and finance
  + Additional ESG roles distributed across the organization, not siloed in a single function (ESG governance linked to board-level strategy and executive KPIs)
  + Detailed documented procedures for GHG data collection and validation
  + Integrated systems for capturing and managing ESG data (Mentions of “integrated ESG data architecture” or “real-time ESG dashboarding”)
  + Advanced supplier engagement and data collection to drive continuous improvement of Scope 3 accuracy
  + Defined reporting calendar and ownership roles
  + Continuous optimization of ESG data quality and performance
  + Internal ESG performance KPIs tied to business units
  + Forward-looking KPI metrics tied to innovation, capital allocation, or business transformation
  + ESG embedded in strategic planning, risk management, and innovation
  + Carbon accounting integrated into enterprise decision-making and innovation cycles

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Stages of ESG and sustainability maturity for “Data maturity (collection and management)”

Include the below as input into the model

Key terms: Activity data: quantitative measure of a company's operations that generates emissions. This includes things like energy, gas electricity, water, waste, fuels.”

* **Stage 0: Entry-level tooling**
  + Site-level or facility-level activity data is collected manually and ad-hoc (when requested by customers or regulators)
  + Data collection is manual, unstructured, and dispersed across departments (not centralized and informally tracked, often in spreadsheets)
  + Emissions are calculated using spreadsheets
  + No formal data documentation, ownership, validation process or governance
* **Stage 1: Foundational/ Compliance-driven**
  + Site-level or facility-level activity data is collected manually, often quarterly or annually
  + Some or basic efforts to structure ESG and GHG data collection processes
  + Data collection continues to be manual, unstructured, and dispersed across departments (not centralized and informally tracked, often in spreadsheets)
  + Emissions are calculated using spreadsheets but more structured and scalable approaches are being explored
  + Initial documentation of emission factors, sources, and boundaries
  + Early description of data collection methods with inconsistent version control(e.g., spreadsheets, facility self-reporting)
* **Stage 2: Operational/ Efficiency-oriented**
  + Site-level or facility-level activity data collected mostly or completely automated rather than manual
  + Activity data collection conducted on a more regular basis (e.g. monthly or quarterly) than annually
  + Efficiency-focussed efforts to structure ESG and GHG data collection processes, such as standardized processes across business units
  + Centralized internal ESG platform, shared database and/or governance process
  + Full disclosures of clear data collection methodologies, sources, and emission factors
  + Data validation and audit trails partially implemented by either internal or external assurance
  + Evidence of internal dashboards used for GHG and energy performance tracking
* **Stage 3: Strategic/ Value-creation focused**
  + Site-level or facility-level activity data completely (or almost completely) collected via automated means
  + Standardized and efficient data management processes across business units
  + Integrated and fully centralized GHG data collection and reporting across value chain (ESG data platform)
  + As per level 2, full disclosures of clear data collection methodologies, sources, and emission factors
  + Data validation and audit trails fully implemented by either internal or external assurance
  + Evidence of continuous improvement processes for data completeness and validation
  + Evidence of internal dashboards used for GHG and energy performance tracking
  + Evidence of KPI integration and automated progress tracking against targets
  + Scope 3 data actively managed through supplier
* **Stage 4: Transformational**
  + As per level 3, site-level or facility-level activity data completely (or almost completely) collected via automated means
  + As per level 3, standardized and efficient data management processes across business units
  + As per level 3, Integrated and fully centralized GHG data collection and reporting across value chain (ESG data platform)
  + ESG data integrated into enterprise systems (ERP, finance, risk, and planning)
  + As per level 2 and 3, full disclosures of clear data collection methodologies, sources, and emission factors
  + Unified governance and data standards applied across sustainability, risk, and finance
  + As per level 3, data validation and audit trails fully implemented by either internal or external assurance
  + Continuous improvement processes for data completeness and validation
  + Internal dashboards used for GHG and energy performance tracking
  + KPI integration and automated progress tracking against targets
  + Scope 3 data actively managed through supplier engagement and tracking tools
  + Dynamic dashboards for internal decision-making and external transparency
  + Real-time ESG data collection, flow and automated reporting systems across business functions
  + Predictive analytics and AI used for forecasting emissions and scenario modeling

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Stages of ESG and sustainability maturity for “GHG accounting”

* **Stage 0: Entry-level tooling**
  + No formal GHG accounting framework or defined emission boundaries - No defined Scope 1, 2, or 3 methodology
  + Emissions data estimated manually or extrapolated from spend or activity data
  + Only high-level totals, often based on assumptions or averages (only scope 1 & 2)
  + Reactive GHG disclosures driven by buyer or customer requests
  + No assurance, verification, or internal review of calculations
* **Stage 1: Foundational/ Compliance-driven**
  + Mentions of the GHG Protocol or similar basic accounting standards
  + First disclosures of Scope 1 and Scope 2 emissions calculated with varying completeness (no Scope 3 emissions)
  + Exclusion of material sources explained as “data not yet available”
  + Initial documentation of methodology, emission factors, sources, and boundaries but not consistent
  + Some assurance, verification, all internal reviews of calculations
  + Reporting may include at least one year of data with inconsistent methodology notes
* **Stage 2: Operational/ Efficiency-oriented**
  + GHG accounting framework implementation for Scope 1 and 2, aligned with frameworks (GHG Protocol, CDP, TCFD)
  + Disclosure of consistent Scope 1 & 2 data year-over-year
  + Partial inclusion of Scope 3 categories with logical boundaries (market/location-based logic)
  + Use of centralized data systems to automate emission factor calculations
  + Clear disclosure of methodology, emission factors, sources, and organizational boundaries
  + Internal verification or review of data accuracy, maybe some 3rd party audits mentioned
  + Improving methodology accuracy or mentions intent to do so
  + Reporting includes 2-4 years of data with consistent methodology notes
* **Stage 3: Strategic/ Value-creation focused**
  + Comprehensive accounting of Scope 1, 2, and 3 emissions, aligned to recognized frameworks (GHG Protocol, CDP, TCFD)
  + Disclosure of consistent Scope 1, 2, 3 data year-over-year
  + Use of centralized data systems to automate emission factor calculations
  + Calculation and reporting of most 15 Scope 3 categories with details on data sources and estimation methods
  + Clear disclosure of methodology, emission factors, sources, and organizational boundaries
  + Full third-party assurance of Scope 1, Scope 2, and all Scope 3 categories
  + Actively improving methodology accuracy (e.g.: Supplier engagement and data collection to increase primary data, moving towards product carbon footprint)
  + Reporting includes 4-6 years of data plus baseline emissions with consistent methodology notes
  + Regular recalculation or intent to recalculate baselines following organizational or data changes
* **Stage 4: Transformational**
  + Comprehensive accounting of Scope 1, 2, and 3 emissions, aligned to recognized frameworks (GHG Protocol, CDP, TCFD)
  + Disclosure of consistent Scope 1, 2, 3 data year-over-year
  + Use of centralized data systems to automate emission factor calculations
  + Calculation and reporting of most 15 Scope 3 categories with details on data sources and estimation methods
  + Real-time or near-real-time carbon accounting integrated with operational systems (e.g., ERP, IoT)
  + Clear disclosure of methodology, emission factors, sources, and organizational boundaries
  + Full third-party assurance of Scope 1, Scope 2, and all Scope 3 categories
  + Actively improving methodology accuracy (e.g.: Supplier engagement and data collection to increase primary data, moving towards product carbon footprint)
  + Alignment with regulatory or market standards (e.g., ISSB, CSRD, GRESB)
  + Reporting includes 6+ years of data plus baseline emissions with consistent methodology notes
  + Regular recalculation or intent to recalculate baselines following organizational or data changes
  + Mention of integration between GHG data and financial disclosures (e.g., TCFD or CSRD reporting)
  + GHG accounting fully embedded in business strategy, forecasting, and risk modeling
  + Dynamic GHG performance tracking with predictive and scenario-based modeling

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Stages of ESG and sustainability maturity for “Reporting and disclosure process”

* **Stage 0: Entry-level tooling**
  + No formal ESG or sustainability report produced
  + Disclosures are ad hoc, reactive, and customer-driven (e.g., responding to buyer questionnaires)
  + ESG or emissions data shared only on request, with no public reporting
  + No alignment with recognized frameworks or standards (GRI, CDP, TCFD, etc.)
  + No assurance validation
* **Stage 1: Foundational/ Compliance-driven**
  + May have published first sustainability or ESG report, often brief and compliance-oriented
  + Disclosures guided by emerging stakeholder interest or regulatory awareness
  + Reporting handled by a small team or communications function
  + ESG content loosely structured; basic metrics (energy, emissions, waste) reported
  + Narrative focus on initiatives rather than performance data
  + No consistent year-over-year comparability; minimal governance disclosure
  + Partial or informal use of frameworks (e.g., GRI references but not full compliance)
  + Some assurance, verification, all internal reviews
* **Stage 2: Operational/ Efficiency-oriented**
  + Regular (annual) ESG or sustainability report established
  + Structured reporting process with defined timelines, data owners, and verification steps
  + Improved internal coordination between departments (operations, EHS, finance)
  + Disclosure of consistent Scope 1 & 2 data year-over-year with partial inclusion of Scope 3
  + More detailed emissions disclosures with footnotes on methodology
  + Clearer year-over-year comparisons and progress metrics
  + Increasing use of external frameworks: GRI, CDP, SASB, or TCFD references
  + Mostly internal assurance processes with some 3rd party assurance of key metrics
* **Stage 3: Strategic/ Value-creation focused**
  + Regular (annual) ESG or sustainability report established
  + Multi-format reporting: integrated annual report, ESG data portals, and regulatory filings
  + External assurance is standard; ESG reporting part of investor-grade disclosures
  + Structured reporting process with defined timelines, data owners, and verification steps
  + Streamlined internal coordination between departments (operations, EHS, finance)
  + Clear linkage between ESG performance, business strategy, and financial outcomes
  + Disclosure of consistent Scope 1 & 2 data year-over-year with full Scope 3 data
  + Clearer year-over-year comparisons and progress metrics
  + Integration of multiple frameworks: GRI, CDP, TCFD, SBTi, and sometimes SASB or ISSB drafts
  + Aligned with some global reporting regimes (CSRD, ISSB, GRESB, or regional taxonomies)
  + External assurance (limited or reasonable) for key ESG metrics (included in report appendices)
  + Transparency around data quality and improvement plans
  + ESG reporting becomes strategically embedded in business performance and investor communications
* **Stage 4: Transformational**
  + Regular (annual) ESG or sustainability report established
  + Multi-format reporting: integrated annual report, ESG data portals, and regulatory filings
  + External assurance is standard; ESG reporting part of investor-grade disclosures
  + Structured reporting process with defined timelines, data owners, and verification steps
  + Full internal alignment between departments (operations, EHS, finance)
  + ESG reporting is fully integrated with financial, risk, and strategic disclosures, also includes climate risk
  + Disclosure of consistent Scope 1 & 2 data year-over-year with full Scope 3 data
  + Clearer year-over-year comparisons and progress metrics
  + Integration of multiple frameworks: GRI, CDP, TCFD, SBTi, and sometimes SASB or ISSB drafts
  + Aligned with global reporting regimes (CSRD, ISSB, GRESB, or regional taxonomies)
  + External assurance (limited or reasonable) for key ESG metrics (included in report appendices)
  + Transparency around data quality and improvement plans
  + ESG reporting becomes strategically embedded in business performance and investor communications
  + Use of real-time or near-real-time data and automated disclosure systems
  + Deep scenario analysis and forward-looking metrics embedded in reporting

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Stages of ESG and sustainability maturity for “Energy intelligence”

* **Stage 0: Entry-level tooling**
  + No formal energy management program or policy
  + Energy data collected inconsistently and manually (e.g., from invoices or utility bills when needed, and excel based)
  + Reactive approach: energy management addressed only when requested by customers or regulators
  + No distinction between energy types (electricity, natural gas, renewables, etc.)
  + No defined energy baseline or reduction programs/targets
* **Stage 1: Foundational/ Compliance-driven**
  + Dedicated processes or teams for energy tracking and performance improvement
  + Early-stage data gathering on energy consumption and fuel use
  + Initial internal tracking via spreadsheets or simple dashboards
  + Limited disclosure of total energy consumption or energy use by type (electricity, natural gas, renewables, etc.)
  + Early energy intensity metrics (e.g., kWh per product or employee)
  + All internal review/assurance processes
  + Basic energy reporting and benchmarking in sustainability or compliance documents
  + Pilot efficiency projects initiated (lighting, HVAC, equipment upgrades)
* **Stage 2: Operational/ Efficiency-oriented**
  + Dedicated processes or teams for energy tracking and performance improvement
  + Systematic data collection from utilities, meters, or internal systems to eliminate manual effort and increase confidence in reported data.
  + Regular reporting of performance across sites or business units with partial energy audits
  + Disclosure of energy consumption by source (renewable vs. non-renewable)
  + Mention of energy management systems (EMS) or standardized reporting tools
  + Integration of energy data with Scope 1 and 2 GHG accounting
  + Some 3rd party audits, still mostly internal
  + Defined reduction targets for energy and/or carbon intensity
  + Company-wide energy efficiency programs or ISO 50001 certification in progress
  + Early stages of energy management embedded in broader carbon reduction and sustainability strategy
* **Stage 3: Strategic/ Value-creation focused**
  + Dedicated processes or teams for energy tracking and performance improvement
  + Systematic data collection from utilities, meters, or internal systems to eliminate manual effort and increase confidence in reported data.
  + Procurement and operations teams involved in energy decision-making
  + Continuous monitoring of site-level or asset-level energy performance
  + Consistent reporting of performance across sites or business units
  + Disclosure of energy consumption by source (renewable vs. non-renewable)
  + Fully integrated energy management systems (EMS) or standardized reporting tools
  + Full 3rd party audits of externally reported metrics
  + Integration of energy data with Scope 1, 2, 3 GHG accounting
  + Defined reduction targets for energy and/or carbon intensity
  + Company-wide energy efficiency programs or ISO 50001 certification in progress
  + Energy management embedded in broader carbon reduction and sustainability strategy
  + Energy and GHG performance tied to corporate Net Zero or SBTi commitments
  + Active pursuit of renewable energy sourcing (PPAs, on-site solar, RECs, etc.)
  + Advanced analytics used to track energy performance and identify savings opportunities
* **Stage 4: Transformational**
  + Dedicated processes or teams for energy tracking and performance improvement
  + Systematic data collection from utilities, meters, or internal systems to eliminate manual effort and increase confidence in reported data.
  + Energy management is fully integrated with procurement, operations, financial planning, risk management, and innovation
  + Real-time or near-real-time energy and carbon data systems across operations
  + Consistent reporting of performance across sites or business units
  + Disclosure of energy consumption by source (renewable vs. non-renewable)
  + Fully integrated energy management systems (EMS) or standardized reporting tools
  + Integration of energy data with Scope 1, 2, 3 GHG accounting
  + Full 3rd party audits of externally reported metrics
  + Integration of energy data with Scope 1, 2, 3 GHG accounting
  + Defined reduction targets for energy and/or carbon intensity
  + Company-wide energy efficiency programs or ISO 50001 certification in progress
  + Energy management embedded in broader carbon reduction and sustainability strategy
  + Energy and GHG performance tied to corporate Net Zero or SBTi commitments
  + Active pursuit of renewable energy sourcing (PPAs, on-site solar, RECs, etc.)
  + Discussion of energy as a driver of innovation, competitiveness, or business model change
  + Advanced analytics used to track energy performance and identify savings opportunities
  + Predictive modeling used for energy forecasting and optimization
  + Active participation in energy markets, grid services, or demand response programs
  + Capital allocation decisions include energy transition and resilience considerations

Stages of ESG and sustainability maturity for “Risk management and mitigation”

* **Stage 0: Entry-level tooling**
* **Stage 1: Foundational/ Compliance-driven**
* **Stage 2: Operational/ Efficiency-oriented**
* **Stage 3: Strategic/ Value-creation focused**
* **Stage 4: Transformational**

# **Prompt testing and instructions**

**Instructions for testing on a theme-by-theme basis (RECOMMENDED — before combining, so we can have confidence that each, theme individually performs well)**

1. Choose a theme to focus on
2. Reformat the table above to align with the format under “Text-based representation for training the agent”
3. Copy the “Text-based representation for training the agent”
4. Load Notebook LM
5. Upload source > choose from clipboard
6. Name source to be “Maturity stages: <theme>”
7. Upload ESG report as one of your sources
8. Revise the prompt below:
   1. Replace the theme reference in the first line
   2. Update the links in the last section of the prompt to reference the IBM.com webpages for the respective solutions
9. Copy and past the prompt
10. Run the prompt

**Prompt 1**

Asks the agent to evaluate the maturity stage for one of the themes. Then, asks it to suggest Envizi solutions to pitch based on the maturity.

What is the ESG maturity stage of the organisation in terms of how it approaches “Target setting, planning and decarbonisation”?

Give me a table that lists up to ten of the most compelling insights you find from their ESG report. Each row should describe an insight that confirms or strongly suggests evidence of matching characteristics against a particular maturity stage. Prioritise the rows so that the first row lists the characteristic you believe has the strongest evidence for the maturity stage it suggests. The first column should list the priority score. The second column should describe the characteristic that you found evidence for. The third column should show an extract from the source material that provides the evidence for the characteristic described in the second column The extract should be 30 words max and from the source material. The fourth column should show the maturity stage that the characteristic suggests.

Then give me another table that lists the Envizi solutions that you’d pitch to the organisation. Each row should describe an Envizi solution. The first column should list the row number. The second column should describe the Envizi solution being pitched. The fourth column should list the features you’d pitch. The fifth column should provide a bulleted list of the reasons why the organisation in question would benefit from this feature. Clearly point out if a feature would help the organisation improve in maturity. Each reason should be 20-30 words long.

Below are some links to information about different Envizi solutions, including feature descriptions. Use these links to help you with your pitch.

- <https://www.ibm.com/products/envizi/target-setting-tracking>

- <https://www.ibm.com/products/envizi/sustainability-program-tracking>

- <https://www.ibm.com/products/envizi/sustainability-planning>

- <https://www.ibm.com/products/envizi/supply-chain>