DPS FRAMEWORK SCHEDULE 4: LETTER OF APPOINTMENT AND CONTRACT TERMS

Part 1: Letter of Appointment

Dear [redacted]

Letter of Appointment

This letter of Appointment dated 1st September 2021, is issued in accordance with the provisions of the DPS Agreement (RM6018) between CCS and the Supplier.

Capitalised terms and expressions used in this letter have the same meanings as in the Contract Terms unless the context otherwise requires.

Order Number:	PS21117
From:	**Department of Business Energy and Industrial Strategy**, 1 Victoria St, Westminster, London, SW1H 0ET("Customer")
To:	**The Waste and Resources Action Programme (WRAP)**, Second Floor, Blenheim Court, 19 George Street, Banbury OX16 5BH ("Supplier")

Effective Date:	Monday, 6th September 2021
Expiry Date:	Friday, 4th March 2022

Services required:	Set out in Section 2, Part B (Specification) of the DPS Agreement and refined by: The Customer's Project Specification attached at Appendix A and the Supplier's Proposal attached at Appendix B.

Key Individuals:	[redacted]

Contract Charges (including any applicable discount(s), but excluding VAT):	As per AW5.2 Price Schedule response highlighted within the RM6018 Contract Terms, section; Annex 1 – Contract Charges. The total value of this contract shall not exceed £ 125,522.50 Excluding VAT.
Insurance Requirements	Additional public liability insurance to cover all risks in the performance of the Contract, with a minimum limit of £5 million for each individual claim. Additional employers' liability insurance with a minimum limit of £5 million indemnity.

	Additional professional indemnity insurance adequate to cover all risks in the performance of the Contract with a minimum limit of indemnity of £2 million for each individual claim.
Liability Requirements	**Suppliers limitation of Liability** (Clause 18.2 of the Contract Terms);
GDPR	As per Contract Terms Schedule 7 (Processing, Personal Data and Data Subjects.

FORMATION OF CONTRACT

BY SIGNING AND RETURNING THIS LETTER OF APPOINTMENT (which may be done by electronic means) the Supplier agrees to enter a Contract with the Customer to provide the Services in accordance with the terms of this letter and the Contract Terms.

The Parties hereby acknowledge and agree that they have read this letter and the Contract Terms.

The Parties hereby acknowledge and agree that this Contract shall be formed when the Customer acknowledges (which may be done by electronic means) the receipt of the signed copy of this letter from the Supplier within two (2) Working Days from such receipt

For and on behalf of the Supplier:

Name and Title: [redacted]

Signature: [redacted]

Date: 20 September 2021

For and on behalf of the Customer:

Name and Title:

Signature [redacted]

Date: 24/09/2021

APPENDIX A

Customer Project Specification

1. Background

Green Gas Support Scheme

Decarbonising heat is one of the biggest challenges we face in meeting our climate targets. Currently heating is responsible for a third of the UK's greenhouse gas emissions. The Green Gas Support Scheme represents one part of a much larger package of actions outlined in the Energy White Paper, which will see the UK leading a clean energy transition and ensuring that we build back greener.

Following on from the Renewable Heat Incentive, the Green Gas Support Scheme (GGSS) aims to increase the proportion of green gas in the grid, through support for biomethane production and injection by the process of anaerobic digestion (AD). Scheme participants will receive tariffed-based support for a period of 15 years based on volumes injected. Biomethane injection into the gas grid is a low-regrets, cost-effective way of contributing to near term legally binding carbon budgets, decarbonising our gas supplies and contributing to the UK's target to achieve net zero greenhouse gas emissions by 2050. The Committee on Climate Change (CCC) state that biomethane will be valuable across all decarbonisation pathways, as it is a practical and established way of reducing carbon emissions.

The GGSS is funded by the Green Gas Levy. The cost of the levy is expected to be passed on to consumers by gas suppliers. We expect costs to be relatively low, starting at approximately £1.40 at the beginning of the levy, before peaking at approximately £4.70 on an annual gas bill for an average household by 2028, assuming a transition to a volumetric levy.

As part of the biomethane production process, AD also produces digestate. It is a nutrient rich by-product that can be used as a fertiliser. Used like this it has many benefits but it also releases ammonia when stored or spread on land. It can lead to water pollution if it is over-applied or used in the wrong place or at the wrong time. It also has wider impacts, including on net greenhouse gas emissions.
The GGSS will require participants to cover their digestate storage when storing on-site and use low emission spreading techniques when applying to land (either themselves or through a contractor), mitigating some of the harmful impacts from digestate that negatively affect air, water and soil quality (see below).
As part of the monitoring of the scheme's progress, the Government has committed to reviewing some of its eligibility and sustainability requirements mid-way through the scheme, including how participants manage the harmful impacts of digestate. Depending on the outcome of this study, this may include adding to the existing requirements (covers and low emission spreading) or replacing those with a more effective technology or process. The study may also have a bearing on any future support for biomethane production for the purposes of heat generation after the GGSS closes to applications in 2025.
In either case, as a tariff-based support mechanism that is funded by billpayers, it is vital that any change to eligibility or sustainability requirements sufficiently reduces the harmful impacts of AD in a cost-effective way and represents good value for money. It is also crucial that any changes do not negatively impact on the scheme's ability to encourage AD deployment or innovation in the market.

Environmental Impacts/Defra targets

Defra's 2019 Clean Air Strategy sets out the comprehensive action required across all parts of Government to improve air quality. The Strategy focuses on the 5 most damaging air pollutants, including ammonia. Emissions of ammonia fell by 13% between 1980 and 2015. However, since then there has been an increase in emissions, largely as a result of fertiliser use. The Strategy's aim is to reduce emissions of ammonia against the 2005 baseline by 8% by 2020 and 16% by 2030.

The UK government has legally binding targets to reduce ammonia emissions as well as a target to reduce nitrogen deposition in England. Ammonia emitted throughout the digestate lifecycle, in particular once it has been spread to land, accounts for an

increasing amount of UK ammonia emissions, and biomethane plants are a subset of all AD plants. Therefore, to maximise carbon savings on the scheme we need to consider all viable ways to mitigate ammonia produced.

Ammonia also has wider impacts, including on net greenhouse gas emissions. It is toxic to some plant species even at low concentrations and sensitive species are currently being impacted by ammonia concentrations across large parts of the UK. Ammonia deposition also leads to biodiversity loss in sensitive habitats, including peatland, an important carbon sink. Most of the UK's protected habitats are currently receiving excessive nitrogen and any increase in ammonia emissions will worsen this situation.

Defra have legally binding targets both in the 25 Year Environment Plan and in the forthcoming Environment Bill to restore water quality. There are further environmental concerns relating to digestate, including the risk of nutrient (included nitrogen, such as ammonium-N, and phosphate) leaching and run off causing harm to water quality, when not applied in line with best agricultural practice, and increased nitrogen deposition on nearby sensitive habitats. Furthermore, contamination in feedstocks can lead to plastic pollution on the land the digestate is spread on.

Current UK fertiliser legislation regulates market access for predominantly conventional mineral or inorganic fertilisers, therefore digestate is currently unregulated by Government. Compositional standards are also lacking: about 50% of fertilisers currently used are organic (derived from living matter) and can contribute to circular economy ambitions or are based on innovative and less polluting processes for improving crop productivity, but these are all currently unregulated and may contain, for example, microorganisms, heavy metals or microplastics. Legislation for the manufacturing and marketing of fertilisers is being updated, bringing a wider range of products into scope, including digestate, and embedding consistent standards into production and marketing rules.
It is essential that any future changes to the GGSS through the mid-scheme review helps to minimise the harmful impacts of digestate described above, not only ammonia emissions that impact on air quality but also leeching into local water sources and address contaminants such as microplastics making it to land via the spreading of digestate.

2. Aims and Objectives of the Project

The aim of this technoeconomic study is to identify suitable technology for mitigation of ammonia emissions and other environmental impacts of digestate, and to quantify the mitigation and costs associated with such technologies. This means developing understanding of the active players in this field, how their technologies work, their level of progress, their effectiveness and costs.

To maximise carbon savings on the GGSS and future support mechanisms for biomethane production from AD we need to consider viable ways to mitigate the associated ammonia emissions and other environmental impacts. There is an option to include further ammonia mitigation measures mid-way through the scheme, should a viable option be identified. Any future policy to support impact mitigation technology will require robust costing information that can be used to assess value for money of carbon savings. This is essential for consideration by HMT on any future support mechanism that relies on taxpayers or billpayers money to fund it.

Developing a deep understanding of the costs and trade-offs involved and the ability to mitigate environmental impacts will be crucial to decisions making at the mid-scheme review for the GGSS (see above) and ensuring that the necessary evidence is available for consideration for future, similar schemes.

The study should seek robust evidence to quantify any national-scale soil carbon benefits from digestate use compared to the counterfactual use of AD feedstocks.

The research questions this project aims to answer are:

1. What are the technologies that can mitigate environmental impacts from AD digestate?
    1.1. What technologies can mitigate ammonia emissions to land, air and water from AD digestate?
    1.2. What technologies can mitigate other environmental impacts (e.g. plastics pollution, fugitive methane) from AD digestate?
    1.3. What technologies can help valorise digestate to improve its potential as fertiliser/ bio-feedstock?
2. How effective is each technology at reducing emissions and at what cost?
    2.1. What is the cost per amount of impact mitigated?
    2.2. What is the cost added to the biogas production?
3. Which technologies are most suitable to be incorporated in the GGSS?

3. Suggested Methodology

Task 1: Characteristics of AD digestate impact mitigation technologies
This task will undertake a desk-based literature and market review to identify and characterise technologies that mitigate impacts from AD digestate beyond the current regulatory baseline. Sources will include academic literature, grey literature and market contacts. The technologies should cover options to remove the impact altogether for example; removing ammonia from the system, to chemically alter ammonia to reduce its potential to volatilise, to reduce emissions during storage and during digestate spreading in farms. They should also cover technologies that can reduce plastics and other barriers to digestate use and application. Characteristics should include technical background, TRL, deployment etc.

Task 2: Ammonia Mitigation Technoeconomic analysis
This task will quantify the costs of different technologies using available data from academic literature and, possibly, stakeholder engagement drawing on the stakeholders responding to the GGSS digestate management consultation. The data collected would include cost and emissions reduction relative to reference emissions. The cost will then be quantified as a function of ammonia emission abatement and biogas production to investigate the impact on biogas product cost. Case studies of the technologies should be developed where informative.

Task 3: Recommendations
A synthesis of the qualitative and quantitative analyses preceding this task. This would result in a prioritisation of technologies by cost effectiveness, emissions abatement potential, deployment potential and other factors. A final recommendation would be made whether these technologies can be included as a requirement for the GGSS and, if so, which one.

4. Deliverables

Outputs:

1. A literature and market review of different technology options that meet the mitigation scope. For each technology, this should include details of:
    a. Background
    b. Current Technology Readiness Level and ongoing progress in development
    c. Current deployment (UK and non-UK)
    d. Barriers to deployment
    e. Estimated deployment rate
    f. Maximum estimated technically feasible deployment
    g. Ability to address ammonia-related impacts
    h. Ability to address other environmental impacts, trade-offs, or pollution-swapping
    i. Any other relevant considerations (e.g. UK production capability; safety)

    This means it will be important for the researcher to have knowledge of the AD industry in Great Britain (though the research may require looking at available technologies overseas) and those that develop technologies in this space. Case

Studies of where these technologies have been deployed with quantitative information on performance and economics should form part of this review.

This output will take the form of an interim report, not to be published.

2. Technoeconomic analysis of these technologies in small, medium, and large-scale operations. This should include:
    a. Quantification of environmental impact mitigation.
    b. Cost in terms of per unit of biomethane production (or other factors suitable for subsidy calculation in the Green Gas Support Scheme or future biomethane production support mechanisms).
    c. Cost in terms of impact abated.
    d. Value for money comparing abatement cost with pollutant damage cost where available.
    e. Where possible, consider the technologies' ability to add value to the digestate product itself

    This output will take the form of an interim report, not to be published. It will also include underlying data in a separate spreadsheet.

    The technoeconomic model should follow standard BEIS model QA procedures and, if possible, templates.

3. Recommendation for the most appropriate technology (prioritising cost-efficiency first, then removal of ammonia emissions to air, then overall environmental protection).

    This output will take the form of a final, quality-assured report, to be published.

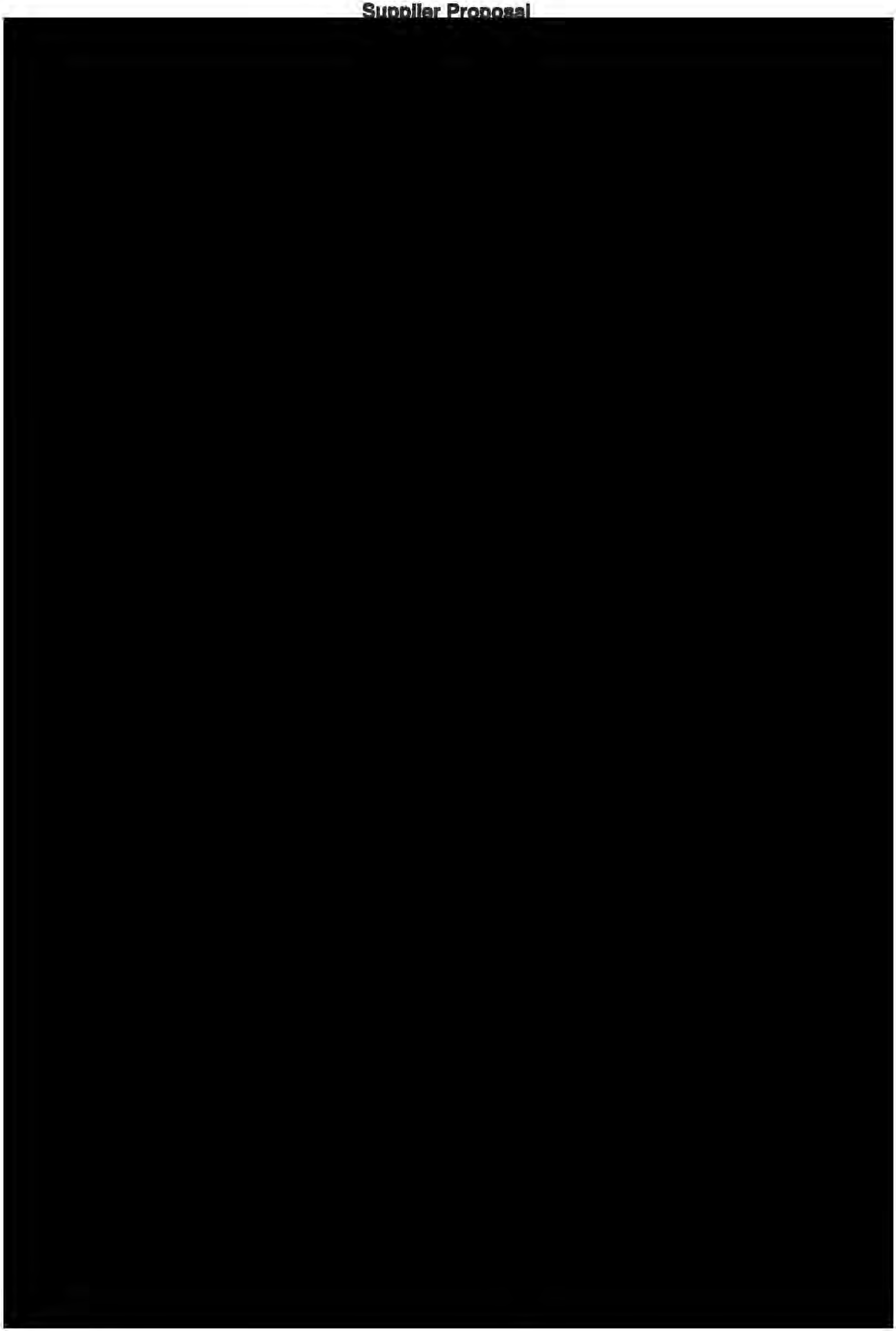
The bidders should commit to providing regular updates throughout the project, at least monthly.

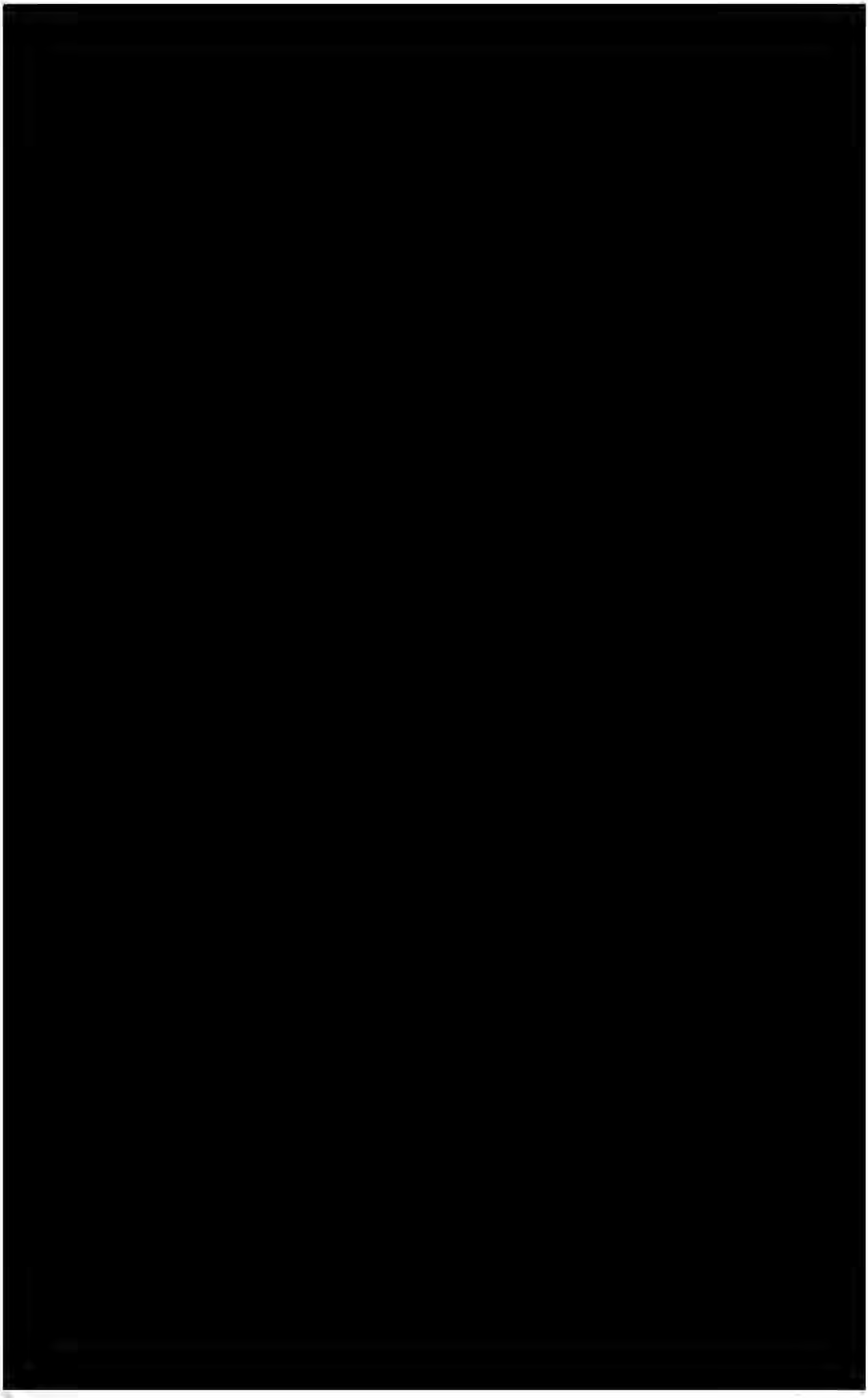
Outcomes:

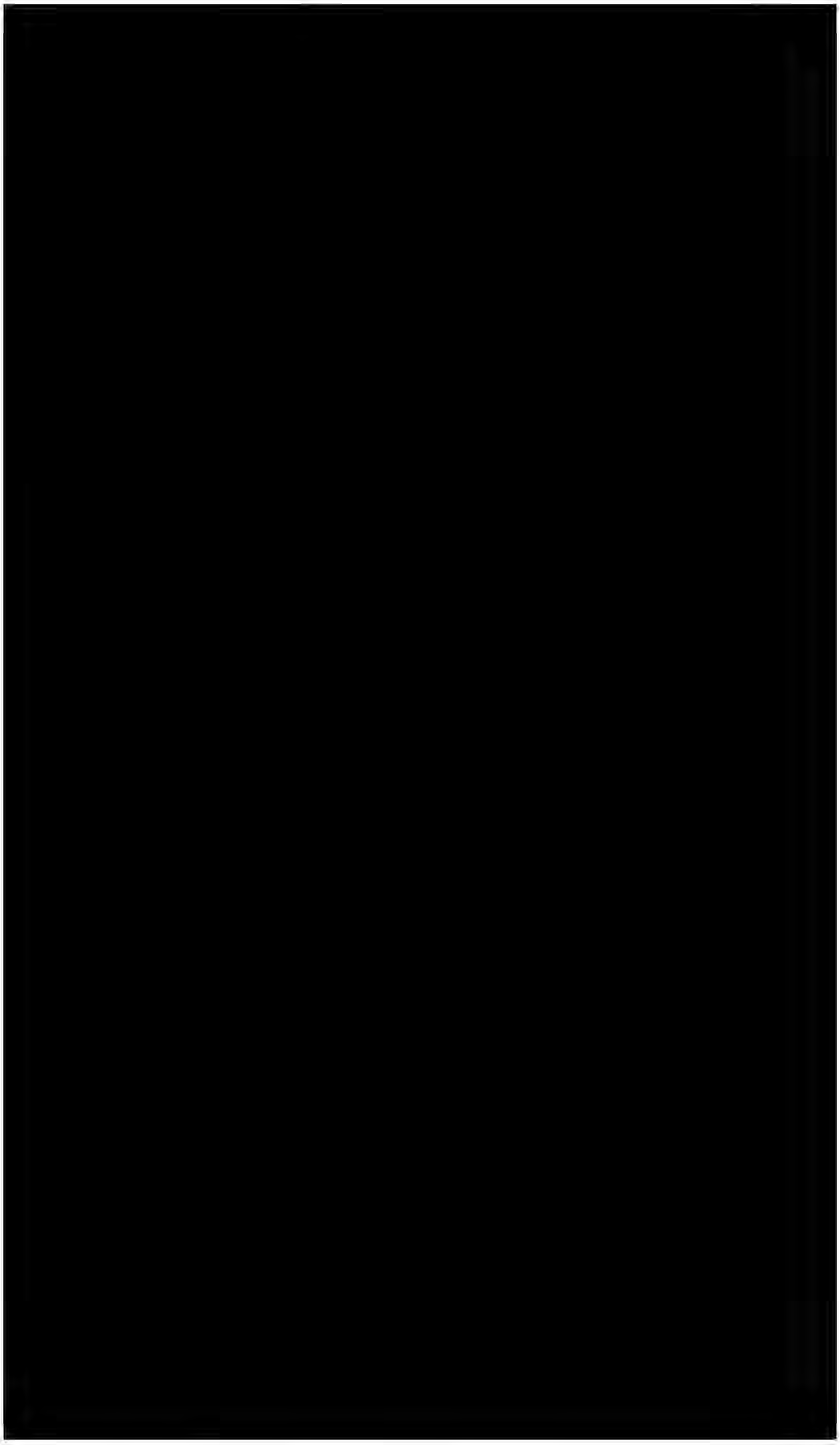
1. Consideration of technologies to mitigate the environmental impacts of digestate, including emissions of ammonia to air as well as soil and water pollution.
2. Robust costings for all technologies investigated to enable consideration of future support policies.

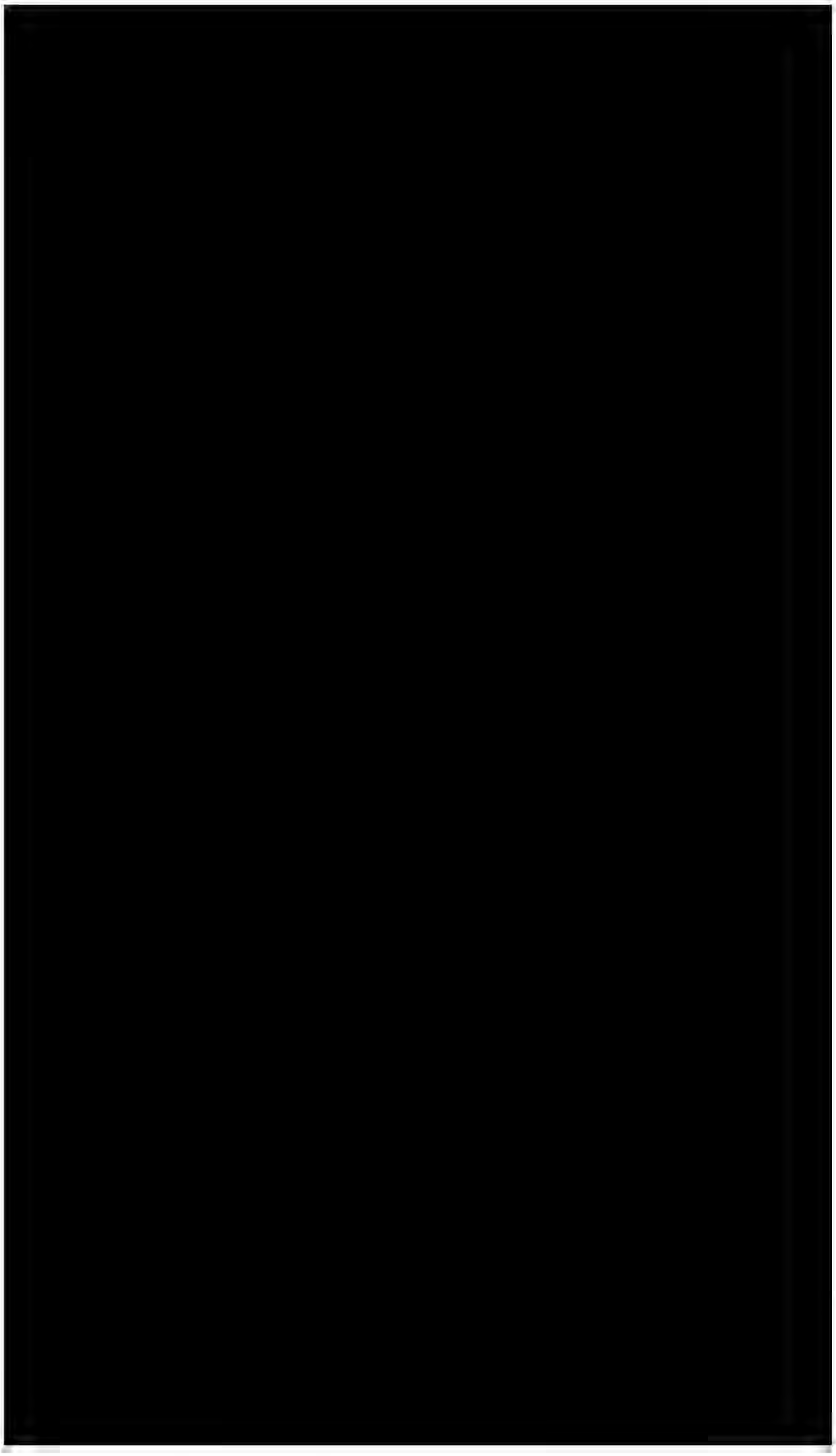
APPENDIX B

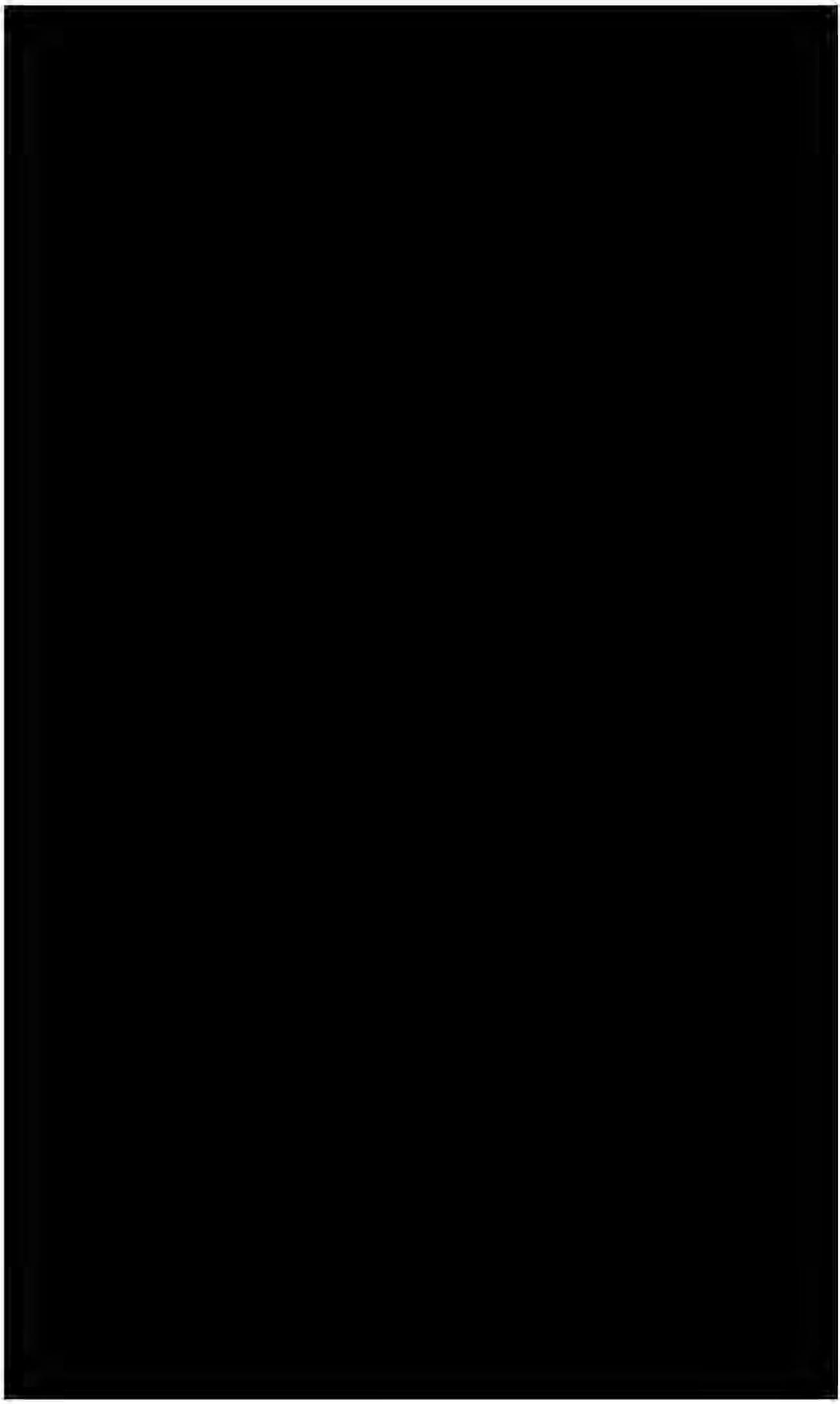
Supplier Proposal

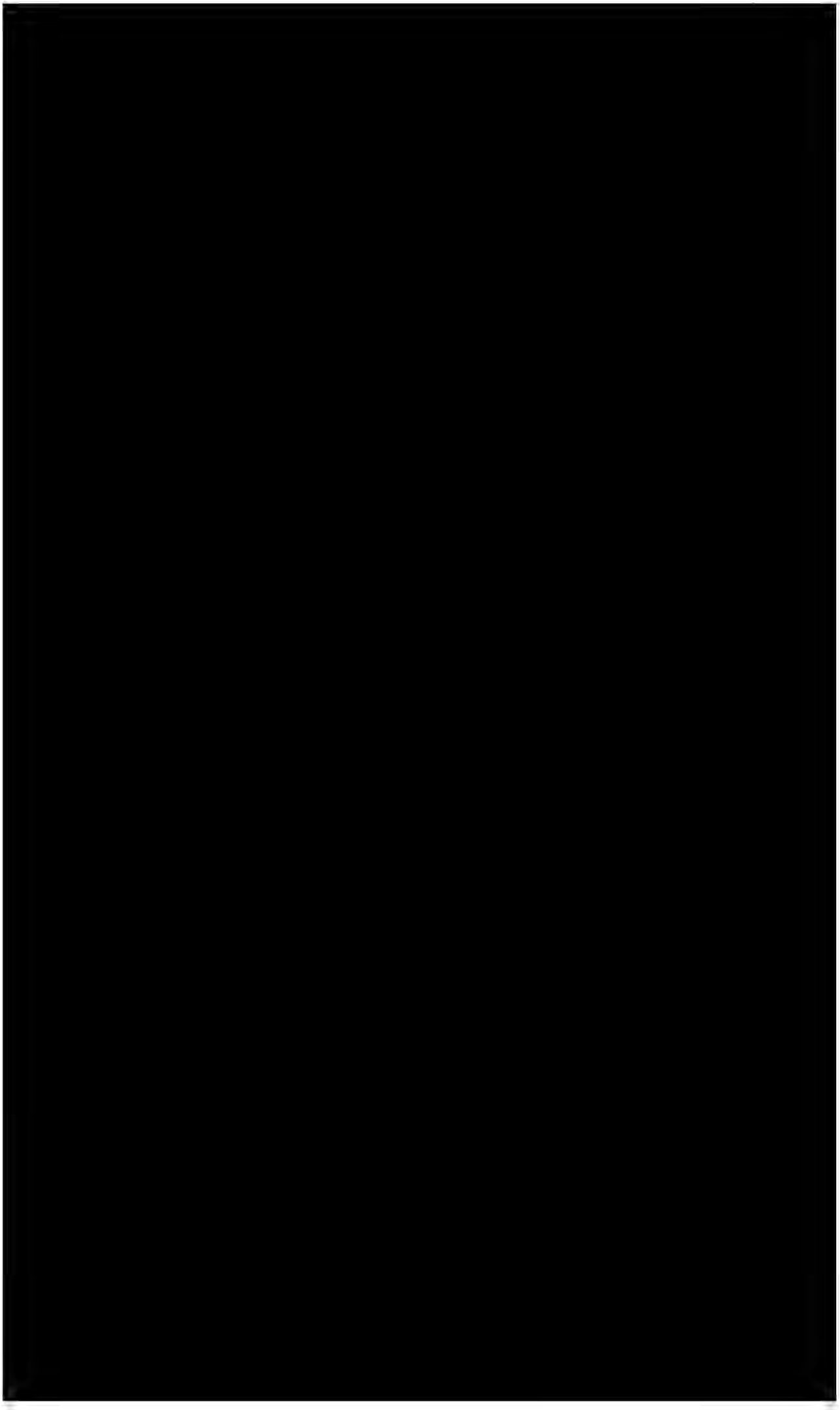


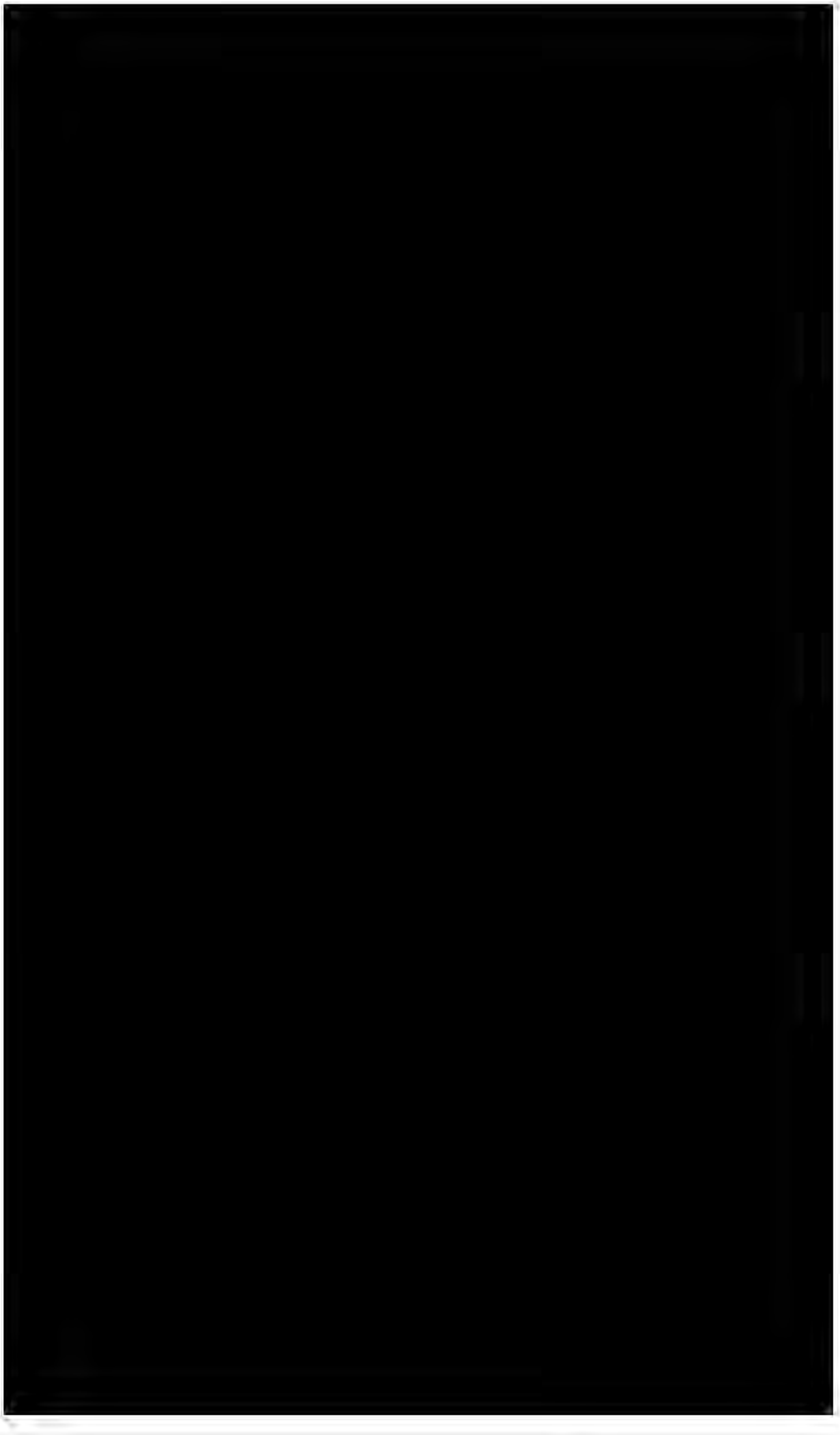


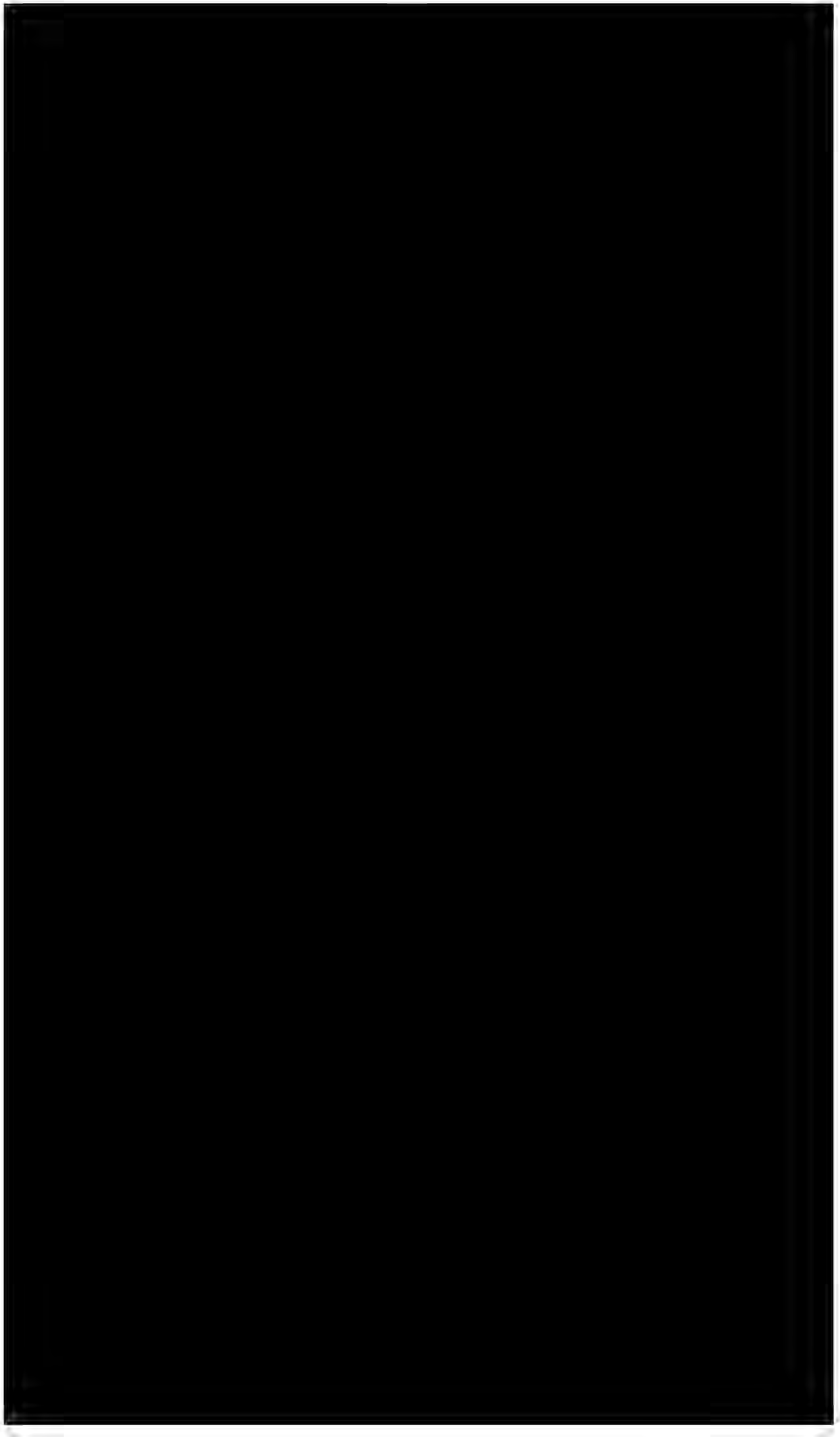


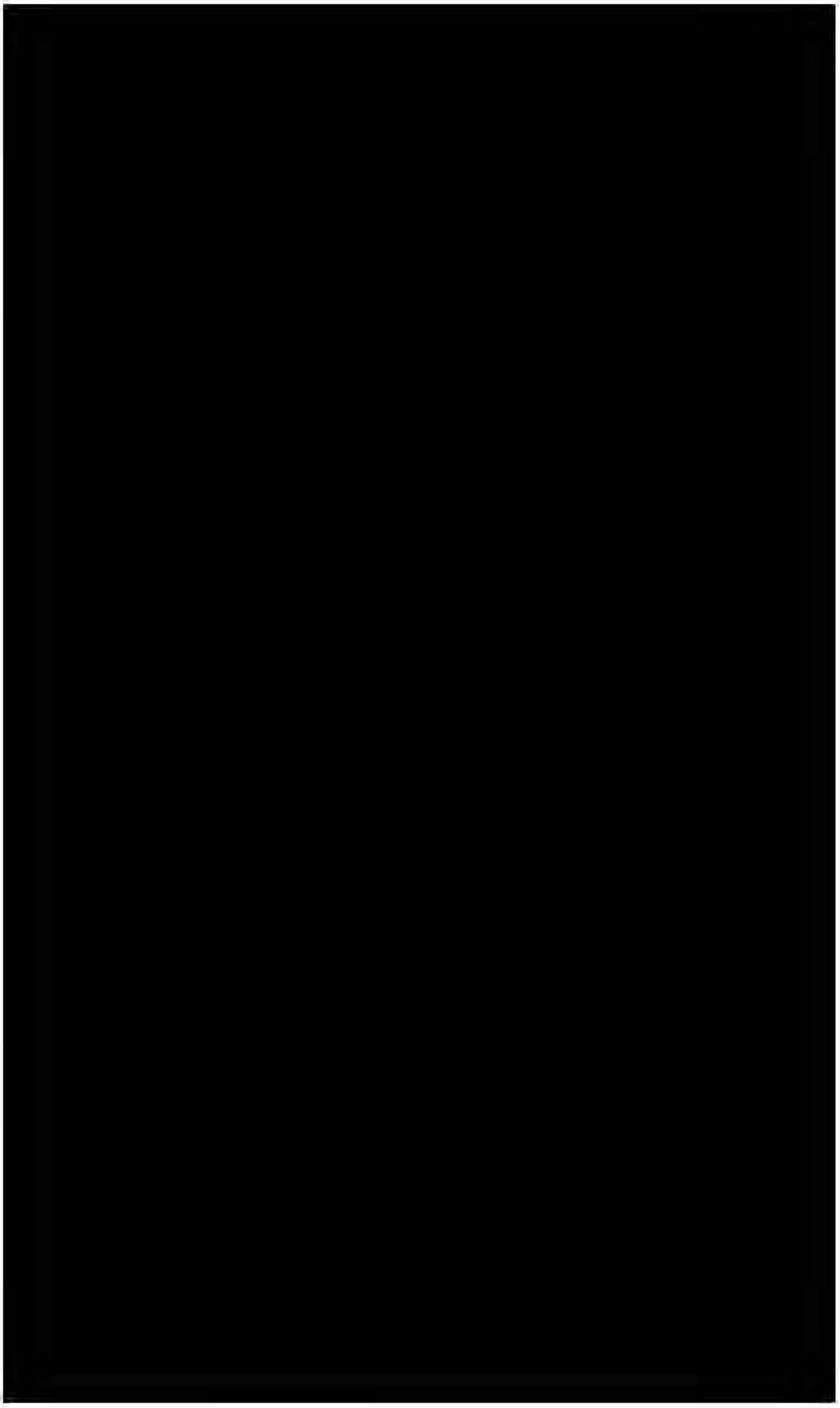


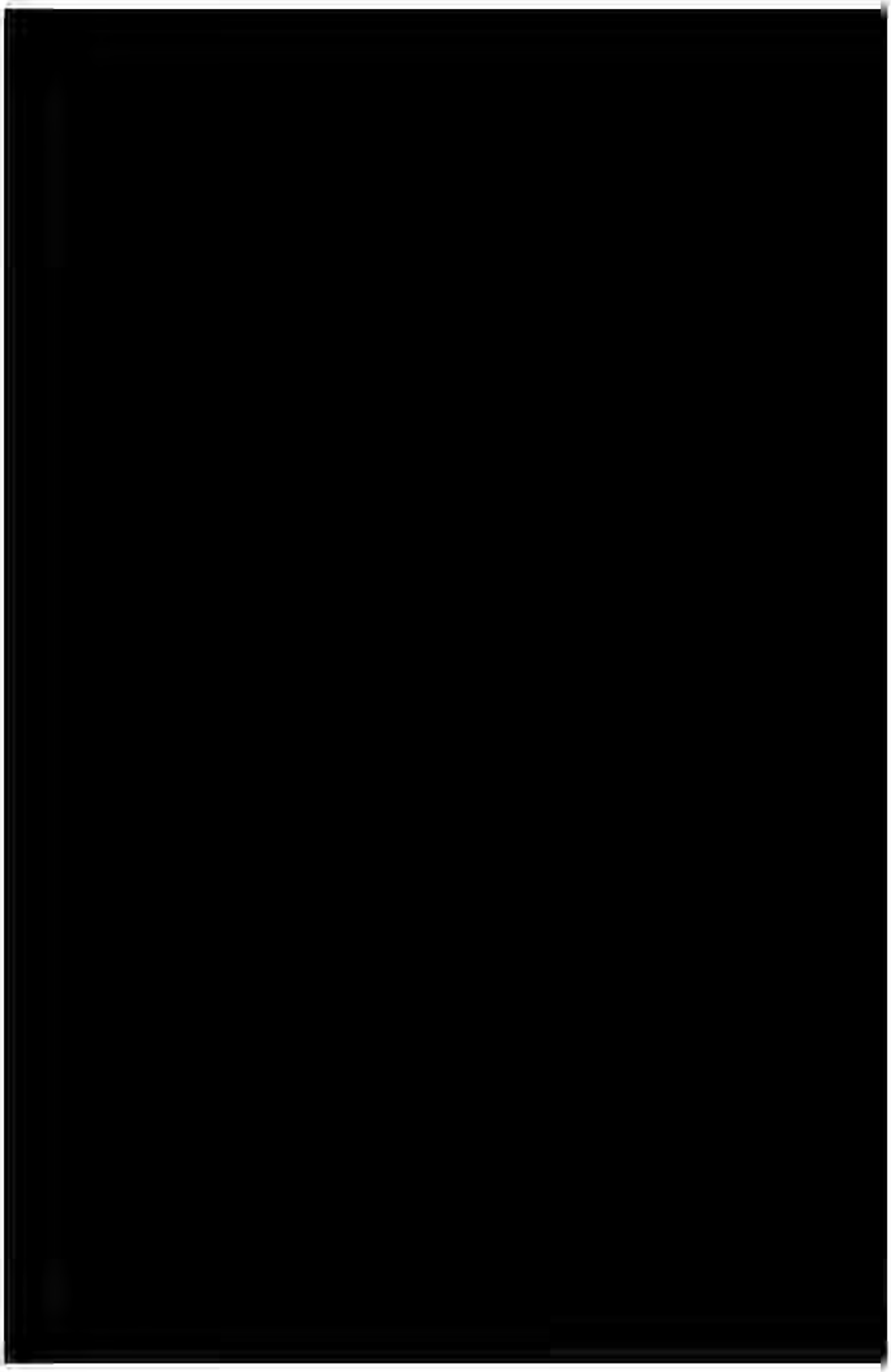


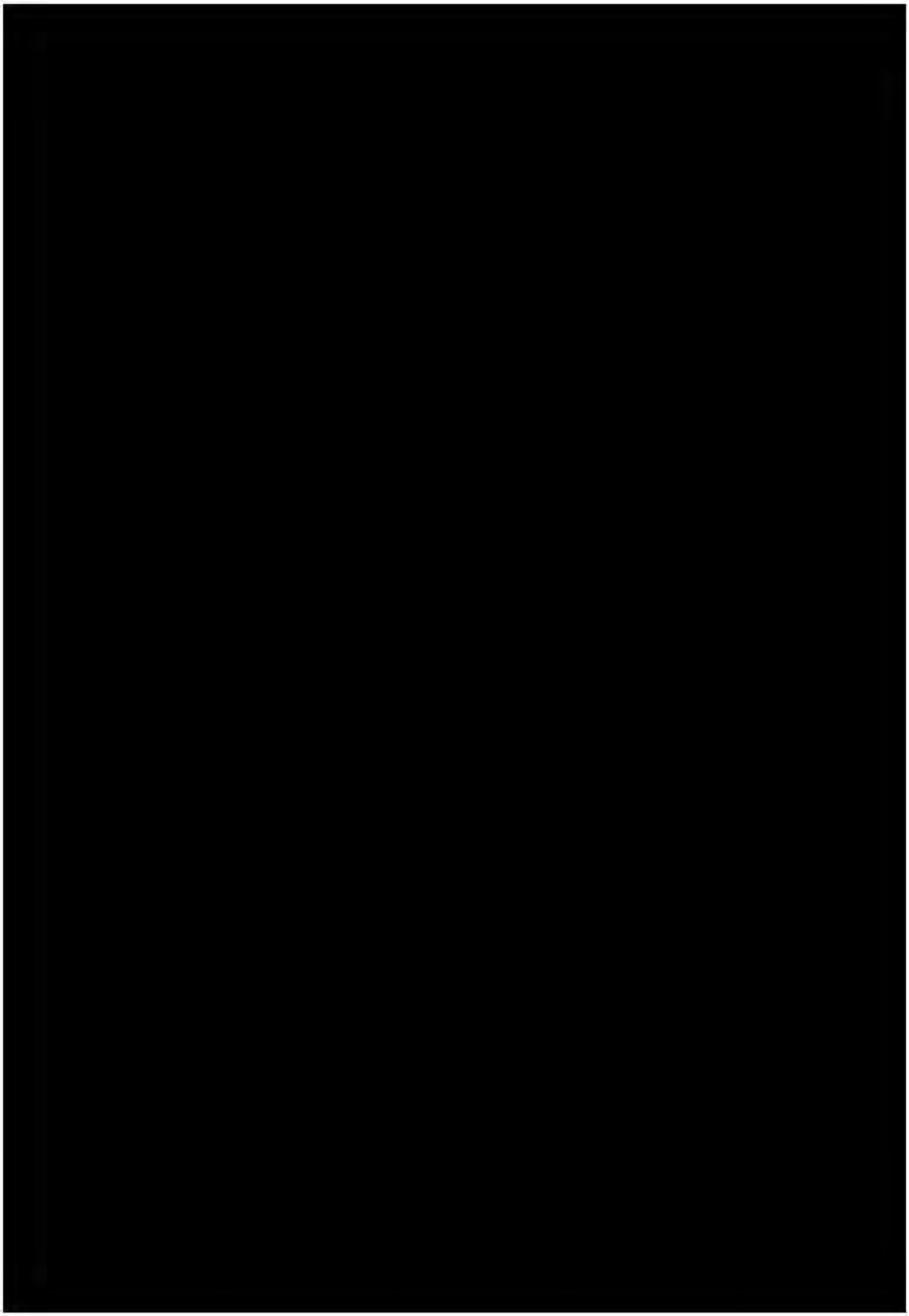












Part 2: Contract Terms

Contract Terms v6.0