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SCOTT COUNTY SOLID WASTE MANAGEMENT

SCENARIO-BASED PLANNING WORKSHOP

March 27, 2017



SCOTT COUNTY SOLID WASTE MANAGEMENT SCENARIO-BASED FUTURE THINK-TANK WORKSHOP

Scott County, Minnesota

This report summarizes the half-day scenario planning session held in Prior Lake, Minnesota, on March 27, 2017. Approximately 18 Solid Waste Management stakeholders and county staff participated in the workshop and developed the scenarios presented in this report. This report has been produced as part of a Scott County Environmental Services Department project, which aims to create greater understanding about the future drivers that affect Solid Waste Management in Scott County.

REPORT PREPARED BY:

future→iQ

WORKSHOP HOSTED BY:



TABLE OF CONTENTS

1.0	Introduction	4
2.0	Stakeholder Surveys	5
3.0	Scenario Planning.....	10
3.1	Scenario-based Planning Workshop	10
3.2	Developing Four Plausible Scenarios for the Future.....	11
3.2.1	Drivers Shaping the Future	11
3.2.2	Scenario Matrix – Views of the Future	12
3.3	Scenario A – High Waste Tough Goals.....	14
3.4	Scenario B – World of Change.....	16
3.5	Scenario C – Community Driven.....	18
3.6	Scenario D – Status Quo	20
4.0	Preferred and Expected futures	22
5.0	Next Steps	23
6.0	About Future iQ	25
7.0	Scott County Environmental Services, Minnesota.....	26
8.0	Acknowledgments	26



1.0 INTRODUCTION

The scenario planning work presented in this report was conducted as part of a Scott County Solid Waste Management project. The Scott County headquarters is located in Shakopee, Minnesota.

The components of this planning work included pre-Think Tank surveys, long-term Scenario Planning, and discussion about preferred futures.

- **Pre Think-Tank Surveys** – A survey was sent to invited participants of the scenario-planning workshop, and this input, along with assistance from County staff helped to create the axes of the scenario matrix and guide the workshop discussions.
- **Scott County Waste Management Future Think-Tank Workshop** – The scenario-based planning workshop held on March 27, 2017, provided an important opportunity to engage waste management professionals in a critical dialogue about the future and changing dynamics of solid waste in Scott County.

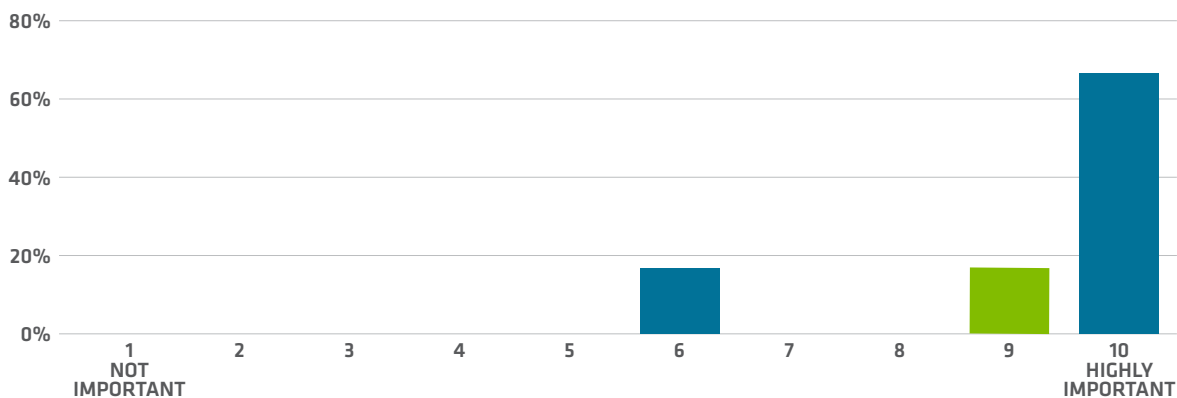




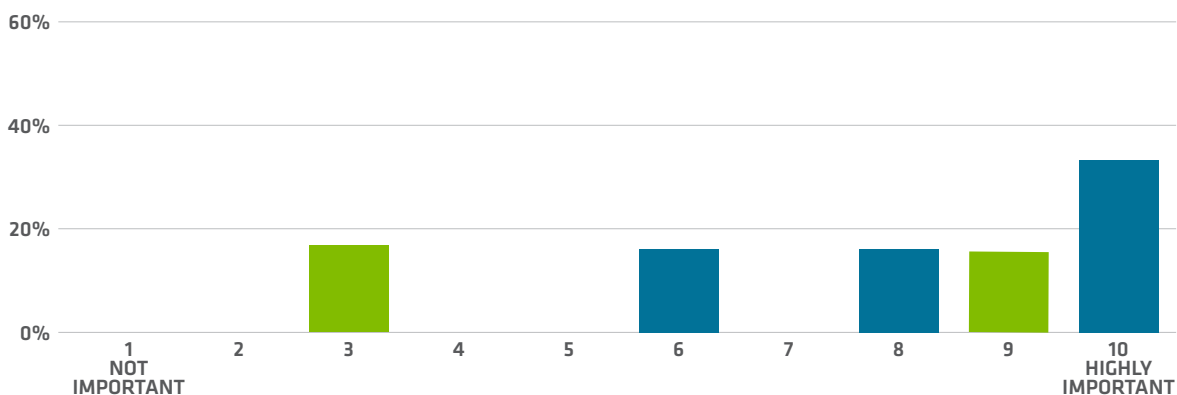
2.0 STAKEHOLDER SURVEYS

Prior to the planning workshop, surveys were conducted. Workshop participants were asked about their views on having a shared vision for the future of Solid Waste Management in Scott County. The following graphs shows a high level of importance placed on having a long term plan for Solid Waste Management in Scott County, and the importance of using the plan in decision-making.

How important do you think it is to have a long term plan for Solid Waste Management in Scott County?

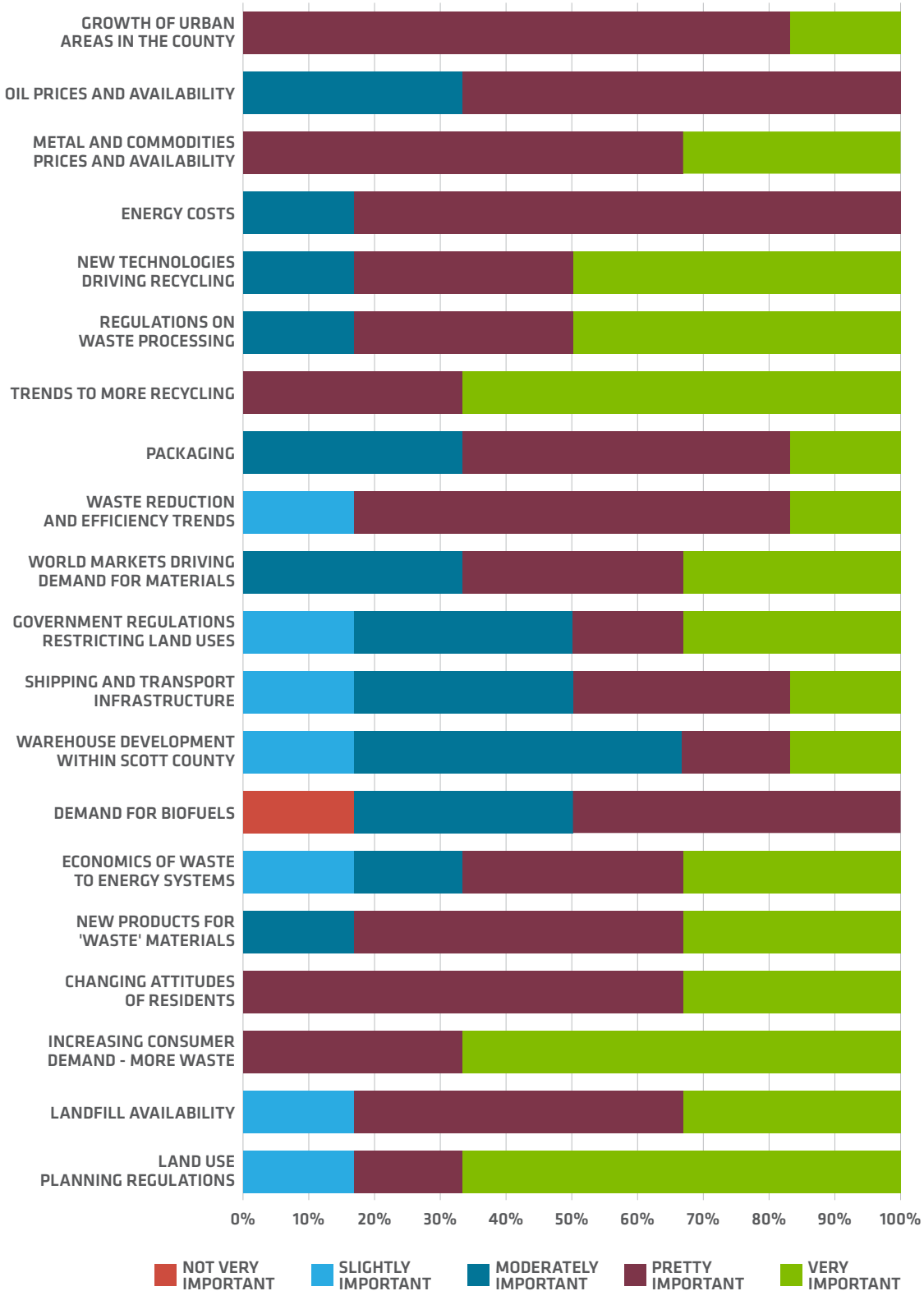


How important will a long term Solid Waste Management Plan be in making decisions for YOUR business or organization?



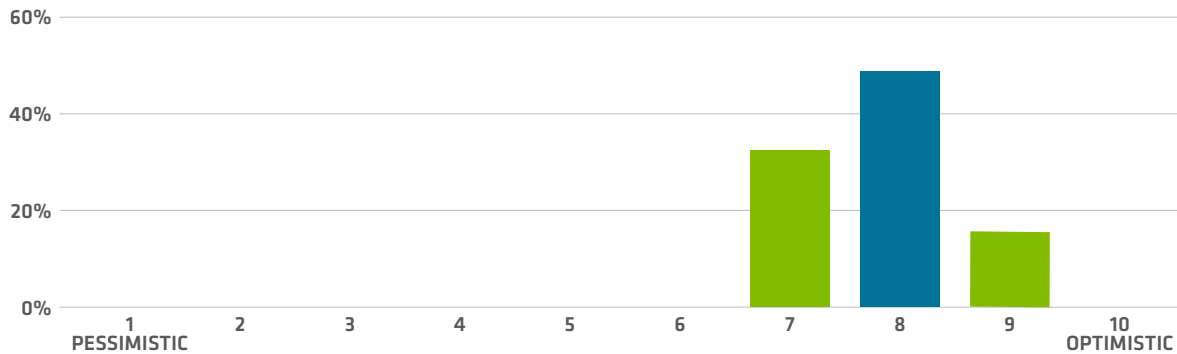
Survey respondents were requested to indicate the importance of the following 'drivers of change' as they relate to shaping Solid Waste Management in Scott County over the next five years.

For the following 'drivers of change' rate how important they are to shaping Solid Waste management in Scott County over the next 5 years.



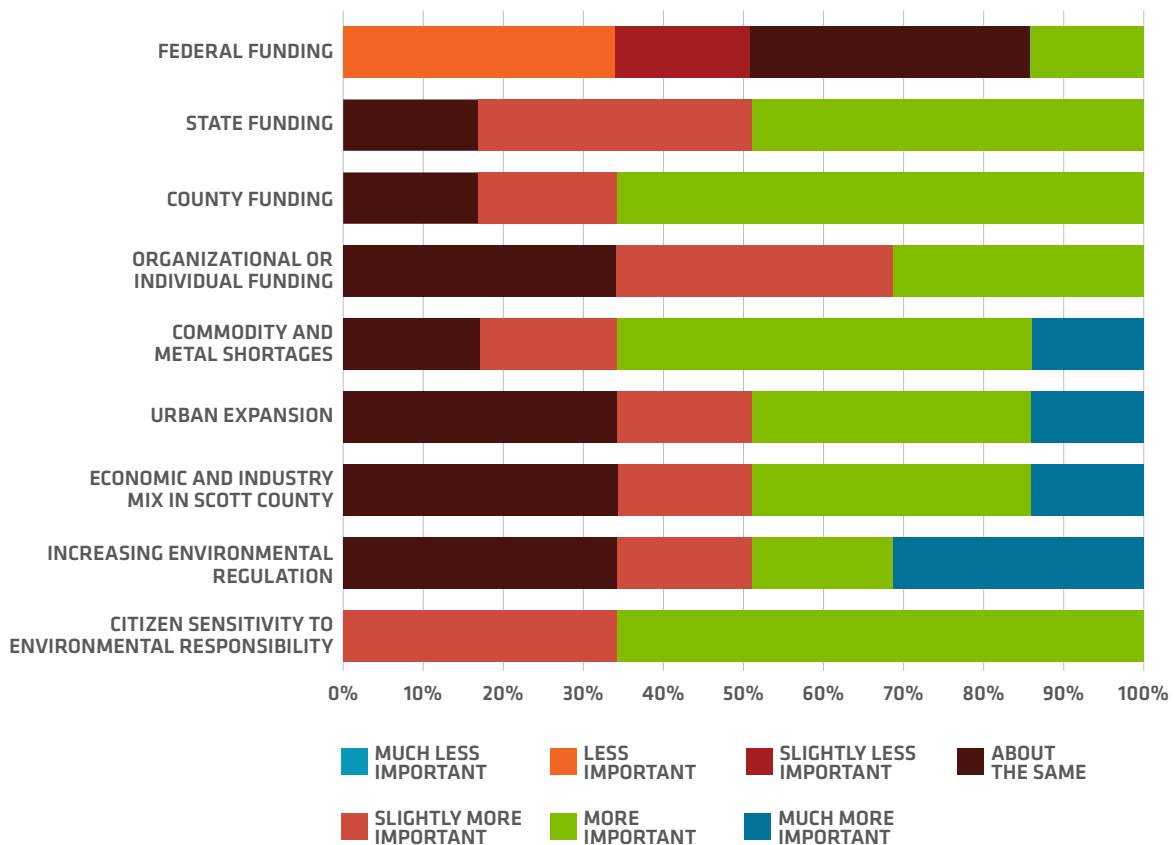
Survey respondents were asked to rate the future prospects for good Solid Waste Management in Scott County over the next 5-10 years.

How would you rate the future prospects for good Solid Waste Management in Scott County over the next 5-10 years?



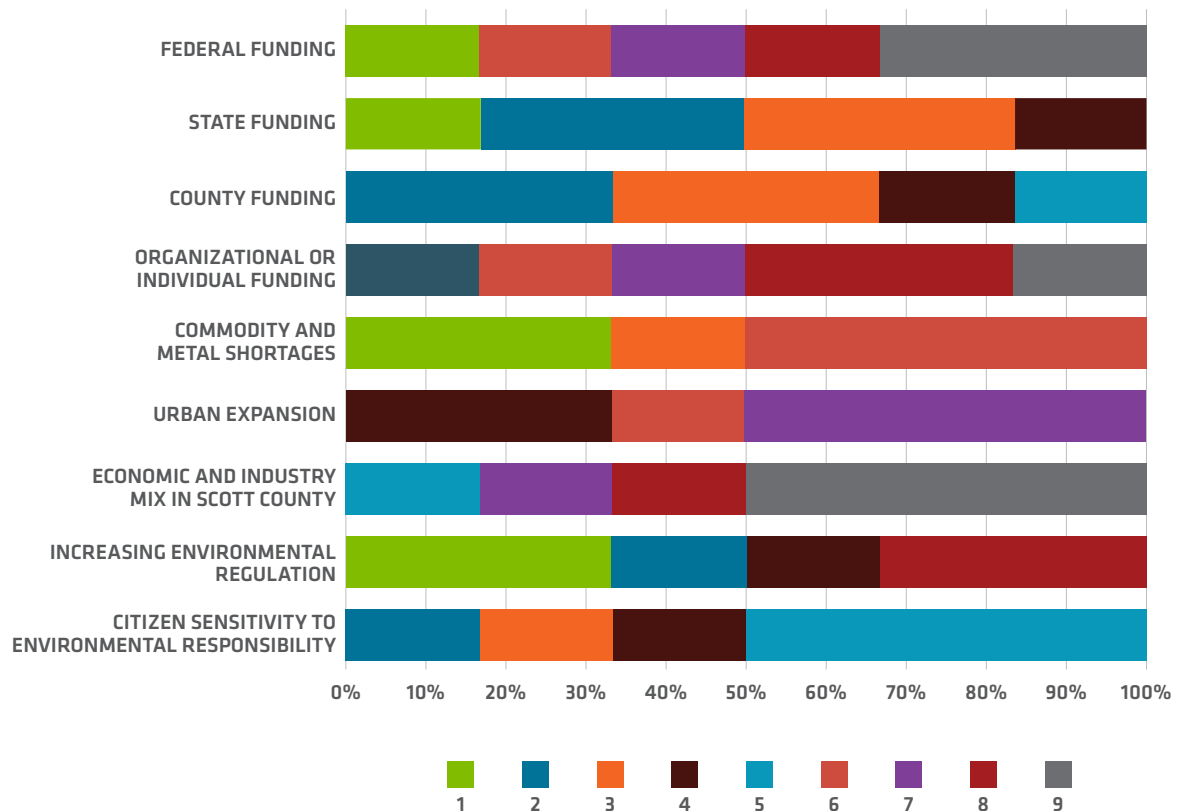
Survey respondents were asked to rate the importance of the following in terms of their impact on Solid Waste Management in Scott County over the next 10 years.

In terms of their impact on Solid Waste Management in Scott County, how do you think the following will change in importance over the next 10 years?



Survey respondents were also asked to rank what they believed to be the relative importance of the following issues in terms of their impact on Solid Waste Management in Scott County over the next 10 years.

In terms of their impact on Solid Waste Management in Scott County, rank what you believe will be the relative importance of these issues over the next 10 years. (1 = Highest important rank; 8 = Lowest importance rank)



Survey respondents were asked to describe what they thought were the most important unrealized opportunities for Solid Waste Management in Scott County over the last 5 years. Unrealized opportunities included:

- Business recycling and organics use
- Public/private partnerships
- Institution of legislation/regulation
- Making the connection with public health and the community
- Incentives for businesses/schools/residents to recycle more and waste less
- Addition of a County Environmental Charge
- New technologies

Survey respondents were also asked to describe what they thought are the biggest threats and the biggest opportunities facing Solid Waste Management in Scott County over the next 10 years.

Potential threats included:

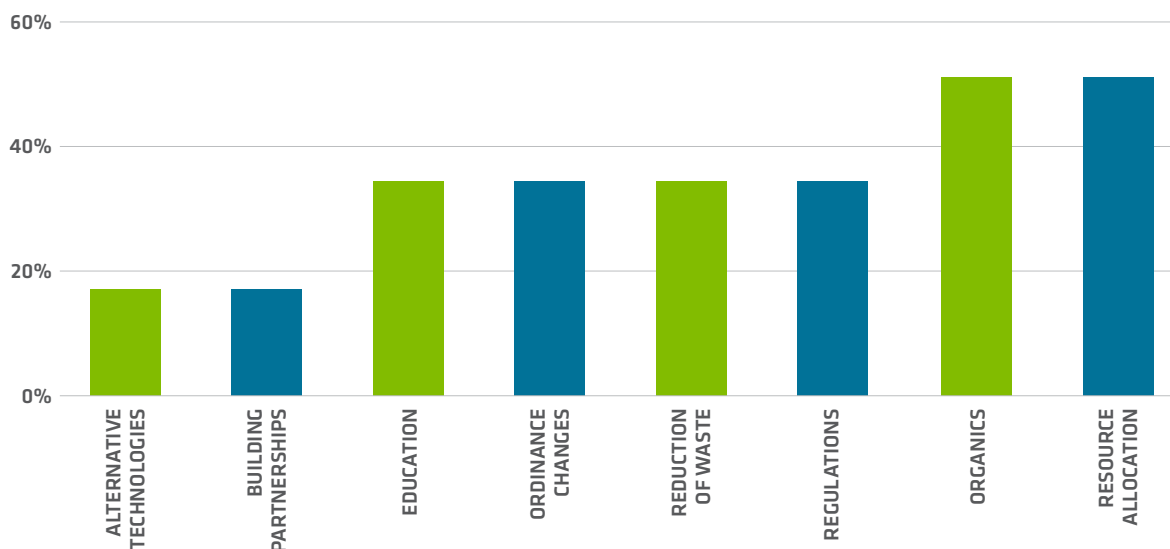
- Expanded regulations and costs as compared to subsidies and citizen interest in doing more
- Economics of recycling - demand for recycled materials and 'not in my backyard' mentality
- Resistance to change
- Loss of landfills
- Constant changes in commodity markets
- Difficulty with educating consumers and producers of waste
- Lack of feelings of environmental responsibility, and ownership and public awareness
- Not enough funds to offer assistance / affordability
- The market advantages of landfilling

Potential opportunities included:

- Education and collaboration efforts with business, county and towns
- Public/private partnerships
- Accumulated funds for use
- Collaboration between other counties and municipalities
- New technologies that will move waste up the hierarchy
- With population growth and more awareness of environmental issues, there is a great opportunity for increased involvement in community and care for the environment
- With decreasing homeownership and increased multi-unit complexes, there is an opportunity to offer sustainable options to a greater number of individuals

In conclusion, survey respondents were asked what they thought were the three most important items to be addressed when considering the future of Solid Waste Management in Scott County.

As we prepare for the upcoming workshop what are the 3 most important items to be discussed when considering the future of Solid Waste Management in Scott County?





3.0 SCENARIO PLANNING

The scenario-based planning workshop was conducted on March 27, 2017, and included invited Scott County Waste Management stakeholders. This half-day workshop was attended by approximately 18 participants. The workshop was intended to assist in the understanding of future drivers that affect solid waste management in Scott County, expectations of the MPCA, and what is wanted locally. Outcomes are intended to include recommendations for program/department updates that will be used to inform the upcoming comprehensive planning process.

3.1 SCENARIO-BASED PLANNING WORKSHOP

The Scott County Environmental Services Department contracted Future iQ to design and deliver a future orientated planning workshop to facilitate the understanding of the future drivers that affect solid waste management in Scott County. Future iQ's Scenario Planning process, provides a method to explore plausible futures, and consider the implications of various future scenarios. This workshop aimed to:

- Deepen the understanding and examination of how external events and local conditions could shape decision-making.
- Identify and understand the key influences, trends, and dynamics that will shape Scott County over the next 10 to 20 years.
- Create and describe four plausible long-term scenarios for waste management in the County.
- Begin exploring alignment around a shared future vision. The scenarios developed during this Scenario Planning process and outlined in this report are important to provide a framework to discuss future possible outcomes and implications. Workshop deliberations can assist in identifying key actions for Scott County and in identifying how various groups might best contribute to future developments. The design of the workshop included a presentation and discussion about key forces shaping the future at both global and local levels. These exercises and work were aimed to build a robust basis for the scenario formulation. Participants were then guided through a Scenario Planning process to develop four plausible scenarios for the future of waste



management in Scott County. The process involved exploration and discussion of global, regional, and local trends and forces of change; development of a scenario matrix defining four plausible scenarios spaces for the future; and, the development of descriptive narratives of each scenario. The event concluded with discussion of the scenarios, selection of a preferred scenario and first steps to determine the strategic actions required to create the preferred scenario.

3.2 DEVELOPING FOUR PLAUSIBLE SCENARIOS FOR THE FUTURE

Scott County solid waste management stakeholders and staff explored the future and developed plausible future scenarios, looking out as far as 2030.

3.2.1 DRIVERS SHAPING THE FUTURE

With the background of the global, national, and regional forces and how they relate to the waste management, participants were invited to respond to a survey prior to the workshop. The survey sought to gain insight into what participants believe to be the key drivers of Scott County waste management services and specifically how to address resource allocation.

Creating scenario spaces – four plausible scenarios for the future

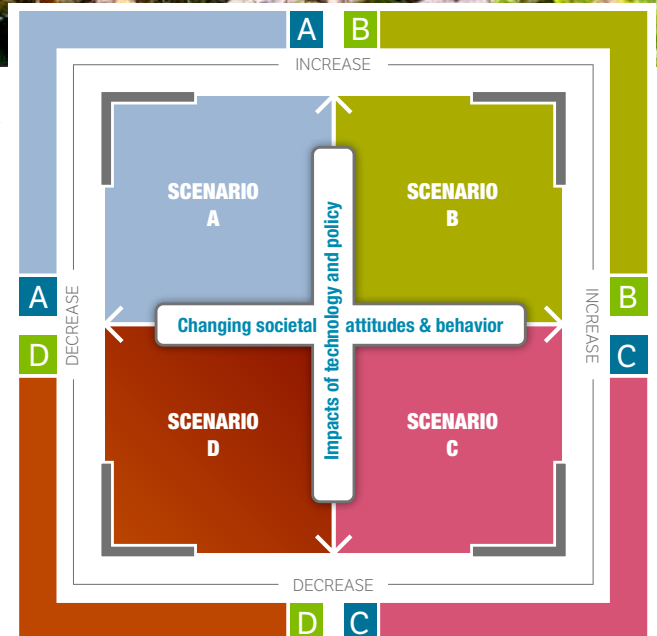
Based on the Pre Think-Tank responses and key input from Scott County staff, themes were identified to become the basis for two axes on the scenario matrix that define four scenario ‘spaces’, with quadrants either towards or away for each driver cluster. These quadrants were used to formulate four plausible scenarios.

The two axes identified were **Changing societal attitudes and behavior** and **Impacts of technology and policy**.

Workshop participants were presented with the scenario matrix, defined by the two major axes of ‘Changing societal attitudes and behavior’ and ‘Impacts of technology and policy’ (see diagram). Brief descriptions were also attached to the end points of each driver axes. While these end points do not necessarily represent two extremes on a linear continuum, they are distinct enough to suggest some degree of separation and a plausible range of outcomes between them. The four quadrants (scenario



spaces) based on different combinations of the two cluster themes, were reviewed and discussed with the workshop participants. This discussion explored the description of the end points included in each scenario space, the possible interaction between these drivers, and how they formed the axes that defined the four scenario spaces. Participants were asked to consider the main attributes of each of the quadrants and to begin to speculate about how changing societal attitudes and behavior and the impacts of technology and policy would look in a future based on each of the quadrants.



3.2.2 SCENARIO MATRIX – VIEWS OF THE FUTURE

Event participants were randomly allocated to one of four groups and asked to formulate a scenario for their respective quadrant. Each group was asked to describe characteristics of the following dimensions of Scott County in 2030 under the conditions of the scenario quadrant that they had been given in terms of the triple-bottom line of social, economic and environmental characteristics:

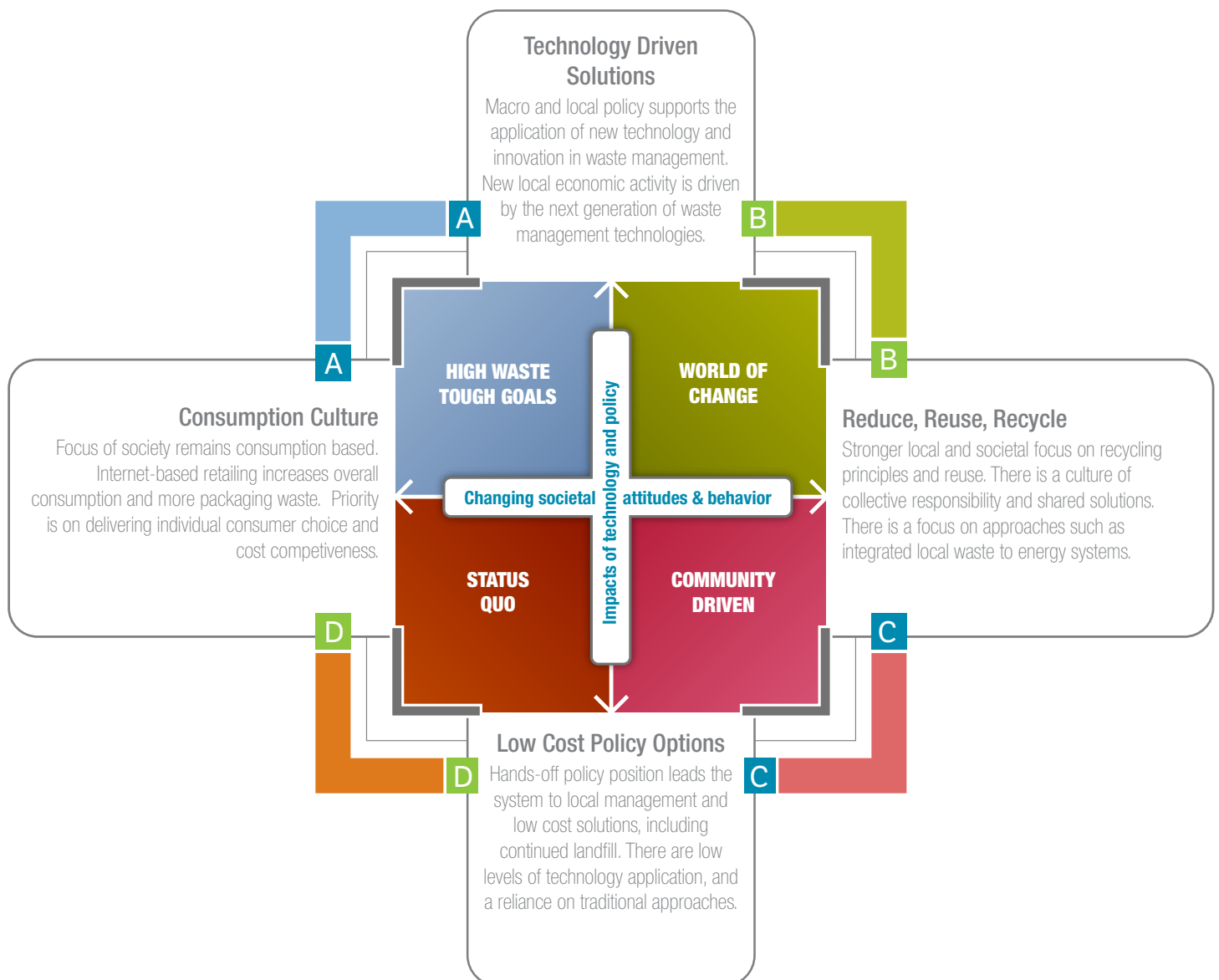
- Consumption patterns and waste types
- Policy setting and application of technology
- Waste management systems being utilized

Additionally, they were asked to devise major events or headlines of how the scenario occurred using the years 2020, 2025, and 2030 and to give their scenario a descriptive name. Once the scenarios had been developed, each group reported back, describing their scenario to the other workshop participants. Each group's notes for their scenario and the description were used to produce the detailed narrative for each scenario. Below is the scenario matrix showing the names of each scenario as described by the workshop participants.

These four scenarios paint very different plausible futures for Scott County waste management. The workshop participants considered them all as largely plausible futures, as in, they could actually happen.



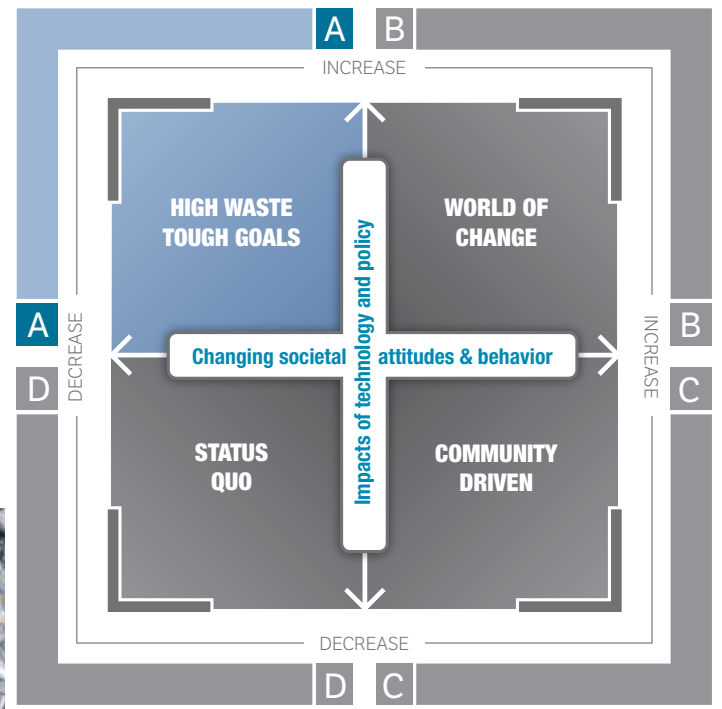
Narratives and descriptions of each scenario, as developed by the workshop participants, are included in the following section. Each scenario has its subsequent consequences and impacts on waste management – impacting the community, services, and organizational fabric in different ways. No one future is the 'perfect' future, as each comes with its attendant challenges and implications. The process, however, does provide a way to tease out the future scenarios and examine them from a speculative standpoint. They represent different possibilities for the future, and are not predictions.





3.3 SCENARIO A – HIGH WASTE TOUGH GOALS

A consumption culture means high levels of individual waste production in the form of consumer items and packaging. Disposal rates are high placing increased burden on waste management systems. As technology capabilities increase, so does the complexity of waste items. New technologies lead to innovative waste disposal methods but because of an uneducated consumption culture, there is little incentive to reduce waste and waste production continues to climb.





SCENARIO CHARACTERISTICS - 2030

Consumption patterns and waste types / Characteristics

- Waste will be cheap, light weight and a lot of waste
- Consumption patterns will grow because it will be cheap

Policy setting and application of technology / Characteristics

- Policy will focus on high tech not more regulation
- High goals in place but at end of life 'landfill, Dirty MRF'

Waste management systems being utilized / Characteristics

- Single sort will be common
- Dirty MRF popular with more automation with high recoverable materials



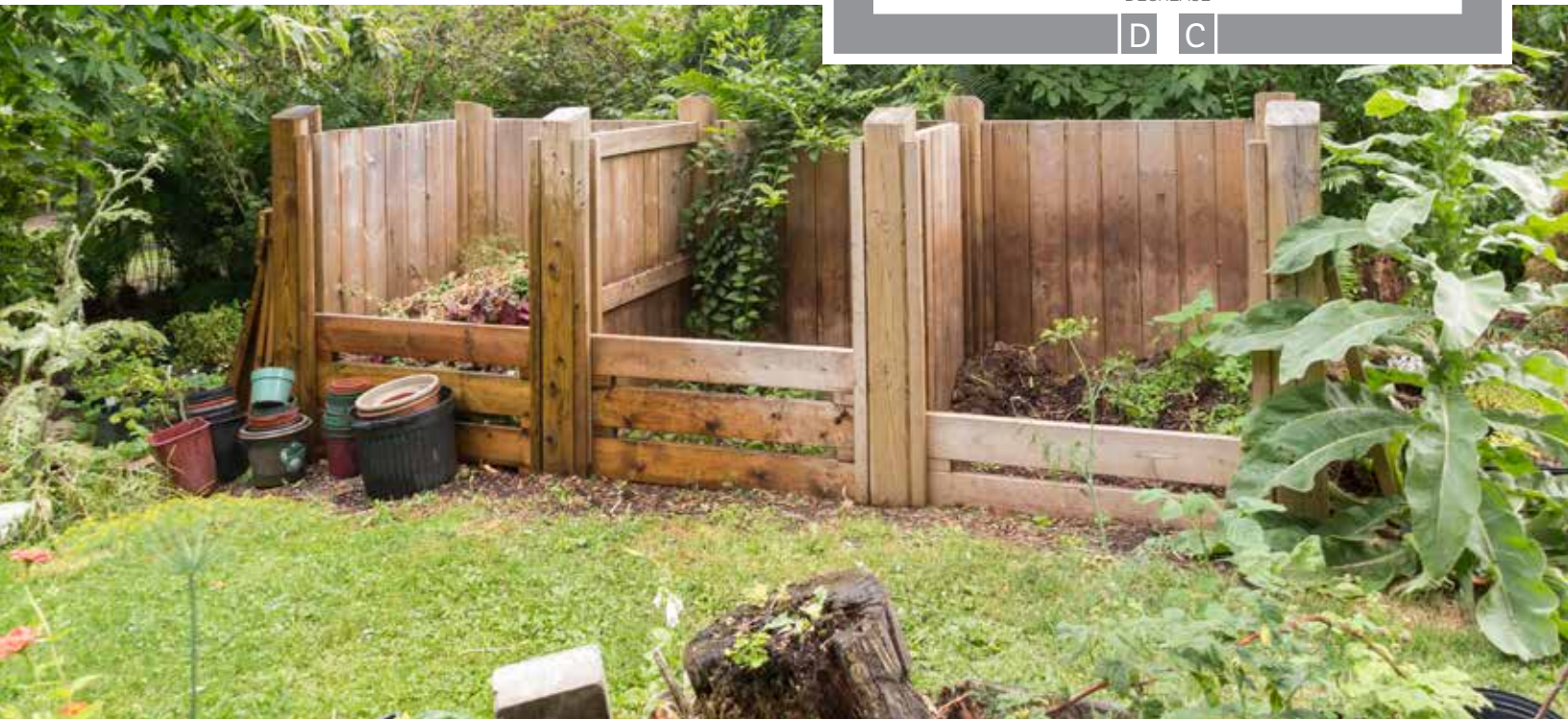
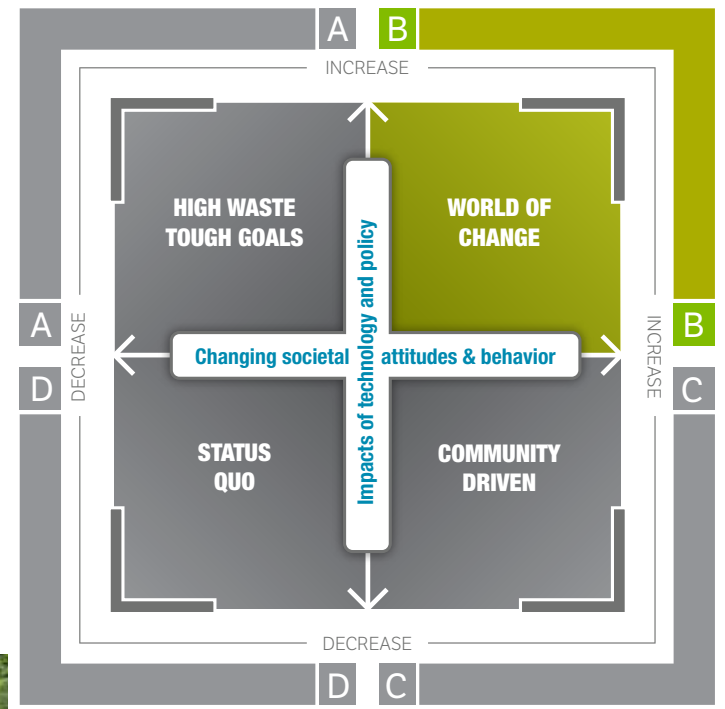
HIGH WASTE TOUGH GOALS - HEADLINE NEWS

	2020	2025	2030
Consumption patterns and waste types	<i>Amazon ships directly more lbs to homes in Scott County</i>	<i>Amazon starts take back program</i>	<i>Scott County waste generation hits all time high Reusable 3D Printers</i>
Policy setting and application of technology	<i>Goals are set by Scott County</i>	<i>Amazon starts take back program</i>	<i>Reduced landfills – mining landfills; high tech dirty MRF</i>
Waste management systems being utilized	<i>Single stream throughout Scott County increase organics</i>	<i>Amazon starts take back program</i>	



3.4 SCENARIO B – WORLD OF CHANGE

New technologies and a collective sense of responsibility towards waste management leads to innovation and integrated local waste energy systems. Education about the impact of human consumption and waste production on the environment influences attitudes and behaviors. Increased use of compostables and organics leads to a strong adherence to recycling principles. A younger generation is more educated and grows up with a collective sense of responsibility towards waste and waste management policies. The exploration and creation of new technologies supporting waste management is supported and funded.





SCENARIO CHARACTERISTICS - 2030

Consumption patterns and waste types / Characteristics

- Compostables
- Lightweighting
- Some reduction
- Focus on organics (local solutions)

Policy setting and application of technology / Characteristics

- Environmental education supportive of waste management
- Public policies that lowers costs of comprehensive processing allows for material quality/marketability
- Economics – adaptable – Public/ Private Partnerships

Waste management systems being utilized / Characteristics

- Sorting system for public & technical sorting system for all waste types
- Commodity focus/benefication for value



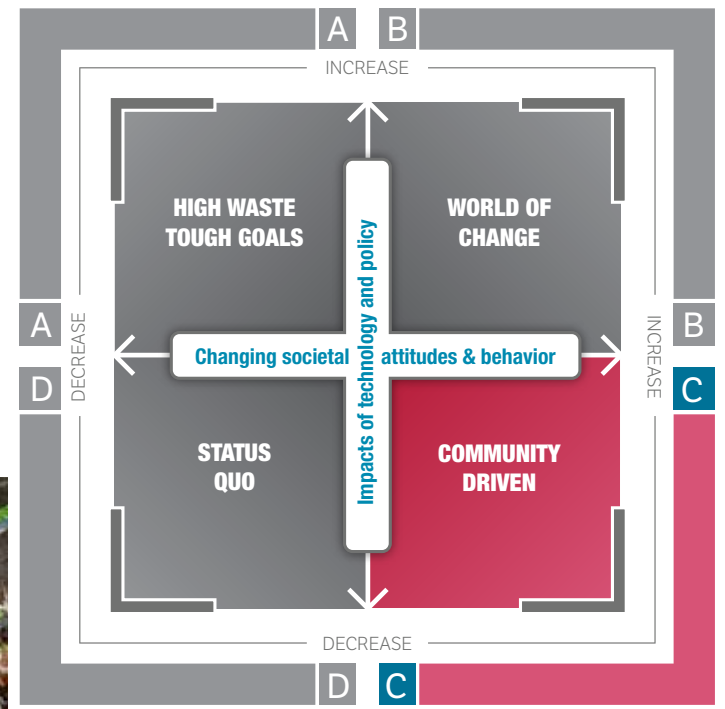
WORLD OF CHANGE - HEADLINE NEWS

	2020	2025	2030
Consumption patterns and waste types	<i>Organic recycling proves to work</i>	<i>Organic recycling adopted countrywide</i>	<i>90% recovery – Reduction of perception</i>
Policy setting and application of technology	<i>Public demand for better results – Economic models</i>	<i>Multi-country waste processing returned approved</i>	<i>Public/BIZ Gen; Collection; Processors; Markets – WM System in Blk.</i>
Waste management systems being utilized	<i>New facts about waste point in new direction</i>	<i>3 new recycling commodity facilities commissioned</i>	<i>Technology has allowed recycling to reach all time high</i>



3.5 SCENARIO C – COMMUNITY DRIVEN

Low regulation leads to a hands-off policy on waste management and counties and municipalities are left to their own devices with respect to waste management. More educated communities seek to reduce and recycle using low cost systems and local production methods; other communities continue to emphasize landfill use. Low levels of technology application encourages the continued use of traditional approaches to waste management.





SCENARIO CHARACTERISTICS - 2030

Consumption patterns and waste types / Characteristics

- Less consumption/more environmentally conscious, more reduce/reuse/recycle
- Changing residential use, change in commercial waste (more farm to table)
- Less commercial waste, less food waste
- Make your own food, less waste, gardens
- More reuse/freecycle market
- Education is cheap, society shift, environmentally sensitive

Policy setting and application of technology / Characteristics

- More community based with less policy, self-regulation, relying on people and not technology
- People choosing services with organics and what haulers offer
- Shift in what haulers offer, more recycling because it is cheaper
- More manufacturing responsibility and opportunity for reuse/recycling/reclaiming materials

Waste management systems being utilized / Characteristics

- More options driven by cities
- More organics drop offs, co-collection (yard waste & food waste)
- Backyard composting
- As population increases, our landfill use stays the same



COMMUNITY DRIVEN - HEADLINE NEWS

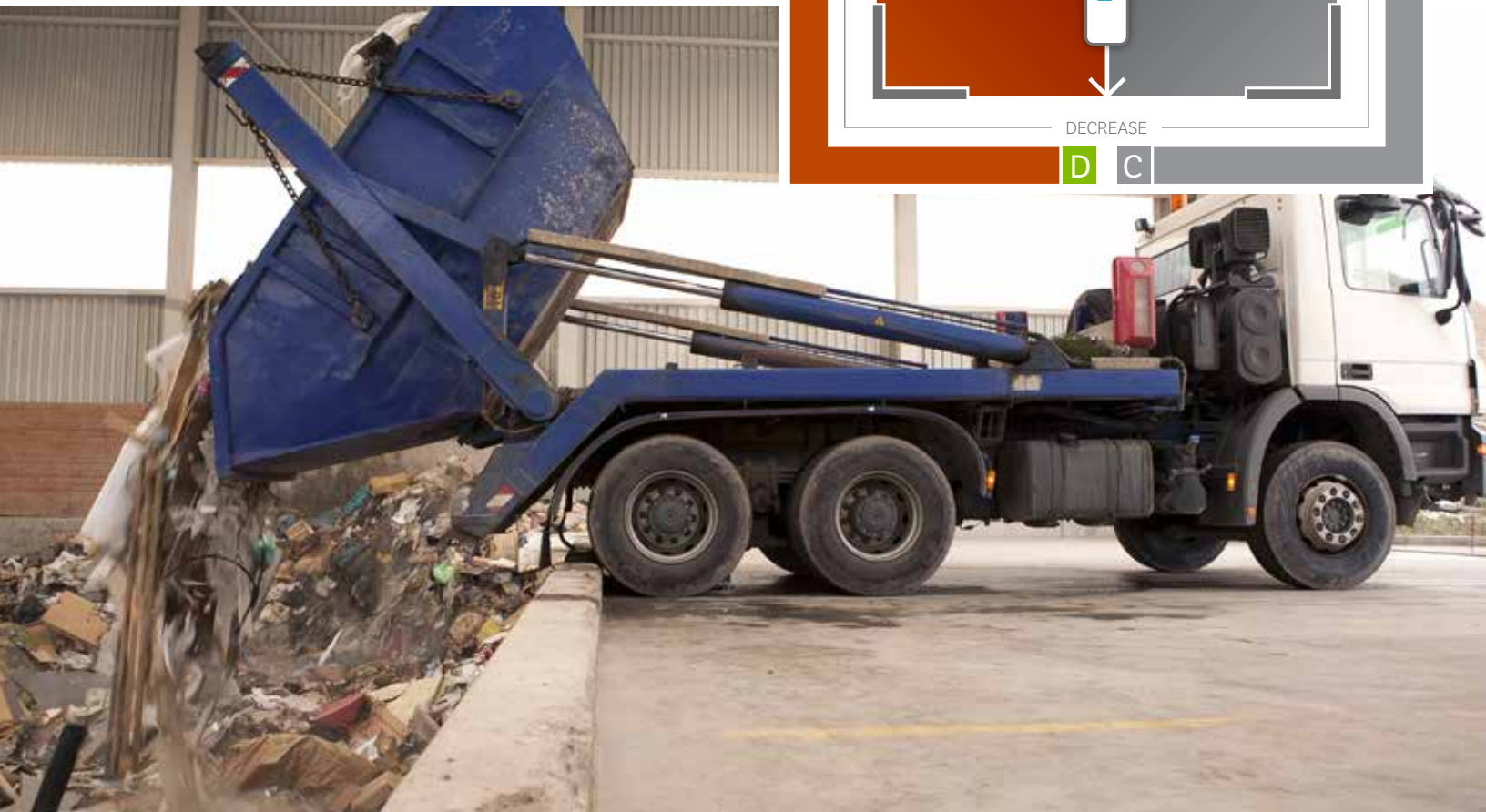
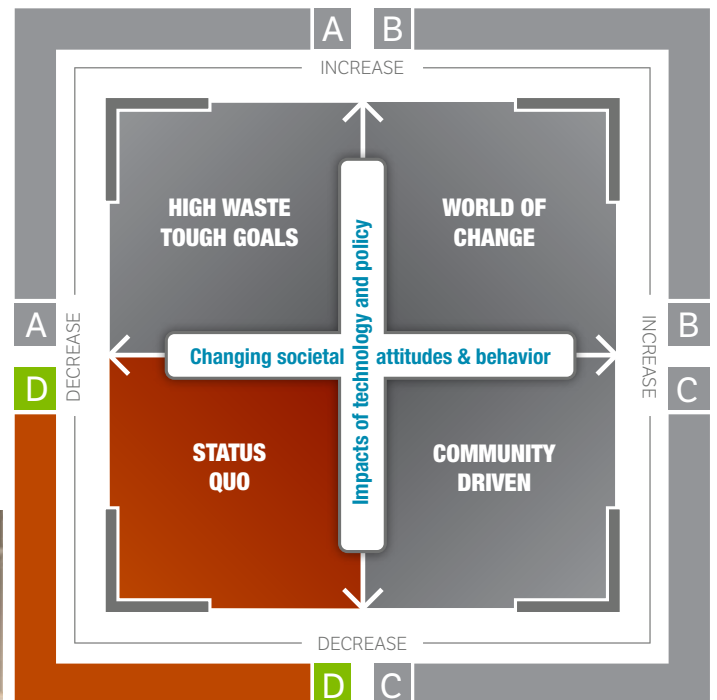
	2020	2025	2030
Consumption patterns and waste types	<i>Local resourcing at an all-time high</i>	<i>Community stepping up recycling options (more organics)</i>	<i>Community exceeds 75% recycling rate</i>
Policy setting and application of technology	<i>Petition for mandated recycling failed again*</i>	<i>More people join the fight for solid waste reduction</i>	<i>Businesses being pressured by consumers to change wasteful behaviour</i>
Waste management systems being utilized	<i>Cities discuss community options</i>	<i>Strength in numbers: communities organize collection</i>	<i>As population soars. Landfill use stagnant</i>

*People driven – People want more regulation by not supported by local governments



3.6 SCENARIO D – STATUS QUO

The combination of a consumption culture and low regulation leads to continued high levels of waste production and use of landfills for disposal. Low technology capability in waste management causes increased difficulties with more complex waste disposal needs. A ‘not in my backyard’ attitude prevails as waste accumulates in less economically advantaged communities and wealthier communities are able to transfer waste disposal responsibilities leading to unequitable health risks.





SCENARIO CHARACTERISTICS - 2030

Consumption patterns and waste types / Characteristics

- More waste being generated
- More recyclables will be available
- Purchase and throw?
- Volume waste being generated
- More different types of waste

Policy setting and application of technology / Characteristics

- Market drives the waste shed
- Waste companies invest when it is cost effective
- Do you assume that current policies remain in place?

Waste management systems being utilized / Characteristics

- Landfills, MRFs, compost stilling being used
- Waste will go where least expensive option



STATUS QUO - HEADLINE NEWS			
	2020	2025	2030
Consumption patterns and waste types	<i>Consumers buying cheap product, more waste</i>	<i>Plastics increasing in waterstream</i>	<i>MRFs unable to deal with packaging waste</i>
Policy setting and application of technology	<i>Markets driving waste to landfills</i>	<i>No Incentive for private markets</i>	<i>Solid waste facilities closing</i>
Waste management systems being utilized	<i>Landfills filled at record rates</i>	<i>Landfills nearing capacity, the future of landfilling?</i>	<i>Wanted: Landfill Sites</i>

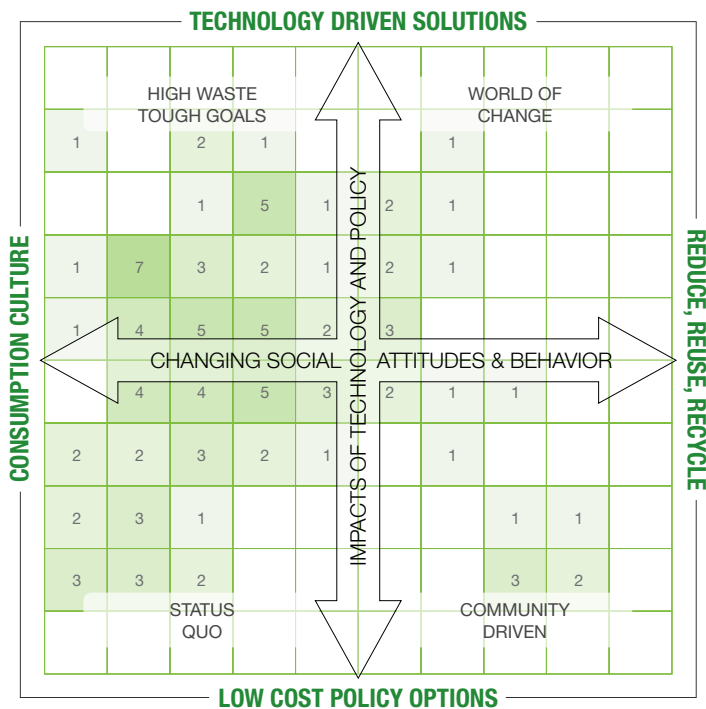


4.0 PREFERRED AND EXPECTED FUTURES

The four scenarios presented represent a range of plausible outcomes for Solid Waste Management in Scott County. Workshop participants were asked a series of questions regarding their views of the preferred and expected future. The expected future is the one they deemed most likely to happen if there is no change in the current trajectory. The workshop participants indicated that Scenarios A and D are the scenarios they believed most represented the current direction of the region.

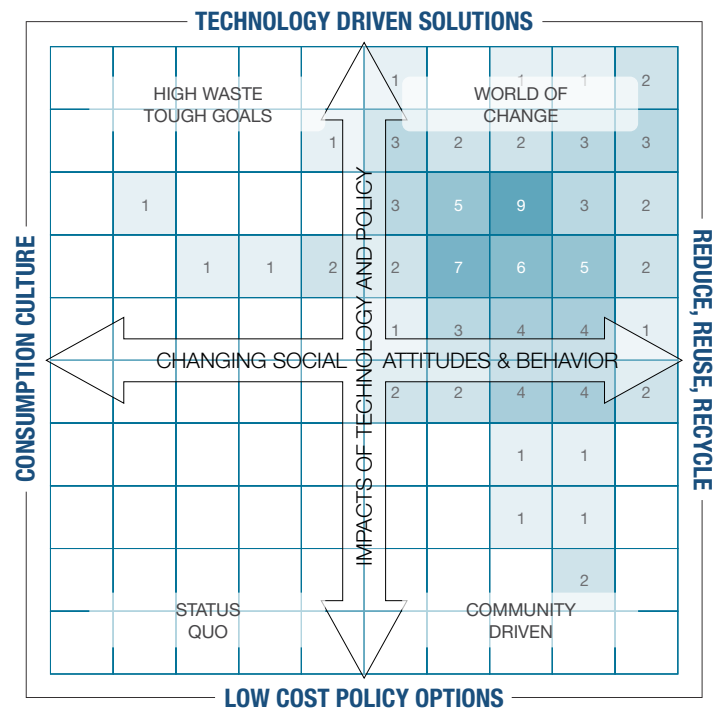
SCOTT COUNTY SOLID WASTE MANAGEMENT

EXPECTED FUTURE – 2030



SCOTT COUNTY SOLID WASTE MANAGEMENT

PREFERRED FUTURE – 2030



While each of these scenarios were viewed as plausible, workshop participants expressed a clear preference for one of the presented outcomes, Scenario B, World of Change.



5.0 NEXT STEPS

Workshop participants discussed the ramifications and implications of failing to achieve the preferred future. There was a unanimous alignment of people that 'World of Change' represented the preferred future scenario, however very few people thought that was the current trajectory. The preferred future 'World of Change' outlines the basis of a shared vision for the organization. In addition, it gives an indication of the focus areas of action that will be needed for this vision become a reality. Workshop participants discussed what they believed the next steps should be, and how they could move forward.

The axes that shape this future are increasing 'Changing societal attitudes and behavior' and increasing 'Impacts of technology and policy'. Because of the long-term nature of the Scenario Planning methodology, stakeholders can often see the 'distant future vision (2030)' as unattainable and unrealistic. However, this often underestimates the progress that can be made of the intervening years, and the cumulative positive impacts of change. As an example, some of the existing work in the county is already significantly shaping the future directions and actions.

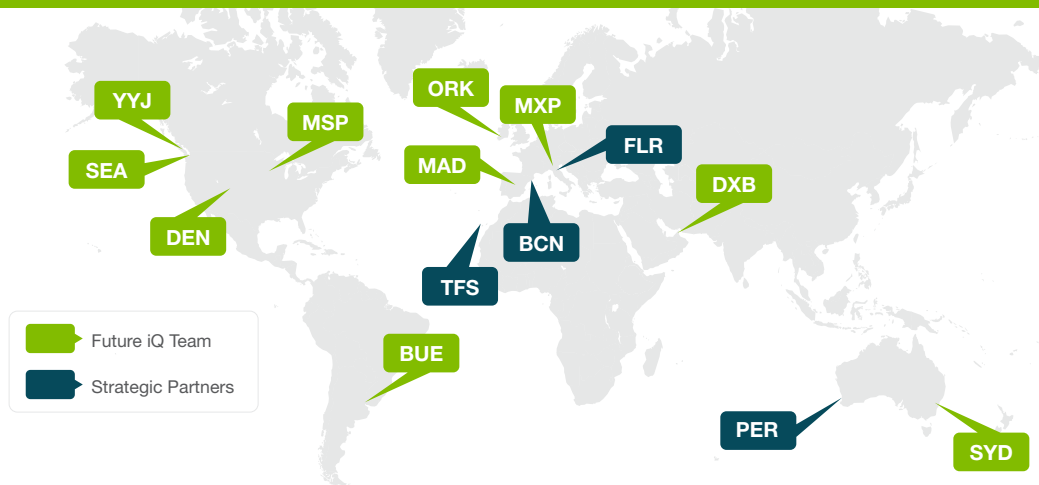
The scenario framework also can help guide additional actions to inform the future, especially pertaining to building infrastructure, collaboration and capacity. The next phase of the planning process for updating the County Solid Waste Management Plan is determining what the County and its solid waste stakeholders want for the future. The scenario developed will help inform this discussion. Implementation strategies will also be developed and discussed considering the trends and drivers identified in the workshop to insure the flexibility to adapt as the future unfolds.



This report lays the foundation for greater understanding of waste management in Scott County. The preferred future 'World of Change' outlines the basis of a shared vision for County direction. The scenario framework helps identify and focus on areas of action that will help this vision become a reality.

Towards the conclusion of the Think-Tank, participants were asked to brainstorm what would be needed for the waste management plan to achieve the preferred future scenario, World of Change. Three overarching needs were identified:

1. Support for technology – Policy must become supportive of these programs, perhaps by providing incentives and additional resource allocation
2. Need to provide perception of firmness and equity; demonstrate benefit to residents; enable experimentation of technology
3. Behavior adjustments will be needed - Using the levers of education and economics



6.0 ABOUT FUTURE IQ

Future iQ is a market leader in the development and application of scenario planning; network analysis, industry and regional analysis, and community engagement and capacity building. Future iQ specializes in applying innovative tools and approaches to assist organizations, regions and industries shape their economic and community futures. With over a decade of business experience, the company has grown to have a global clientele spanning three continents. To learn more about Future iQ, and our recent projects visit www.future-iq.com or by email at info@future-iq.com

Report and Scenario Planning workshop prepared by:



DAVID BEURLE, CEO, FUTURE IQ

As CEO of Future iQ, David specializes in creating future planning approaches for the use in regional, community and organizational settings. David has worked in the field of organizational and regional economic and community planning for over 20 years. His work in community and economic development has earned his work international, national and state awards.



HEATHER BRANIGIN, VICE PRESIDENT, BUSINESS DEVELOPMENT

Heather has an academic background in Political Science, International Relations and Education and is committed to helping people understand global interconnectedness and collaboration. She is past President and current Advisory Council member of the United Nations Association of Minnesota and has worked for over 20 years in the fields of international education and development.



MARCUS GRUBBS, MURP, AICP, PLANNING SPECIALIST

Marcus is a certified Planner with an academic background in Urban and Regional Planning and Environmental Studies. He recently completed a Graduate Research Fellowship with the University of Minnesota – Twin Cities, managing a research collaborative exploring the future of agricultural production, economic development, and environmental conservation in Southern Minnesota. Marcus chairs a non-profit policy committee and participates in the Big Brother program.



7.0 SCOTT COUNTY ENVIRONMENTAL SERVICES, MINNESOTA

The Environmental Services Department of Scott County consists of several service areas including household and business hazardous waste, septic systems, watershed management, natural resources, recycling and solid waste management, and the environment. For the purposes of this report, the Environmental Services Department of Scott County contracted Future iQ to facilitate a workshop that would assist solid waste management stakeholders and staff in the understanding of the future drivers that affect solid waste management in Scott County. This increased understanding will be used to inform the department's recommendations to the upcoming comprehensive plan update.

For more information on the Environmental Services Department of Scott County, please contact:

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8.0 ACKNOWLEDGMENTS

Future iQ would like to thank the Paul Nelson for the significant time and effort put into the planning and execution of this planning workshop. Future iQ would also like to thank Kate Sedlacek and Steve Steuber for their additional assistance. We sincerely appreciate your contributions.

