establishing successful RMEs

READ THIS FACT SHEET IF...

you are new to this resource. It will help you navigate through the resource.

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guide to the fact sheets

The resources presented here are intended to provide guidance for successfully establishing and running organizations that manage decentralized wastewater systems—Responsible Management Entities, or "RMEs," as they are called in the sector. (*Fact Sheet #1* gives a fuller explanation of the term RME.) Such organizations might be:

- Existing RMEs seeking to improve their operations.
- Prospective RMEs considering starting up.
- Existing organizations looking to enter the decentralized wastewater field, such as an existing sewer authority or rural electric cooperative wanting to extend its services.

The fact sheets guide you through the world of decentralized wastewater management, identifying things that, as an organization, you need to think about and have a plan for. The sheets explain how others have provided the services you are considering. As you move through the series, you will see references to specific fact sheets by number. These will provide a fuller discussion of the topic.

The material serves these different audiences by enabling navigation from three angles:

- The "WHICH WAY IS UP?" fact sheets focus on local context and on how the conditions in your area will influence your determination of what kind of organization will work best.

GUIDE TO THE FACT SHEETS

- The "WHAT DOES IT MEAN FOR ME?" fact sheets are tailored for different types of organizations.
- The "HOW DO I…?" fact sheets step through the basics of some key business tools and how they apply in this field.

The series of fact sheets that make up this resource are listed below. These resources focus on the managerial and financial side of operations. The technical side of operations is critical, but is also adequately covered in many other resources. (See *Related Resources* at the end of this fact sheet.)

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NAVIGATING THROUGH THE FACT SHEETS

Fact Sheet 1	What is an RME and why do we need them?
Fact Sheet 2	Working within the local context

"WHICH WAY IS UP?"

Fact Sheet 3	How regulations work in this sector
Fact Sheet 4	Business structures and models

"WHAT DOES IT MEAN FOR ME?"

Fact Sheet 5	Operating successfully as a governmental organization
Fact Sheet 6	Operating successfully as a private RME or service provider
Fact Sheet 7	Developers, designers, homeowners' associations, and contractors

"HOW DO I...?"

Fact Sheet 8	Writing and updating your business plan
Fact Sheet 9	Projecting your financial requirements
Fact Sheet 10	Marketing: Making your services known

Taken together, the fact sheets are a comprehensive starting point. That is, they have all the basics, with lots of stories from real situations, as well as links to more detailed materials.

There are many industry and professional associations with great resources. Many of the leading organizations in this sector are signatories to a Memorandum of Understanding with the US EPA, begun in 2005, that is a commitment to improving decentralized wastewater outcomes across the nation. (See MOU partners at www.us-epamoupartners.org.) Below are website links and brief descriptions for the partner organizations. Many of these have state or regional chapters; check their websites for details.

The *Decentralized Wastewater Glossary,* developed by CIDWT, is a very useful reference that provides a simple English explanation of hundreds of terms. It is accessible at www.onsiteconsortium.org/glossary.html.

MOU PARTNERS

CIDWT / www.onsiteconsortium.org
The Consortium of Institutes for Decentralized Wastewater Treatment

CIDWT is a group of people from educational institutions, citizens' groups, regulatory agencies, and private industry cooperating on decentralized wastewater training and research efforts. It provides education and training opportunities in decentralized wastewater treatment options for university students, citizens, decision-makers, regulators, and consultants.

NAWT / www.nawt.org
National Association of Wastewater Transporters

NAWT members are part of the liquid waste management industry. NAWT works to increase the professionalism and public image of the industry through education of its members and the public.

NDWRCDP / www.ndwrcdp.org
The National Decentralized Water Resources Capacity Development Project

The NDWRCDP supports research and development aimed at removing barriers and addressing critical information gaps. The goal is to develop the capacity of community leaders, regulators, service providers, and others to respond to the increasing complexities of and expanding need for decentralized wastewater treatment.

NEHA / www.neha.org
National Environmental Health Association

NEHA is a professional society offering a variety of programs and resources for the environmental health professional in the public, private, and academic sectors.

NESC / www.nesc.wvu.edu/wastewater.cfm
National Environmental Services Center—National Small Flows Clearinghouse

NESC is a national resource to help small communities with their drinking water, wastewater, environmental training, infrastructure resilience, and utility management needs. It offers comprehensive technical information, publications, online discussion groups, and toll-free technical assistance.

NOWRA / www.nowra.org
National Onsite Wastewater Recycling Association

NOWRA is dedicated to educating and representing members within the onsite and decentralized wastewater industry. It provides education and training programs to professionals in the industry, policy officials, system owners, and the public.

RCAP / www.rcap.org
Rural Community Assistance Partnership

RCAP engages in applied research, policy development, public education, and advocacy on rural issues, especially with respect to community infrastructure. It provides technical assistance, training, and financial resources to more than 2,000 small rural communities and offers great information resources on its website.

SORA / www.nesc.wvu.edu/sora/index.html
State Onsite Regulators Alliance

Through its annual State Onsite Regulators and Captains of Industry Conference, SORA provides a forum for enhancing interdisciplinary dialogue and

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for advancing the scientific knowledge and research of those responsible for engineering issues affecting public health. The conference also promotes the decentralized wastewater industry's place in a viable and sustainable wastewater infrastructure.

RELATED RESOURCES

The EPA's *Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems* (www.epa.gov/owm/septic/pubs/onsite_handbook.pdf) is a "how to" guide for setting up the technical side of managing decentralized systems.

The EPA has developed many other useful resources over the years for improving onsite wastewater management. A great entry point to these is the EPA's website at cfpub.epa.gov/owm/septic/index.cfm.

This fact sheet was prepared by the Institute for Sustainable Futures at the University of Technology Sydney in Australia and Stone Environmental, Inc., in Vermont.

establishing successful RMEs

FACT SHEET **1**

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what is an RME and why do we need them?

READ THIS FACT SHEET IF...

you are new to the decentralized wastewater systems field.

The term "Responsible Management Entity" (RME) was coined by the EPA in its *Voluntary National Guidelines for the Management of Decentralized (Onsite and Cluster) Wastewater Systems*. Briefly, the EPA defines an RME as a legal entity responsible for providing management services to ensure that decentralized onsite or clustered wastewater treatment facilities meet established criteria. (See www.epa.gov/owm/septic/pubs/septic_guidelines.pdf.)

Decentralized wastewater treatment systems encompass both onsite systems serving a single property and cluster systems serving multiple properties. Decentralized systems were long regarded as a temporary stopgap until centralized sewerage services could be provided. That changed when a review by the EPA in 1997 concluded that decentralized wastewater systems could be "a cost-effective and long-term option for meeting public health and water quality goals," provided these systems were adequately managed.

"Adequate management" depends on the situation. It certainly includes proper design, installation, and ongoing operation and maintenance. The EPA identifies a broad range of management levels, where increased management controls correlate with increased risks to public health and the environment and/or complexity of treatment technology. For example, in low-risk contexts—where there are few serious consequences from failure—maintenance reminders to homeowners can achieve adequate manage-

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ment—the homeowner awareness management level in the EPA's terminology. Increased probability or consequences of failure require management by competent professional service providers rather than leaving the responsibility with property owners, be they residential, commercial, institutional, or industrial.

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LEVELS OF MANAGEMENT

The EPA groups RMEs and associated service providers according to the level of management required:

- **Maintenance Contracts.** The local regulatory authority (e.g. a public health regulator) requires property owners to have contracts with appropriately qualified, and in some cases certified, service providers to ensure proper and timely site and soil evaluation, design, installation, and professional maintenance.
- **Operating Permits.** The local regulatory authority implements a management program that issues permits to property owners for operating their systems, with conditions and requirements for proper maintenance. The operation and maintenance must be carried out by qualified, and often certified, service providers. The authority monitors and enforces compliance, and may or may not act as the service provider.

CONFUSING TERMINOLOGY

Terminology in this field can be confusing. Some people prefer the term "distributed" to "decentralized." The basic idea is a focus on responsible management of small-scale wastewater systems (from a single lot to a few thousand households). Many different kinds of organizations could do this, which is why the EPA chose the generic term of "Responsible Management Entities." This terminology leaves the field open to public organizations such as existing municipal or regional utilities, as well as private organizations such as wastewater pumpers looking to expand their business by taking on responsibility for the systems they service.

However, "public" and "private" also mean different things to different people in different states, and those terms can also come together—for example, through publicly regulated, privately owned utilities. Then there's the issue of how regulations determine what kinds of management are required and what kinds of organizations can supply it, and these change from state to state, and sometimes county to county. The goal of these fact sheets is to help clear a path through this confusion.

For more on terminology, see the CIDWT's Decentralized Wastewater Glossary at www.onsiteconsortium.org.

- **RME Operation and Maintenance.** The public health and/or environmental risks are high enough to require management by a qualified organization on behalf of the property owners. The regulatory authority permits the RME


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to take on obligations to meet compliance on behalf of property owners, in exchange for a fee. The RME does not own the infrastructure, so this situation is also known as "contract operation."

- **RME Ownership.** The RME owns all the infrastructure assets including systems located on private (e.g., residential, commercial, institutional, etc.) property. For users, the service provided appears equivalent to centralized services with the RME taking on all the associated obligations to ensure performance in exchange for a fee for services. In many states, statutes mandate that RMEs providing sewerage service to multiple properties for a fee be chartered as public utilities, either governmental or private.

RME VS. SERVICE PROVIDER

In practice, there is disagreement about precisely what should constitute an RME. According to some, including the EPA in its *Voluntary National Guidelines*, the term RME should be restricted to those organizations to which the regulatory authority issues an operating permit—as in the last two scenarios described above. In practice, though, individual organizations may reflect mixtures of the scenarios outlined above.

The goal of these resources is to provide guidance for professional service provider organizations that have the necessary technical, managerial, and financial skills to ensure both their own long-term viability and the long-term performance of decentralized systems. To that end, these resources use the terms "RME" and "service provider."

"RME" is intended in the restricted sense outlined above—that is, a permitted organization with ultimate compliance responsibility. "Service provider" is intended to cover all the other kinds of organizations involved in implementing distributed wastewater management, such as contract operation and maintenance providers; water authorities supplying contract operation services to property owners; technology suppliers who include operation and maintenance contracts within their sales; etc. Other organizations may be neither RMEs nor service providers but have important roles in some contexts and can benefit from these resources. These organizations include homeowners' associations and developers.

The context determines which type or types of RMEs and service providers may be most appropriate *(Fact Sheets #2, #3,* and *#4)*. The status of the communities and treatment systems that RMEs and service providers work with is a strong determinant of the types of organizations involved *(Fact Sheets #2* and *#4)*.

For example:

- Existing communities with older systems seldom have an RME. They are more likely to have service provider arrangements through maintenance contracts or operating permits issued to the property owner.
- Existing communities with new treatment systems may engage with either RMEs or service providers. The fact that systems have been replaced suggests a higher risk situation, so it is likely that permits of some kind will be necessary.
- New developments with new treatment systems are the preferred situation for RMEs since this allows the organization to avoid the risks associated with taking on old systems with unknown histories and unpredictable futures.

A rural electric cooperative offers wastewater services.

Connexus Energy, a rural electric cooperative in Minnesota, joined forces with an existing provider of operations and maintenance services for decentralized wastewater systems (Eco-check—see *Fact Sheet #7*) to become the RME Connexus Waterways. Connexus Energy is able to utilize its existing administrative systems to offer wastewater services to a portion of its customers.

CLASSIFICATIONS

RMEs and service providers may also be characterized by type of organization (*Fact Sheets #2* and *#4*). These may include:

- Government-owned public utilities.
- Privately owned, publicly regulated utilities.
- Limited liability, for profit entities.
- Private not-for-profit organizations (such as cooperatives) that provide services and can make a profit but cannot take those profits out of the corporation.

Yet another way to characterize RMEs is by the other types of services or asset and environmental protections they offer—for example, electricity, drinking water, stormwater management, centralized wastewater, or watershed protection.

The resources presented here are intended to help new and existing RMEs, service providers, and associated entities work out how to develop and improve their managerial and financial capacities in order to be successful. Consulting with various advisers, including an attorney, will likely be part of this process. These resources complement the many existing resources that focus on technical management of decentralized systems. See EPA's *Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems* at www.epa.gov/owm/septic/pubs/onsite_handbook.pdf, as well as other related resources in the *Guide to the Fact Sheets*.

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FACT SHEET

2

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working within the local context

READ THIS FACT SHEET IF...

you want to work out how the local context will affect what kind of organization you set up and how it functions.

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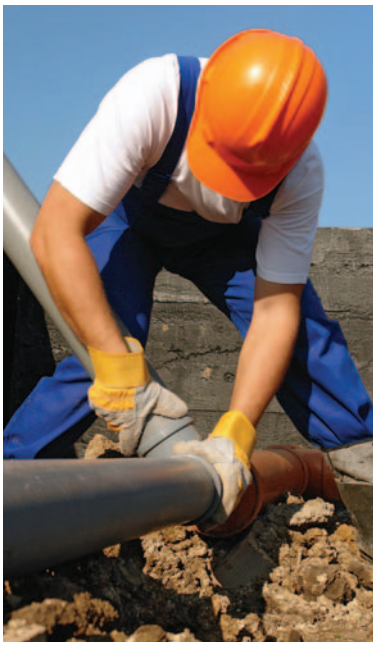

The existing situation strongly influences the kind of business a Responsible Management Entity (RME—*Fact Sheet #1*) or other service provider may conduct and whether that business can be successful. Given this, it pays to understand the local and regional context before creating a detailed business plan *(Fact Sheet #8)*.

The local context has many dimensions. Key among them is the state of the public mandate. Is there a proven need for wastewater management services based on sound evidence of an existing or impending threat? On the other hand, what is the value proposition? How will prospective customers gain value from this initiative? Some other influential dimensions include:

- Existing infrastructure for wastewater treatment and its management.
- Environmental conditions including climate (temperature, rainfall), soils, drainage, and proximity to water tables and sensitive environments.
- People, groups, and personalities.
- History and norms of the region.
- Demographics and ability to pay.
- Trends in population growth or decline, land use, and settlement patterns.
- Availability of investment capital.

2 WORKING WITHIN THE LOCAL CONTEXT

- The competition: who provides what services already, and by extension, what is missing?
- Regulations, an important topic, addressed further in *Fact Sheet #3*.

There is a wide range of public and private possibilities for RMEs and service providers, each with their own pros and cons (*Fact Sheets #1* and *#4*). At the outset, all possibilities should be on the table. Decisions about the governance model and structure of your organization are best made by systematically assessing the opportunity through a business planning process (*Fact Sheet #8*). This process includes:

- Gathering information about what's needed and what's available (this fact sheet).
- Recognizing what regulations apply (*Fact Sheet #3*).
- Identifying what is possible, feasible, and desirable.

Below, these dimensions are organized into a set of core questions, with answers, discussion, and case examples particular to the distributed wastewater sector.

Better management of existing on-lot systems.

In Paradise, California, widespread onsite system failures and high bacteria counts in streams and some wells near a commercial development were drivers for an expensive sewer plan. Residents voted down that plan, and an onsite wastewater management zone—a legal entity under California law—became the means for the municipality to manage all systems in town via operating permits.

Such a zone, which allows a community to implement management and enforcement programs for its own onsite wastewater treatment system (OWTS), had already been formed to manage OWTS outside the proposed sewer service area. When the sewer proposal was abandoned, this zone encompassed the entire town.

CORE QUESTIONS FOR MOVING INTO THE DECENTRALIZED WASTEWATER BUSINESS

Assess existing wastewater treatment and management. What is the state of the public mandate? What defines the need and the value proposition (e.g., public health, environment, economics, social equity)?

Assess stakeholders. Is there support for RME services or for centralized sewers? Are there local action groups, regulators, or customers willing to pay?

Assess revenue base. Are there enough customers? Can they pay what you need? Will you have a monopoly?

Assess availability of capital. Can you raise the funds through public or private debt or equity financing?

Assess regulatory landscape. Do local regulations for corporate formation, utility operation, and environment/public health protection support your preferred organizational structure?

ASSESS EXISTING WASTEWATER TREATMENT AND MANAGEMENT.

What is the state of the public mandate? Is there a need for RME services? Is there a need for some other kind of service provision? What kinds of pressures exist? What type of service matches these contextual factors?

EXISTING AUTHORITY ADOPTS DECENTRALIZED APPROACH FOR NEW DEVELOPMENTS.

The Mobile Area Water and Sewer System (MAWSS), in Alabama, is a substantial urban water and wastewater utility that operates a centralized sewer system and three treatment plants. The utility was faced with

Early engagement pays off.

In Warren, Vermont, Stone Environmental, Inc., worked on behalf of the town to conduct an assessment of local wastewater treatment needs in tandem with public meetings and regular progress mailings. Workers were in regular communication with both the selectboard and members of the citizen Wastewater Action Committee.

When the assessment's lot-by-lot confirmations turned up enough problems to warrant a village-level solution, committee members held neighborhood potluck meetings to answer questions and concerns. The eventual outcome was a successful bond vote and 85% voluntary participation in the resulting community wastewater project.

To meet requirements for grant and loan funding, most components of the community system needed to be owned and managed by the town (as would be the case with a centralized sewer). The engineer and the committee worked together to make sure that the resulting sewer ordinance and user-fee structure were sensitive to residents' concerns about cost and ownership of on-lot system components.

the need to make decisions about extending its service area across a topographic divide to serve an expanding suburban area west of Mobile. Developers began to request sewer service in this area, and the MAWSS staff and board determined that providing remote wastewater service could be worthwhile. MAWSS installed several decentralized systems, which are owned and operated by the utility through a collaborative arrangement with developers.

RESPONDING TO DEVELOPMENT PRESSURE.

Depending on the situation, centralized management of decentralized systems may be used to encourage or limit growth.

In contrast to the MAWSS example above, residents of Stinson Beach, California, rejected a sewer proposal because of concerns about growth. Instead they embraced the idea of an onsite wastewater management district as a means of managing both wastewater infrastructure and what was viewed as excessive development.

HIGH SEWER COSTS DRIVE DECISIONS TO SUPPORT DECENTRALIZED SYSTEMS.

The high capital costs and ongoing operation and maintenance costs of centralized sewers are a factor in many of the examples in these fact sheets.

For MAWSS, an existing utility, it made financial sense to install and operate decentralized systems outside the utility's service area rather than extend sewers. In Broad Top/Coaldale, Pennsylvania, and Warren, Vermont, the high cost of an initial centralized sewer proposal took serious consideration of any sewer, including lower-cost alternatives, off the table for a period of several years. In both of these cases, decentralized alternatives were eventually implemented with the local municipality as the RME.

ASSESS STAKEHOLDERS.

Is there support for an RME or some other kind of service provision? What are the local public perceptions about past or failing systems? If the locals are used to "wearing pegs on their noses in the rainy season," how will they respond to an increased rate burden? Or to paying for what was formerly a "free" service? What will it take for you to build enough support?

Learn about and develop relationships with those who can help you and those you may need to win over. Engage early and often—and as appropriate to each group's power and interest. Local decision-makers need to be in favor of RMEs and/or O&M service provision, rather than replacement of onsite systems with centralized sewers.

Stakeholders include those external and internal to your organization. External stakeholders can include homeowners, other landholders and land managers, installers, realtors, developers, regulators, the local health department, environmental groups, and others. Make use of available resources for developing good relationships with these stakeholders, such as the set of communication tools about building partnerships, bringing ideas to the community, and strategies for success on the Livable Communities website administered by WERF at www.werf.org/livablecommunities/tool_comm.htm.

2 WORKING WITHIN THE LOCAL CONTEXT

Lack of opportunity for engagement leads to high cost outcomes.

The City of Marco Island in southwest Florida was incorporated in 1997, and, in 2003, it acquired the water and wastewater system from a private owner for the sum of $85 million. In 2006, it released a utility expansion plan (UEP) predicated on replacing failing septic systems with centralized sewers.

The UEP remains controversial because property owners face high costs for uncertain gains. Assessments are typically about $20,000 per lot, plus a contribution to the expansion of about $5,000 per lot. Lower-cost alternatives based on improving the management of existing septic tanks to get equivalent environmental outcomes were not seriously considered.

At the 2008 election, the candidates were split down the middle about whether to continue the program or to cancel it. Their analyses of the costs and benefits of the program differed by more than $50 million. (See www.marcoeagle.com/news/2008/jan/26/marco-islands-divisive-campaign-issue-sewer-system/.) The seven-year, $100 million program is continuing.

Assuming your organization is already up and running, internal stakeholders include employees, supervisors, and contractors already providing services. Ask yourself some basic questions about taking on responsibilities for decentralized systems:

- Can you survive for an extended period of time with minimal income from the proposed business?
- Do you have an adequate labor force already, or will you need to hire?
- Will your staff need training? (See *Fact Sheet #8* for incorporating staffing/training needs into your business plan.)
- Will you need additional licenses? (See *Fact Sheet #3* to identify relevant regulations and their impact.)

DON'T GIVE UP YOUR DAY JOB.

Getting started as an operation and maintenance (O&M) provider can take some time, and it could easily be years before you break even. Among other things, it depends on whether O&M is mandatory or not, your customers' willingness to pay, and your capacity to sell your services and build up enough of a customer base to cover your costs.

Trapper Davis is now a successful provider in Virginia. After three years, he employs two maintenance staff and services about 1,200 individual advanced treatment systems. It wasn't always so.

Initially, the state did not mandate maintenance, and Trapper realized that building up a financially sustainable customer base was going to take a long time. He reduced this through a wise decision to align himself with an equipment manufacturer who required initial two-year O&M contracts. Even so, alternate income was necessary in the early days. Now, however, because Trapper built good relationships with them and delivered a good service, his customers are sticking with him even after the initial arrangement expires, and they are recommending him to others.

ASSESS REVENUE BASE.

There are many dimensions to consider in getting a handle on your revenue base. Refer to the regulatory (*Fact Sheet #3*) and business planning (*Fact Sheet #8*) fact sheets, and think about honest answers to these questions:

- Are there enough customers?
- What kind of value proposition will work for them?
- What kind of need do they perceive? If this is different from the real public health, environmental, economic, or social equity need, how will you convince them of that?
- Can they pay you what you need to be paid to provide service?
- Do they pay for wastewater treatment services currently?
- Will they accept paying for increased management? This is especially

relevant to developing a business dealing with existing systems, where historic costs are often unrealistically low due to a lack of maintenance and management.

- Are your services mandated? What will you do if customers don't pay? Can you enforce collection? Can you work with another service provider (such as electricity or municipal water) that would be willing to enter into a disconnect agreement for non-payment?
- Is there another service that's needed locally that you can offer to reduce your overhead and increase your revenue (e.g., trash collection, storm-water management, etc.)? What long-range forecasts are available?
- What are the growth projections for your service area? What does the local planning and zoning commission have to say about how they might be serviced? What are the implications for your future customers?

State revolving funds support individual and cluster investments and upgrades.

In a few states, revolving funds support onsite wastewater repairs and upgrades.

The Pennsylvania Infrastructure Investment Authority (PENNVEST) can fund any owner and/or operator of a sewer system to construct a new or improved system to correct public health, environmental, compliance, or safety deficiencies. This includes individual on-lot systems as well as community scale investment.

For example, Chatham Township's municipal authority received more than $300,000 in 2008 at an interest rate of 1% over 25 years to upgrade distributed systems for 35 households whose income is below the state median. The project includes five individual on-lot systems, two community on-lot systems, and the replacement of 27 septic tanks, along with an ongoing management program.

ASSESS AVAILABILITY OF CAPITAL.

Is there capital available for this type of activity? What is your access to state revolving funds (SRF)? Some states restrict SRF access to governmental units. Other states allow easy access for property owners to revolving funds. For example, the Ohio Water Development Authority (OWDA) has a range of wastewater loan programs, including programs that target villages and areas of economic hardship. In addition, the OWDA, like many other state agencies, offers linked deposit loans, which are bank loans at reduced interest rates, to provide individuals, private entities, or governmental agencies with low-cost capital for onsite wastewater systems that provide non-point source pollution control outcomes. (See www.owda.org or www.decentralizedcentral.org.)

INNOVATIVE PHILANTHROPY FOR COMMUNITY DEVELOPMENT FINANCING.

ShoreBank Enterprise Cascadia's (SEC) Septic Loan program has a goal to inspire homeowners to invest in their wastewater assets by repairing or replacing poorly functioning systems.

SEC is a not-for-profit philanthropic organization whose mission is to enhance the economic, social, and environmental wellbeing of the Pacific Northwest. Its focus is improving the water quality in Hood Canal by supporting local businesses and residents. Its intent is to follow public policy rather than to make it.

Rates and terms for loans are indexed to homeowners' income and credit status, and to property sales. Responsibility for choosing designers, installers, and O&M providers rests with the property owner. SEC provides lists of registered service providers and ensures property owners have funds set aside to pay for O&M. Follow-up O&M is a condition of the loan.

The outcome is that all the incentives are pulling in the same direction, so onsite and cluster system performance in the region is improving without unbearable costs to property owners. While SEC is not an RME, its innovative approach creates a demand for high quality, financially viable service providers.

2 WORKING WITHIN THE LOCAL CONTEXT

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The Rural Utilities Service of the US Department of Agriculture has a revolving fund to assist small rural communities in meeting their water and wastewater needs. These grants are available to legally established, private, tax-exempt, non-profit organizations. (See www.usda.gov/rus/water/.)

The Rural Community Assistance Program (RCAP) also administers grants and revolving funds programs from the USEPA and other sources, and works with rural communities at a local level to address their wastewater problems. Check the RCAP in your region.

ASSESS REGULATORY LANDSCAPE.

Please refer to *Fact Sheet #3* for further detail on what to look for and how to assess this area and local regulatory processes. In the best situation, local regulations for management would already be in place, or at least the regulatory community would be moving in that direction. Decision-makers must be in favor of operations and maintenance for RMEs to be successful.

BRINGING IT ALL TOGETHER.

Having assessed these five areas, to assure that they do not preclude adequate technical options, ask:

- Do you know enough to a) make a good decision, and b) effectively start up and run this type of service? If not, what else do you need to know?
- Are there precedents for this type of service in this local area/region or this state? If not, why not? What are the key barriers? What would make them surmountable?

Undertaking a business planning process can help to answer these questions. (See *Fact Sheet #8*, which also suggests places to go to for help.)

This fact sheet was prepared by the Institute for Sustainable Futures at the University of Technology Sydney in Australia and Stone Environmental, Inc., in Vermont.

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FACT SHEET

3 how regulations work in this sector

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READ THIS FACT SHEET IF...

you want to work out what types of organizations and operations are possible in your area.

Regulations are the "rules of the game" that drive and govern many aspects of the space your organization has to fit into. They set what you can and cannot do, and what types of organizations can or cannot operate. Understanding these rules is critical to operating successfully, regardless of the type or structure of your organization.

If you are a government entity, some regulations may lie within your control (e.g., "sewer" or special district ordinances), while others (such as standards for system design and installation) may not.

If you are a privately owned service provider or Responsible Management Entity (RME—for an explanation of these terms, see *Fact Sheet #1*), you need to be active with respect to regulations. **If appropriate regulations to support and protect your business are not in place, you will likely fail!**

Your communication with regulators affects how regulations are implemented. Forming positive, collaborative relationships with relevant regulators early on builds trust with both parties. It is even more important if regulators

Building confidence in performance.

Some RMEs report that in the early days of their operation, regulators required stringent and frequent performance monitoring and reporting. This can represent a significant cost. Over time, stable high performance was proven, so regulators developed trust in the systems and in the RMEs providing the services. The outcome was reductions in requirements for monitoring frequency and scope.

3 HOW REGULATIONS WORK IN THIS SECTOR

PAGE 2

are not familiar with the concept of responsible management for decentralized systems.

Three types of regulation are important to your organization:

- Corporate regulation.
- Utility regulation.
- Environmental and public health regulation.

Local regulations determine the type of management models allowed.

The contractor-based operation and maintenance management model used in the state of Washington is viable because regulations are not in place for privately owned, publicly regulated RMEs. Since this lack of regulation has led to poor performance, regulators will not allow homeowners' associations and/or developers who own cluster systems to manage—or to use private RMEs to manage—their decentralized systems.

The Washington On-Site Sewage Association works hard to ensure professional practice across the industry. Its licensing program for designers ensures good practices and mandates continuing professional development.

INFLUENCING LEGISLATION

Individual or collective action can influence legislation and regulations.

For example, in 2007 the Virginia Onsite Wastewater Recycling Association (VOWRA) helped get state legislation passed that requires, among other things, statewide tracking and minimum maintenance for all onsite systems.

The Washington On-Site Sewage Association (WOSSA) is another example of an industry association influencing local regulations for the benefit of all—the environment, property owners, and itself. WOSSA pushed for operation and maintenance (O&M) regulations but was not successful until it partnered with environmental groups to help get the legislation passed. Now O&M providers need to be certified, and county authorities receive copies of all inspection and performance reports. As a result, regulators have the information they need to enforce property owner compliance. Furthermore, O&M providers have the backup they need to convince property owners to invest in their systems and improve performance.

CORPORATE REGULATION

Corporations are legal entities created under state law, and they must follow state law in their day-to-day operations. Corporate regulation applies to the legal formation of the corporate entity that will operate as the RME or service provider.

Limited liability companies are allowed in many states and have different operating requirements from corporations with shareholders. Both are for-profit entities, however, and are created and operated differently from not-for-profit corporations, such as homeowners' associations (HOAs). All of these, however, are registered with a state corporations office or secretary of state and file annual reports.

The types of RMEs that fall under corporate regulation include special purpose districts, subordinate service districts, non-profit electric or sewer cooperatives, for-profit private utilities, private maintenance contractors, and private homeowners' associations. There are also various types of public or government entities, including regional water authorities, tribal authorities, and county health departments.

3 HOW REGULATIONS WORK IN THIS SECTOR

PAGE 3

Utility regulation for decentralized systems is highly variable across the country.

In New Jersey, the Municipal and County Utilities Authority Law establishes the powers of a utility to specifically include the authority needed to operate an RME—such as property access for inspections, charging and collecting fees, etc.

In contrast, Alabama's rules for privately owned, publicly regulated RMEs mandate the fiscal parameters under which such organizations operate but do not necessarily grant other rights.

Still other states have laws related to centralized wastewater utilities or sewer districts that exclude decentralized wastewater services from the utility's jurisdiction.

UTILITY REGULATION

Once a type of corporation is selected, then utility regulations must be addressed. Utility regulation covers unique aspects of utility operations e.g., certificated franchise area designation, meeting a state's fiscal viability requirements, and rate-setting.

The scope of specific entities that may be formed, and the authorities granted to such entities, vary significantly from state to state. Most states have an economic regulator (such as a Public Service Commission) whose role is to ensure that safe and reliable utility services (usually wastewater, water, phone, gas, and electricity) are available to customers at fair and reasonable prices.

The presence of a strong utility regulatory framework is critical to the success of any decentralized RME venture. Regulated utilities can have considerable protection through rules regarding protected territories, collection of fees, enforcement means for non-payment, and property access. Decentralized privately owned utilities should consider avoiding states without adequate public utility regulatory structures.

Agencies that oversee utility regulations generally regulate rates that can be charged by private, for-profit utilities. They typically do not regulate the rates set by government (e.g., town public works department, sanitation district) or non-profit organizations (e.g., homeowners' association). Local governments, including their chartered municipal authorities (i.e., governmental RMEs), engage in their own version of price regulation through setting their rates or accepting/rejecting contractor prices.

ENVIRONMENTAL AND PUBLIC HEALTH REGULATION

Environmental and public health regulations protect and enforce a community's or state's environmental and public health goals. They strongly affect the operating environment for the decentralized wastewater sector, and they vary a great deal across the country. State environmental protection agencies or county health departments each may set standards for siting, designing, installing, servicing, and performance monitoring of systems. The cut-off for whether a local health department or state environmental agency regulates systems usually depends on system design flow and varies significantly from state to state.

One key factor is whether local regulations governing treatment systems are prescriptive or performance-based. According to the CIDWT Glossary, which explains hundreds of terms at www.onsiteconsortium.org, prescriptive regulations provide minimum specific physical standards for design, siting, and construction of system components. A prescriptive approach controls the components of an onsite or cluster system and leaves little room for professional discretion.

A performance-based approach, on the other hand, sets specific, measurable, enforceable standards for outcomes. For instance, water quality performance regulations might set pollutant concentrations and mass loads in treated wastewater discharged to groundwater. Operation and maintenance performance regulations might set the frequency and types of required O&M activities and how they are reported. Under performance-based approaches, each RME determines how best to meet the outcomes in its service area.

This fact sheet was prepared by the Institute for Sustainable Futures at the University of Technology Sydney in Australia and Stone Environmental, Inc., in Vermont.

Time, effort, and good relationships make for successful rate cases.

Tennessee's Public Service Commission (PSC) regulates privately owned utilities. A company can become a publicly regulated utility by demonstrating technical competency, fiscal adequacy, and by posting a bond and paying a fee.

However, when the Pickney brothers (now Adenus Utilities Group) started to prepare a rate case for their RME to go before the PSC in the early 1990s, there was no precedent. It took nearly four years for the first approvals to come through.

Now, Adenus is a success in Tennessee as well as other southeastern states and serves thousands of people. Still, preparing for rate cases is a very time-consuming endeavor.

One of the keys to Adenus's success is that it works closely with developers and state regulators to design, own, and operate new decentralized systems. Its focus on new systems allows Adenus to specify collection and treatment technologies and therefore to accurately predict and control its costs for operation, maintenance, repair, and replacement. This provides a strong technical basis for its rate cases.

Another key question for new RMEs is whether management is mandatory. Is inspection, operation, maintenance, and/or monitoring of some or all systems required by state or local regulation? Privately owned, publicly regulated RMEs have tended to gravitate towards managing new cluster or larger-flow onsite wastewater treatment systems for a variety of reasons. A key reason is that these systems are often permitted at the state rather than county level and are far more likely to have O&M and other management activities mandated by permit. Thus, with these systems, in addition to economies of scale and other non-regulatory advantages, there is more likely to be a requirement for the types of services an RME would provide.

It is important to understand how public health and environmental regulations are applied statewide. Providing RME services across political boundaries with different sets of requirements, which can happen if county or local jurisdictions have their own distinct authority, can hamper success.

On the other hand, related local environmental and public health regulations can provide additional business opportunities. For example, some counties in the state of Washington require an annual food-service permit to run a restaurant, coffee shop, or any business that sells food. To obtain that permit, the business must have the decentralized wastewater treatment system inspected by a licensed O&M service provider who provides a report that is filed with the county certifying that the system is functioning properly.

RESOURCES AND STRATEGIES FOR LEARNING ABOUT LOCAL REGULATORY ISSUES

Useful starting points include the National Small Flows Clearing House onsite wastewater regulations database at www.nesc.wvu.edu/regs_database.cfm and the Environmental Research Institute of the States' 2002 decentralized wastewater report at www.ecos.org/section/publications. A review of state and local governmental websites for environmental and public health regulations and regulatory contacts will also be useful.

Talk to other RMEs and service providers in your area. The National Onsite Wastewater Recycling Association maintains a list of affiliated state associations at www.nowra.org/stategroups.html.

Make appointments with state, municipal, and county environmental, public health, and economic regulators. Through discussions with these individuals, find out:

- What state, regional, or local governmental agencies (health department, state environmental protection agency, etc.) have jurisdiction over the systems your organization desires to design, install, own, operate, and/or maintain? What determines the boundaries of the jurisdictions (system design flow, number of connections, residential or commercial construction)? What regulations apply? What ancillary regulations should you know about?
- How do utility regulations operate in your state? Do they cover wastewater? Has the Public Service Board or Commission dealt with small-scale systems before, in wastewater treatment or other services?
- Within your organization's potential service area, what role does planning and zoning have in the approval process for onsite or cluster wastewater systems? Is there a formal commission? How do they handle planning for growth?

establishing successful RMEs

FACT SHEET **4**

WERF
Water Environment Research Foundation
Collaboration. Innovation. Results.

business structures and models

READ THIS FACT SHEET IF...

you want to know more about different legal structures and business models for RMEs and service providers, and their relative advantages and disadvantages.

TONY TREMBLAY / ISTOCK.COM

A wide range of business models and legal structures are potentially available to those planning to operate as an RME or service provider in the decentralized wastewater field. As you begin to define your scope and the nature of your services, the whole range of possible options for doing business should be on the table. Further investigation of the regulatory climate *(Fact Sheet #3)* and other local conditions and constraints *(Fact Sheet #2)*, completed as part of the business planning process, will shape and narrow the range of possible options to what is both feasible and desirable.

EXISTING BUSINESS MODELS

The EPA (2003) describes five different models for decentralized wastewater management ranging from homeowner awareness through to full RME ownership *(Fact Sheet #1)*. Though the EPA restricts the definition of "RME" to RME operation and maintenance and RME ownership, the term is also often used to include local management programs with operating permits and O&M contractors—called "service providers" in this set of fact sheets. Within the broad categories defined by EPA, there is a wide range of possible ways for RMEs and service providers to begin and to operate.

Homeowners' associations (HOAs) are neither RMEs nor service providers, but they can play an important role in the management of decentralized systems, so they are included in this fact sheet.

4 BUSINESS STRUCTURES AND MODELS

There is one fundamental distinction between the main types of business models used by existing RMEs and service providers: is it a governmental entity or a privately owned entity?

- Generally, governmental RMEs have more power and fewer restrictions. They can enforce payment of bills, condemn land, and turn off other services as a consequence of non-payment. However, they are answerable to the voters and customers in a more direct manner and raising rates to match increasing costs can be an unpopular political issue. This means that funding issues are sometimes left unaddressed, leading to inadequate funding and resultant poor maintenance or lack of performance. There are few, if any, governmental service providers that directly provide maintenance or O&M services for decentralized systems to property owners.
- Privately owned RMEs can be structured to have many of the same powers as governmental RMEs, particularly with regard to turning off services and enforcing payment of bills. Privately owned RMEs generally operate with more restrictions, including regulation of the prices they can charge for their services, but they are granted certificated or chartered service areas that create a monopoly in most cases. Despite the restrictions, many existing private businesses—for example, engineers, manufacturers, and septic tank pumpers—are becoming O&M service providers and even moving into the realm of RMEs.

Find the optimal management model to suit the context.

As part of the transition from pilot operation to permanent management for advanced (nitrogen-reducing) onsite wastewater treatment systems in the New Jersey Pinelands Area, consultants for the New Jersey Pinelands Commission researched and described the legal framework for wastewater management in the state. Within that framework, they evaluated the range of potential types of RMEs for conventional and advanced systems, and made recommendations for creating management programs using the four models most likely to be successful in New Jersey's regulatory climate and local context.

The legal report and resulting management manual are available at www.state.nj.us/pinelands/landuse/waste/septic.html.

HOW A PRIVATE MANUFACTURER HAS STARTED TO TAKE ON SOME RME FUNCTIONS

Premier Tech Environment (PTE), a manufacturer of peat-based and other pretreatment technologies, chose to include a significant number of years of maintenance in the purchase price of its residential wastewater treatment technology, even in the absence of regulations requiring maintenance. The pre-paid service allows PTE to visit the sites at least annually and monitor and maintain records of conditions that could impact systems' performance and long-term reliability. This practice also leads to homeowner expectations that maintenance would (and should) be done on a regular basis.

PTE's maintenance system has evolved from a simple O&M contract with owners into a program in which PTE performs some of the functions of an RME. Maintenance records for over 40,000 treatment systems are entered into a web-based database where permissions can be granted to various stakeholders (such as subcontractors and regulators) to enter or view data and reports. Photos and GPS coordinates are used to substantiate onsite conditions. Reports and violations that impact the performance of the system can be reported to the regulatory authorities as needed. Now that some jurisdictions require lifetime O&M on all components, PTE is offering a range of ways for the homeowner to finance continued O&M services.

See the PTE website at www.premiertechenv.com/en/service/programme_entretien.asp for more information.

4 BUSINESS STRUCTURES AND MODELS

Centralized management of decentralized technologies.

In a small number of situations, government utilities (e.g., Mobile Area Water and Sewer System in Alabama, Jackson County Utility Authority in Mississippi, Loudon Water in Virginia) own and/or operate decentralized wastewater facilities in addition to centralized facilities. This approach is increasingly being called "distributed systems management" to reflect the centralized management of decentralized technologies.

The general advantages and disadvantages of these arrangements are similar to those outlined at right. These organizations have extended their operations into decentralized service provision as a cost-effective means of delivering timely public health and environmental outcomes where centralized systems were either not feasible or not desirable.

MAKING SENSE OF THE DIFFERENT LEGAL AND GOVERNANCE STRUCTURES

Choosing a legal structure for the RME or service provider is a key business decision. Each structure has advantages and disadvantages, and differing powers are vested in an organization depending upon its legal structure. The range of governmental and private RME legal structures that can potentially be used to form an RME is described below, but this general information must be checked against relevant state and local regulations (*Fact Sheet #3*) before choosing a business structure. At the end of this fact sheet is a table listing examples of the many possible structures.

GOVERNANCE STRUCTURES FOR GOVERNMENTAL ENTITIES

WATER, SEWER, AND OTHER SPECIAL PURPOSE DISTRICTS

A special purpose district is a single service political subdivision developed specifically to take responsibility for a service, such as wastewater, drinking water, solid-waste disposal, electricity, or natural gas. Such districts are used in some states for ownership and/or management of decentralized wastewater systems. Many different types of districts may fit within this category, including utility authorities or districts, sewer districts, onsite wastewater management districts, fire districts, special districts (in California or Illinois), and so on. Such districts are sanctioned by state law, and may be independent of another local government unit, or the district may be a combination of county, township or municipal governments. Consequently, district governance varies. Some may be responsible to local officials, while others, such as utility authorities, have elected or appointed governing boards.

Water, Sewer, and Other Special Purpose Districts

Advantages	Disadvantages
Often already established in growing urban areas, so has potential to provide continued service and accountability.	Authority to own or manage distributed systems varies among states.
Fees can be collected via property taxes as part of local government.	Limited service area restricts growth in customer base.
Billing processes and systems in place.	Board turnover or micromanagement may impact operations.
Strong means for dealing with non-payment.	Varying access to governmental financing options.
Defined service areas protect the customer base from competition.	Changes in local politics may impact operations.
Governing board or committee can focus on big picture.	Steep learning curve for traditional wastewater authorities, who may be resistant to newer alternative decentralized technologies.
Potential to issue tax exempt revenue bonds and apply for state and federal money.	

Privately-owned RMEs can succeed by working with a developer.

RMEs that have been successful with this business structure usually work with developers to construct decentralized wastewater infrastructure in a planned development. Upon its acceptance of the completed system, the RME owns/operates/maintains the system and collects fees from property owners.

The biggest hurdle is for RMEs to implement a baseline revenue stream from day one, regardless of property sales, and to negotiate a means of sharing the land value increases associated with moving from onsite systems to a managed cluster arrangement for decentralized wastewater management.

COUNTY OR MUNICIPAL GOVERNMENT

Local government agencies (usually health departments) across the US implement state-level rules for the design, siting, and installation of individual onsite systems. Some local governments, usually through the enactment and enforcement of local ordinances in addition to state rules, administer ongoing O&M programs to ensure systems continue to operate properly. Strictly speaking, these entities are not RMEs, since they do not generally own or operate systems themselves.

Some local agencies choose to operate as monopoly O&M service providers. If the same agency provides the O&M as permits the system, a direct conflict of interest exists. Another serious problem with this approach is that, because property owners have no say over who maintains their systems, the onus is on the local agency to deliver a very high quality service in a non-competitive environment. This approach should be avoided or abandoned. A better approach, which is often used by local and state governments, is certification or licensing programs for private service providers.

County or Municipal Government

Advantages	Disadvantages
Government entities generally already exist.	Authority to own or manage distributed systems usually does not exist.
Staff may already be knowledgeable about technologies.	Staff may be resistant to alternative technologies and management approaches.
Potential to issue tax exempt revenue bonds and apply for state and federal money.	Education of policy makers and key staff may be required.
Burden of upgrade costs rests with property owner.	Local politics or budgetary constraints may impact operations.
Fee collection and billing mechanisms in place.	Staff has multiple responsibilities that create a direct conflict of interest between its permitting and management functions.
Provides continued service and accountability.	

GOVERNANCE STRUCTURES FOR PRIVATE ENTITIES

PRIVATELY OWNED RMES AND SERVICE PROVIDERS

A privately owned RME or service provider, either for-profit or not-for-profit, is a separate legal entity or corporation apart from its owners, created under state law. The majority of existing privately owned utilities are publicly regulated, for-profit corporations that provide the public with an essential commodity or service, such as water, electricity, or wastewater collection and treatment. Such a business is granted certain monopoly rights in the form of certificated service areas, but prices and the means by which services are delivered are highly regulated by public utility commissions under state laws. This business structure is used by RMEs in a few states (notably Tennessee, New Jersey, Alabama and Georgia), but it is not yet widely adopted in the US.

Be cautious about working with HOAs.

Although the HOA model is potentially significant because it represents private governance of individual and/or collective infrastructure, regulators, RMEs, and service providers tend to view HOAs skeptically because of their poor track record across the country.

Condominium associations are similar. However in some instances these associations include more services than HOAs and are said to have a better record of management, staffing, and accounting practices. That said, HOAs can be successful; *Fact Sheet #7* provides guidance on this.

Privately Owned RMEs and Service Providers	
Advantages	**Disadvantages**
Limited liability.	Significant cost and time to incorporate.
Full control of system design, installation, operations and management activities.	Subject to costly and time consuming rate/territory cases before public utility commissions.
Can grow very large.	Often must "sell" the idea to regulators and public utility commissions.
Guaranteed service area (as granted by public utility commissions, within state boundaries).	Owned assets (e.g., land for dispersal sites) may have little resale value.
Provides for good accountability.	Difficult to take business entity across state lines.

COOPERATIVES

Cooperatives are independent, democratically governed utilities owned by the members they serve. They are governed by a board of directors elected from the membership, which sets policies and procedures that are implemented by the cooperatives' professional staff. Membership in cooperatives is generally voluntary. Cooperatives have a long history of providing electrical service in rural areas of the US (see www.nreca.org), and several have started to offer RME services as well.

Cooperatives	
Advantages	**Disadvantages**
In some cases, unlimited service areas.	Board turnover or micromanagement may impact operations.
Established cooperatives adding wastewater to their services have existing administrative systems.	Limited or no access to governmental financing options.
Governing board or committee can focus on big picture.	Members can leave cooperative.
Tax-exempt, provided 85% of revenue comes from members.	Steep technical learning curve for co-op starting to provide wastewater services.
	Limited service areas.
	Subject to PUC rate approval in many states.

HOMEOWNERS' ASSOCIATIONS

A homeowners' association, or HOA, is a legal entity. It is usually a non-profit corporation created by a real estate developer for the purpose of developing, managing, and selling homes within a subdivision or planned community. Property owners are required to join when they purchase a property in the development. The association enforces covenants, conditions, and restric-

tions (CC&Rs) and manages the common amenities of the development. HOAs are governed by boards made up of volunteers from the development who are elected by owners at an annual meeting. Like municipal governments, associations may have the power to provide services, regulate activities, levy assessments, and impose fines. For wastewater systems, the role of HOAs is usually to ensure adequate O&M occurs, either through an RME or a competent service provider. The bylaws of HOAs, however, rarely provide the detail needed for adequate management of a development's decentralized wastewater systems.

TABLE ROCK LAKE WATER QUALITY, INC.

Homeowners' Associations

Advantages	Disadvantages
Easy for developers to create.	Usually reliant on volunteers with limited experience or knowledge in wastewater.
Can continue indefinitely.	Board members may have competing responsibilities and limited interest.
Board of homeowners sets rates.	Limited recourse for substandard installations once developer leaves.
Tax-exempt.	Volunteer board must manage contractors.
	Sinking funds for major repairs often not established or inadequate.
	Weak legal means for enforcing fee collection.
	Poor accountability.
	Can dissolve, leaving no one for regulators to enforce against.

4 BUSINESS STRUCTURES AND MODELS

EXAMPLES OF EXISTING RME BUSINESS STRUCTURES

NAME	INITIATOR	LEGAL STRUCTURE	YEAR*
Water, Sewer, and Other Special Purpose Districts			
Mobile Area Water & Sewer Services, Alabama	Authority staff	Special purpose district	1999 (1952)
Loudon Water, Virginia	Authority staff	Special purpose district	1958
Otter Tail WMD, Minnesota	Local citizens	Special purpose district	1984
Stinson Beach WD, California	Local citizens	Special purpose district	1970
Crystal Lakes W&S Association, Colorado	Local residents in response to state mandate on water use	Private homeowners assn. association	1995
Southern Iowa Regional Water Authority, (SIRWA), Iowa	SIRWA, HD sanitarian, local RD staff	Regional water authority	1975
Paradise WMD, California	Town officials	Special purpose district	1993
Washington Island UD, Wisconsin	Town officials, local residents	Special purpose district	1996
Consolidated UD of Rutherford Co., Tennessee	Utility district staff	Special purpose district	2002 (1968)
County and Municipality Governments			
Newnan Utilities, Georgia	County commission	Municipal utility authority	2006
Charlotte County HD, Florida	County officials, local residents	County government	1991
Cayuga County HD, New York	Local citizens	County government	1994
Warren Village, Vermont	Local citizens	Special purpose district	1999
Broad Top Township, Pennsylvania	Municipal officials, local residents	Township government	~1995
Lake Panorama WMD, Iowa	Private owners' association and County Board of Health	Special purpose district	1980
Private Companies			
Adenus Utilities Group, Tennessee	Company owner/management	For-profit corporation	1994
EcoCheck, Inc., Minnesota	Company owner/management	Private corporation	2002
Applied Water Management, Inc., New Jersey	Company owner/management	Private corporation	1984
Non-Profit Sewer Cooperative			
Ozark Clean Water Company, Missouri	Local business persons	Non-profit sewer co-op	2003
Rural Electric Cooperative			
Connexus WaterWays, Minnesota	Not clear from existing info	Non-profit electric co-op	2000
Tribal Authority			
Tohono O'odham Utility Authority, Arizona	Tribal authority and Bureau of Indian Affairs	Tribal authority	1975

* Year decentralized program established.

This fact sheet was prepared by the Institute for Sustainable Futures at the University of Technology Sydney in Australia and Stone Environmental, Inc., in Vermont.

establishing successful RMEs

FACT SHEET

5 operating successfully as a governmental organization

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READ THIS FACT SHEET IF...

your organization is a governmental organization and you need help to start managing or to improve your management of decentralized wastewater systems. You might be a water or wastewater authority, special district, county health department, or a staff member of a similar organization.

If you are new to decentralized wastewater, do your research before choosing a business structure and management approach. Organizational structures that are encouraged for RMEs in one state may be prohibited by statute in another! (See *Fact Sheet* #4 for further information.)

LOCAL CONDITIONS SHAPE WHAT IS POSSIBLE.

Regulations are key determinants of business structure and operations.

- Most governmental organizations that function as responsible management entities (RMEs) or service providers are structured as special purpose districts, county health districts, regional water or wastewater authorities, or governmentally owned or chartered entities. (For an explanation of an RME, see *Fact Sheet* #1.)
- Unlike privately owned utilities, governmental utilities are seldom required to have rates approved by state-level Public Service Commissions or Public Utilities Commissions. (The state of Pennsylvania is a possibly unique exception to this rule.) However, user fees and service charges must be in line with both the expenses incurred by the utility to provide service and the ability of customers to pay for service (*Fact Sheets* #2 and #3).

Most governmental organizations taking responsibility for decentralized systems are responding to a problem.

Problems driving the need for management of decentralised systems may be related to development pressure, water quality, resource degradation, or a legacy of under-performing onsite wastewater infrastructure. Some governmental RMEs own the on-lot infrastructure. The more common scenario

5 OPERATING AS A GOVERNMENTAL ORGANIZATION

is that they own collection, secondary treatment, and reuse infrastructure. Availability of funds often drives ownership. In some states, funding opportunities are restricted to governmental utilities that own the entire system. Often, the issues facing governmental RMEs and service providers revolve first around getting stakeholder buy-in to repair or manage existing systems, and then around meeting environmental regulations.

MAKING YOUR SERVICE VALUED.

"Successful RMEs—public or private—operate in a climate where the general public accepts the need for management and is willing to pay for it." —Yeager et al., Business Attributes of Successful RMEs, 2006

While this quotation is undoubtedly true, the difficulty lies in creating that acceptance and willingness if it does not already exist. Fundamentally, management of decentralized wastewater systems is about environmental and public health accountability.

Developing multiple strategies to ensure customer interest and compliance is essential. Sewer and wastewater customers often undervalue this service, particularly in a retro-fit situation. They may not have had to pay for wastewater service before, or perhaps have had a much lower level of service, provided at a much lower cost.

Credibility and trust will influence which paths will work and which won't, as well as what is possible (or not) for a governmental RME or service provider. Even though a governmental organization may have good enforcement strategies and regulatory backup—and can require customers to pay for RME service just as they would for centralized wastewater service—communication with customers and others will demonstrate the clear value of an RME. (Also see *Fact Sheet #10.)* Some ideas:

- Run an educational campaign to raise awareness of the severe risks associated with malfunctioning systems and of any known actual pollution of local ground or surface waters by existing onsite systems.
- Engage customers, county or state health and environmental regulators outside your organization, local government officials, service providers, and other stakeholders in creating a vision or target—for example, a 50% reduction in malfunctioning or inadequate systems within 10 years, or a quantifiable improvement in river health.
- Participate in public planning or municipal visioning processes to build rapport and trust with other local officials and others.
- If development pressure is the issue, then engage the developers, as did the Mobile Area Water and Sewer System *(Fact Sheets #2, 9,* and *10).*

Developing the confidence of potential customers is critical, as is considering the benefits of collaboration with other agencies and stakeholders. To be successful, it is essential that you work closely with your key stakeholders.

PLANNING YOUR GOALS AS AN ORGANIZATION.

The goal for governmental utilities providing RME or other services may not be to make a profit, but rather to protect a resource, fix a problem, or prevent unnecessary public infrastructure expenditures by instead implementing cost-effective distributed systems management.

Goals/missions for some existing governmental entities acting as RMEs for decentralized systems.

- **Protect or improve water quality in a given area. (See the discussion of Loudoun Water in Virginia on the next page.)**
- **Increase management of decentralized systems to maintain control of community character by avoiding sewering. (See the sidebar about Paradise Wastewater Management District in California in *Fact Sheet #2.*)**
- **Allow development or increase development densities outside of sewered areas. (See *Fact Sheet #2* for a discussion of Mobile Area Water and Sewer System in Alabama.)**

5 OPERATING AS A GOVERNMENTAL ORGANIZATION

PAGE 3

Established water utility district sets up successful RME operations.

The Consolidated Utility District of Rutherford County (CUD) is the largest rural water services provider in Tennessee and has been operating for more than 40 years. Rapid growth brought new subdivisions to the county, and in 2002 CUD opened a wastewater department to offer wastewater services as well as water services to new customers.

Cost as well as the state's restrictions on discharging to streams made decentralized technology the best choice. The technology is simple and watertight—recirculating sand filters and subsurface drip dispersal fields—and ensures no infiltration or inflow. Wet weather overflows are a thing of the past.

Developers build the infrastructure to CUD's specifications and transfer ownership to CUD to operate and manage in perpetuity. Ownership includes on-lot tanks and pumps on private property as well as the land for the treatment plant and drip field. CUD now has permits in about 30 subdivisions and serves about 2,500 customers. At least another 1,600 lots are planned for the future.

Broadening your goals may be one way to ensure the financial viability of operating a management service for decentralized systems. For instance, consider innovative revenue streams by making use of the outputs of decentralized systems (such as using nutrients or clean water for recycling). Think outside the box for other revenue sources, such as land value capture, consortia, or other services such as garbage removal.

Determine goals early in your organizational planning processes and use the goals to guide your later decisions (*Fact Sheet #8*).

In some situations, particularly where a need or resource crosses jurisdictional boundaries, your original business structure may not be what you end up using to provide RME services.

CENTRALIZED MANAGEMENT MAKES GOOD SENSE

It makes good environmental and business sense for centralized water and wastewater authorities to expand into centralized management of decentralized onsite or community systems.

Loudoun Water (formerly Loudoun County Sanitation Authority) in Virginia serves the unincorporated portions of the county—around 55,000 customers in all, or 175,000 people. Loudoun Water is actively expanding into centralized management of community systems in rural parts of the county, taking on operation and in some cases ownership of systems previously run by villages, hamlets, towns, schools, and the parks and recreation department. In 2007, the number of community systems it operated grew by 32%.

Loudoun Water has the proven expertise and ability to manage these systems, bill customers appropriately, adhere to regulations, perform timely maintenance, and employ sufficient staff to cover all operational demands. Because of its centralized operations, Loudoun Water can realise economies of scale in providing these services, so the cost to the system owner is about the same. The benefits are significant: system owners avoid the headache of trying to manage something they don't fully understand, and the number of system violations has been reduced to near zero.

COMMON PROBLEMS TO BE OVERCOME.

It takes time to accept new ideas.
Your proposal might be new to the region or might require a change in an existing organization with an established way of doing things. Be patient. Starting with these fact sheets, point to related success stories nearby or elsewhere, and enlist opinion leaders. The Water and Environment Research Foundation (WERF) has a great set of resources on communication for creating change at www.werf.org/livablecommunities/tool_comm.htm.

5 OPERATING AS A GOVERNMENTAL ORGANIZATION

PAGE 4

Starting capital is not enough to support operating expenses.
Often an RME is not able to access all the capital it needs to fund its initial years of operation. There can be ways around this, depending on your situation.

- Other facets of the organization may initially support the new RME's operating expenses. For a governmental entity, this might mean using existing staff more effectively or raising permitting fees; for a utility authority, it might mean allocating general fund reserves toward the new service.
- Some functions can be outsourced—to other facets of the existing entity, for example, or as a partnership with another organization. Billing is a great example. It requires specialized skills, tools, and knowledge to set up from scratch, but it is relatively easy to extend existing systems.
- Some governmental utility RMEs save significant funds by requiring private developers to build systems that the RME then takes over and owns, operates, and maintains.
- Some governmental utilities (special districts, utility authorities, etc.) may be able to use bond issues to raise initial capital or as the local match to state revolving fund loan funds—or other financing vehicles traditionally employed by public utilities that offer centralized water or wastewater services. This solution would be state-specific; often SRF is limited to infrastructure improvements, not management. (See *Fact Sheets #2* and *#9* for more financing options.)

A wide range of systems or technologies in various states of repair already in the ground.
Experienced RMEs know that taking on management of existing systems can be a nightmare, unless existing systems are required to be upgraded to comply with existing regulations or related performance standards before the RME accepts ownership or maintenance responsibility.

Other hurdles you may encounter and some strategies for overcoming them.

- Insufficient stakeholder interaction can literally break an RME management endeavor. (See *Fact Sheet #2* for ways to overcome this and initiate interaction with stakeholders.)
- Regulators may be unfamiliar with, or even hostile to, the concept of RMEs or decentralized systems. Engage all relevant parties early and often. Do your homework and go to meetings prepared with current or past examples of your work or of similar projects.
- Non-payment and late payment can be major problems and therefore require anticipation and mitigating strategies *(Fact Sheets #3, 6* and *#9)*.
- Staff management skills may need to be developed through formal courses such as those provided by the Consortium of Institutes for Decentralized Wastewater Treatment (www.onsiteconsortium.org), through mentoring with an existing RME, or through involvement in national, state, and regional organizations pertaining to decentralized wastewater (e.g., NOWRA, Virginia Onsite Wastewater Recycling Association, or the New England Interstate Water Pollution Control Commission).
- Keeping up to date with best practice principles, the latest management technologies and systems, and new regulations can be time consuming. Join a local or federal organization so the information comes directly to you.

Cooperation and hard work can overcome problems.

In Washington Island, Wisconsin, a handful of town leaders and citizens worked tirelessly to establish a decentralized wastewater management program when a plan for centralized treatment fell through due to high costs. They worked hard through the early 1990s to establish community consensus around the program and to convince county and state regulators the approach could work.

This fact sheet was prepared by the Institute for Sustainable Futures at the University of Technology Sydney in Australia and Stone Environmental, Inc., in Vermont.

establishing successful RMEs

FACT SHEET

6 operating successfully as a private RME or service provider

WERF
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READ THIS FACT SHEET IF...

you are a private organization, or are looking to form a private organization to take responsibility for managing decentralized wastewater systems.

SOUTHEAST ENVIRONMENTAL ENGINEERING, LLC

Privately owned organizations are increasing in number in response to this business opportunity, particularly for managing decentralized systems in new developments. They are usually for-profit companies or corporations with fees. If they hold the operating permit for the decentralized wastewater systems, they are called Responsible Management Entities, or RMEs (*Fact Sheet #1*). If they also own the systems, their territory is regulated, i.e., their geographic service area is created and regulated by a public utilities commission or public services commission at the state level.

Besides RMEs, many private service providers, who provide contract design, installation, operation, and maintenance services to property owners, also operate successfully in the decentralized wastewater sector.

MAKING YOUR SERVICE VALUED.

Assess and build on drivers of the need for management.
To take advantage of the business opportunity inherent in managing decentralized systems, private organizations often need to get actively involved in creating demand and building momentum. A good business opportunity is reliant on an effective regulatory framework. (See *Fact Sheet #2* for more about responding to the local context.)

> ***"Get involved in public planning and community planning, and make your face, voice, and professionalism known to stakeholders. Have them trust you. Free time spent there will pay off later."***
>
> ***—Sterling Lee Few***

You could engage customers, county or state regulators, local government officials, and other stakeholders to create a target (e.g., a 50% reduction in major malfunctions over 10 years) that your company can help achieve. Other possibilities include joining or creating an organization that advocates for better management and/or works towards creating public or government mandates.

Creating and maintaining a strong public profile will help you.
Take part in public planning or municipal visioning processes. Listening to concerns is an important step in building rapport and trust with local officials and potential customers.

Equally, marketing campaigns can support a positive image for your business. Keep in mind, however, that advertisements must reflect reality. The best way to appear credible is to be credible *(Fact Sheet #10)*.

Creating a certified franchise may give you surety of customers.
Many privately owned RMEs work in cooperation with developers and build new decentralized systems that have a certified franchise, which means their customers will automatically be bound to subscribe to their service. Collaborating with building projects can result in large customer numbers with reduced management and operating costs.

In other instances, there may be a need to take action to improve how your service is viewed and valued. This can be done by re-branding, developing and implementing new publicity programs, by employing more professional staff, and even by such simple practices as creating or updating staff uniforms.

Offering sustainable solutions creates value.
Value for customers can tie closely to green building or sustainable developments—especially when decentralized wastewater treatment is linked to resource recovery and reuse, such as water recycling, energy production, or heat recovery. The US Green Building Council (www.usgbc.org) has developed rating systems to guide green buildings and neighborhoods.

LOCAL CONDITIONS SHAPE WHAT IS POSSIBLE.

Regulations present both opportunities and barriers for private organizations.
Privately owned, publicly regulated utilities often have less enforcement power than public utilities *(Fact Sheet #4)*. A common option for utilities providing water supply is to shut down services for nonpayment of bills. Some private organizations are using contractual service agreements with customers to gain this same power.

This option has some practical difficulties. Water supply systems have a valve at the inlet to each property, but wastewater systems are seldom designed with an equivalent measure. In any case, shutting down wastewater services can create public health and environmental risks and is disallowed in some states (such as Iowa). As a result, privately owned, publicly operated RMEs may have to rely on more conventional debt-collection measures.

Alternatively, this obstacle can be handled through a contract with the customer, in the form of a user agreement that is part of the closing process for buying a home in a development with an RME-managed system. Under such

Join or create an organization that advocates for improved management of decentralized systems.

Onsite Solutions, Inc., in Virginia, provides O&M services to about 1,200 individual advanced treatment systems. Before 2007, there had been no consistent regulatory requirement for service contracts, though the equipment manufacturer required an initial two-year contract, as did the Virginia Department of Health under special conditions for initial approval.

The owner of Onsite Solutions, K.R. "Trapper" Davis, has been active in the Virginia Onsite Wastewater Recycling Association, which helped get legislation passed in 2007 to require statewide tracking and minimum maintenance for onsite systems. This development will expand the market for Onsite Solutions, while raising the bar for management efforts across the state.

a contract, the RME gains the authority to install its own water shut-off valve on the customer's side of the water meter.

The rates that privately owned utilities can charge their users, as well as rate increases, usually must be approved by a state-level Public Service Commission or Public Utilities Commission. Depending on such a commission's level of experience with decentralized systems and their stance, these negotiations may require significant effort and result in a large financial burden on the utility. However, as more and more RMEs come into existence, there are a growing number of precedents across the country that can be used to make appropriate arguments to regulators.

Environmental regulations, public health rules, and local or county ordinances also apply to privately owned utilities and service providers engaged with decentralized systems. The more effective the regulation is, the stronger your potential business opportunity is. (See *Fact Sheet #3* on Regulation.)

Check the history in your area.
Prior instances of broken trust can significantly influence what is possible for privately owned RMEs. The model of privately owned publicly regulated utility ownership and operation of development-scale wastewater systems that is proving successful in the southeastern US is expressly prohibited in the state of Washington, because regulators had negative experiences with a small number of unscrupulous developers. It is essential that you understand these sorts of relationships and history and work closely with key stakeholders.

Conversely, if you are moving into an area with no or limited knowledge of decentralized wastewater technologies and management, it is important to do it right the first time, to ensure that your own and others' future projects and customers are not put off by bad press.

Identify or help create public or governmental mandates.

In Alabama, a treatment system manufacturer (Infiltrator Systems, Inc.) sponsored legislation to increase scrutiny of privately owned RMEs. Interestingly, the movement towards utility-style management was started by industry, not by regulators.

Under the new rule, any privately owned system with more than two dwellings or establishments and soil-based dispersal is required to have a responsible management entity (RME).

The Alabama Department of Public Health oversees the financial viability of the RMEs by requiring the state's Public Service Commission to review financials for the RMEs and recommend rates once every two years.

PLANNING YOUR GOALS AS AN ORGANIZATION.

Clear goals will give your organization direction and cohesion. Such goals need to be realistic. They are determined both by where you are starting from and where you want to go as a company. Determine goals early in your organizational planning processes and use them to guide your later decisions (*Fact Sheet #8*). Revisit and revise them every couple of years.

Some key questions to consider are:

Do you want to expand an existing company to provide a higher level of service?

- Are technical solutions for onsite or cluster systems in your area increasingly complex? Are there increased regulatory requirements for O&M or monitoring of these systems?
- Are you targeting a niche market? Is the market still there? Has it changed?
- Do you see an existing condition in your area (such as concentrations of aging or malfunctioning systems, or increasing development pressure) as a business opportunity? For example, follow the need for improvement or repair of existing onsite systems, particularly where expensive centralized sewer solutions appear to be the only possible alternative for an area. In Pennsylvania, the 537 planning program allows for consideration of alternatives such as limited onsite management, including RMEs and/or service providers, where onsite repairs and ongoing management can be proven to meet the necessary regulatory and environmental standards.

6 OPERATING AS A PRIVATE RME OR SERVICE PROVIDER

Multiple benefits of decentralized systems are increasingly recognized.

Around the world, decentralized wastewater systems are now being integrated into green buildings.

Applied Water Management Group designed, and now operates, several recycling facilities that treat 25,000 to 35,000 gallons of wastewater and stormwater per day in luxury high-rise green buildings in downtown Manhattan, including the Solaire, Tribeca Green, Millenium Tower, The Visionaire, River House, and The Helena.

The treated water is reused for flushing toilets, filling cooling towers, and irrigating rooftop gardens and parks.

Decentralized recycling systems provide benefits to local water authorities by reducing the draw on existing water supply systems and the discharge to sanitary wastewater systems. With clever design, they also use less energy than large scale centralized systems. *(See www.amwater.com/working-with-us/case-studies/index.html for more information.)*

COMMON CHALLENGES FOR PRIVATE UTILITIES AND HOW THEY HAVE BEEN OVERCOME.

Condition of the existing decentralized wastewater infrastructure is largely unknown.
Onsite systems already in the ground, with unclear histories and uncertain performance, present major uncertainties that can undermine business success. Because of this, few privately owned RMEs have attempted to take on existing systems. The more common response for existing decentralized wastewater infrastructure is O&M contracting. Even if you are a contracted service provider, it is critical to know what you are taking on.

The preferred situation is to take over existing infrastructure only after upgrades to current regulatory standards are completed. This can work in certain situations, particularly where economic drivers are forcing the system owner to upgrade.

In other instances, service providers work with regulators to have them require improvements be completed by the property owner.

In still other situations, private foundations provide loans for homeowners to invest in upgrading and maintaining their systems (e.g., SEC in *Fact Sheet #2*).

Alternatively, work with the regulators and focus first on a permit program, like the one in Segwick County, Kansas (Wichita area), which has created a market for O&M contract service providers.

Startup capital and operating needs outpace available revenues.
The most common solution is to broaden your range of services. Private companies have grown into RMEs from the role of engineer, contractor, or maintenance provider.

Building a critical mass of customers takes time. Two well-known private utilities, Adenus Utilities Group and Applied Water Management Group, started out as engineers and designers of development-scale systems and grew into utilities providing a complete range of RME services. For principals in both these organizations, keeping their "day jobs" while building a critical mass of customers was key to their long-term success.

Another strategy for an RME dealing with new developments is to ensure a return on their investment, regardless of sales—for example, by charging the owner of each undeveloped lot a retainer of $10/month beginning as soon as the system is installed. Then, as properties are developed, homeowners pay the standard connection and processing fee. A related strategy is to put a percentage of the home sales into a sinking fund up front.

Look at other sectors for innovative means of raising capital, sinking funds, or providing services.

Insufficient regulatory interest or oversight.
The state Public Utilities Commission may not be familiar with or receptive to the concept of a privately owned utility to provide decentralized wastewater management services. Regulation to ensure financial viability of privately owned RMEs can deal with this issue. In Tennessee, this happened through bonding to the public service commission; in Alabama and Georgia, through a third-party trustee; and in Massachusetts, through Title 5 legislation, which requires performance bonds and executed agreements with counties as well as a third-party trustee.

6 OPERATING AS A PRIVATE RME OR SERVICE PROVIDER

PAGE 5

Hard work may be needed if there's been no precedent of RMEs. In Tennessee, Adenus Utilities Group took the "school of hard knocks" approach, learning from their mistakes as they went. Although this was an expensive and time-consuming process, it eventually resulted in a successful rate case—and because the utility has service areas designated by the PUC, they have no competition within the developments they serve. Additionally, by being the first such entity and through quality performance, they were able to gain the lion's share of the decentralized utility market before others became aware of opportunities.

This fact sheet was prepared by the Institute for Sustainable Futures at the University of Technology Sydney in Australia and Stone Environmental, Inc., in Vermont.

establishing successful RMEs

FACT SHEET **7**

Water Environment Research Foundation
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developers, designers, HOAs, & contractors

READ THIS FACT SHEET IF...

you are a developer or a homeowner association member with a need for management of decentralized wastewater systems, or a designer or contractor providing services for decentralized systems.

This fact sheet gives some management tips for making better and more sustainable use of decentralized systems through the implementation of effective responsible management entitities, or RMEs (*Fact Sheet #1*). While developers, designers, homeowners' associations, and contractors are not RMEs, they each play important roles in ensuring appropriate environmental and public health protection through the operation of decentralized systems.

FOR DEVELOPERS

What is the opportunity?

A developer's role is to build infrastructure and then to sell it to homeowners. Because wastewater infrastructure managed by an RME offers "sewer" service outside of traditionally sewered areas, it can significantly increase property values.

There is also real opportunity to emphasize sustainable, low-impact development (LID), and smart-growth approaches by clustering systems, as opposed to building on-lot individual systems.

Providing options for water reuse can be more attractive to potential buyers. Decentralized systems treat wastewater close to where it is generated, and enable greater reuse locally.

There is also a potential benefit to the developer who is able to increase development density by installing a wastewater system that can serve multiple lots.

What strategies do developers use?

Developers set up lasting arrangements to ensure that systems continue to function well after they sell properties. This approach begins with high quality soil/site evaluation, system design, and installation. The process continues with safeguards to ensure operation and maintenance, which in turn supports project marketability, maintains developers' reputations, and gives regulators confidence in the approach. Developers use several strategies to facilitate sustainability for decentralized, cluster, and distributed systems after they leave:

- "Partner" with an existing RME *(Fact Sheet #6)*.
- Expand beyond site development to a more design-build-own-operate model *(Fact Sheet #5)*.
- Take legal responsibility for the formation of a homeowners' association (HOA). Past experience with HOAs has been uneven, so regulators may need to be convinced that the developer is prepared to successfully implement this model *(Fact Sheet #4)*. Often the developer controls the HOA until 51% of the lots are sold or some other threshold is met. To do this:
  - The developer creates the HOA as part of the Restrictive Covenants and Deed Restrictions. From this basis, amendments can be easily made to include and set out the technical, managerial, and financial guidelines for the HOA.
  - A HOA must have good guidance to develop and follow a viable business model. They must establish a basis for fees and an annual dues structure that includes provision for O&M as well as emergencies and longer term repair and replacements. The HOA will need to establish service provider contracts, and the developer and installer should have shared responsibility for a certain number of years of system operation.

Developers ensure long-term system performance through partnership with an RME.

Connexus Waterways in Minnesota is a point of contact for developers interested in third-party ownership and maintenance of decentralized treatment systems. The developer may install the system to Connexus' specifications and deed it to Connexus, who becomes the RME taking responsibility for the system's performance. Alternatively, Connexus offers the complete service of system design, permitting, construction, O&M, continuous system monitoring, and ongoing management. (See www.connexusenergy.com/waterwayshome.htm for more information.)

FOR DESIGNERS

What is the opportunity?

Designers can work with a developer (to design new systems in a subdivision, for example) or with a HOA to design replacement systems or repairs.

What strategies do designers use?

- *Designer as planner of system:* Designers need to plan and specify systems that effectively treat and disperse or reuse wastewater and are efficient in terms of their O&M requirements. Designers have a difficult challenge, in that developers often focus only on capital and installation costs, and have less concern about operation and maintenance costs borne by the future homeowner. A designer will have to negotiate to find a balance. One strategy is to calculate life-cycle costs and impacts (see costing resources developed for decentralized wastewater systems under *Related Resources* at the end of this fact sheet) and use these to negotiate leverage points so that developers get returns, purchasers get systems that work, and public health and the environment are protected.
- *Designer as inspector of installation:* This is a critical role. Poor installation can render a good design inoperable. Successful construction engineering includes checking for consistency with plans, documenting any compo-

nent substitution, and documenting component locations, the installation process itself and testing of components, as needed, after they are installed.

- *Designer as developer of operation and maintenance manual:* Good designers supply these as a matter of course, and HOAs often require them. The manuals need to include specifications of installed equipment, operating requirements for system components, required maintenance activities and frequencies, and replacement schedules for system components. Operation and maintenance should include periodic system inspection by a qualified professional, who is often also a qualified designer.

A designer provides operation and maintenance services.

After five years of operation, ecological engineering design company North American Wetland Engineering (now Jacques Whitford NAWE) created a separate division, EcoCheck (www.ecocheck.com), to offer contractual O&M services for decentralized water and wastewater systems.

This arrangement provides high quality management for the systems that NAWE designs and installs, which in turn helps maintain the company's good reputation.

FOR HOMEOWNERS' ASSOCIATIONS

What is the opportunity?

Developers increasingly use home owners' associations as legally responsible entities for cluster systems and other distributed infrastructure. However, HOAs have extremely varied levels of functionality in this role—and few have performed well. Regulators across the country are increasingly concerned about the long-term performance and accountability of HOA-managed systems, especially since HOAs can dissolve, leaving no one responsible for system management. Furthermore, the risks and consequences of unmanaged wastewater systems are considerably greater and more serious than lapses in other typical HOA-managed services, such as trash collection.

Issues around sustainability and lack of professionalism can interfere significantly with the success of this model. Lack of consistent, effective leadership in HOA boards has resulted in failure of this model in some situations. Some states will not accept HOAs as management entities because of poor experiences in the past, or because the dangers and pitfalls are deemed too great. Prospective HOAs looking to take on decentralized wastewater management responsibilities need to be aware of the long-term professional commitment required for success.

Typical characteristics of a HOA include (*Fact Sheet #4*):

- Boards are voted in by (and therefore represent) members.
- Membership in the HOA is generally required as a condition of purchase or ownership.
- The HOA is responsible for maintaining community infrastructure, often including large-scale wastewater system elements such as collection systems and community drainfields.

Management of the wastewater systems is in the interest of HOAs, because system failure leads to repair costs that affect all owners and that may even affect property values.

What strategies do HOAs use?

While HOAs could hire staff to perform maintenance, usually HOA boards end up managing a variety of contractors who perform various services (engineering, inspections, septic tank pumping, permitting assistance, etc.). Ideally, the HOA should be required by covenant to have a long-term maintenance contract with a licenced qualified operations and maintenance provider or RME (*Fact Sheets #5* and *#6*), as this eliminates piecemeal work. In addition, it is often preferable that the homeowners pay up front for the year so all O&M fees are collected in advance and deposited in a designated account.

This fact sheet was prepared by the Institute for Sustainable Futures at the University of Technology Sydney in Australia and Stone Environmental, Inc., in Vermont.

Learning from municipal trash-haulers: A consortium to help existing contractors expand and provide long-term services.

Forty-nine independent trash-hauling companies in the Minneapolis region, aided by their industry association, formed a consortium that has been contracting with the City of Minneapolis since the 1970s. The consortium has its own staff to coordinate operations and to provide additional services such as collection of recyclables. It subcontracts its member-shareholders to service their combined customers, making sure that no individual member company suffers a loss of customer numbers. The consortium—now with 12 members following mergers and acquisitions—has operated successfully for more than three decades and has been re-awarded the contract in a competitive bid.

The model holds promise for creating an entity to improve management of existing decentralized systems, for which RMEs usually avoid taking responsibility. A consortium of wastewater transporters could bring in other actors to provide a complete management service, filling this critically important gap.

It is important to ensure the bylaws of the HOA include provisions that enable the wastewater system to last as long as the houses do, and to function well for many decades. This includes ensuring an adequate budget for routine maintenance, and a "sinking fund" for major repairs and replacements as well as emergencies. It is also important for HOA boards to have adequate oversight processes to monitor transactions, consistent with the requirements for utilities.

The bylaws of the HOA must also identify homeowners' responsibilities towards the wastewater system: water use, garbage grinders, inappropriate disposal of pharmaceuticals and other chemicals down the drain, failure to pay, shut-off requirements, and safe management/reuse of treated effluent.

FOR CONTRACTORS

What is the opportunity?

Pumpers, maintenance providers, inspectors, and engineers all play roles through contracts with the HOA or developer to provide services that are essential for the good performance of decentralized sysems. In some cases, RMEs contract for almost all the services they provide:

- The not-for-profit sewer company Ozarks Clean Water Company in Missouri outsources around 90% of its RME functions, such as design, engineering, installation, and maintenance, to White River Valley Environmental Services.
- Minnesota O&M service provider Ecocheck (see above) joined with the electricity cooperative Connexus to create the RME Connexus Waterways. The contract with Connexus constitutes around 25% of Ecocheck's business.

Licensing requirements are variable, from profession to profession and from one locality to the next, but contractors must be properly licensed for whatever work they perform.

RELATED RESOURCES

There are several costing resources that can help designers make life-cycle cost arguments for the installation and operation of systems aligned with good design. See, for example, the Australian publication *Costing for Sustainable Outcomes in Urban Water Systems—A Guidebook* (www.waterquality.crc.org.au/publications/report35_costing_sustainable_outcomes.pdf) and the guide for asset management commissioned by the National Decentralized Water Resources Capacity Development Project (NDWRCDP) *Decentralized Wastewater System Reliability Analysis Handbook* (www.ndwrcdp.org/userfiles/WUHT0357.pdf).

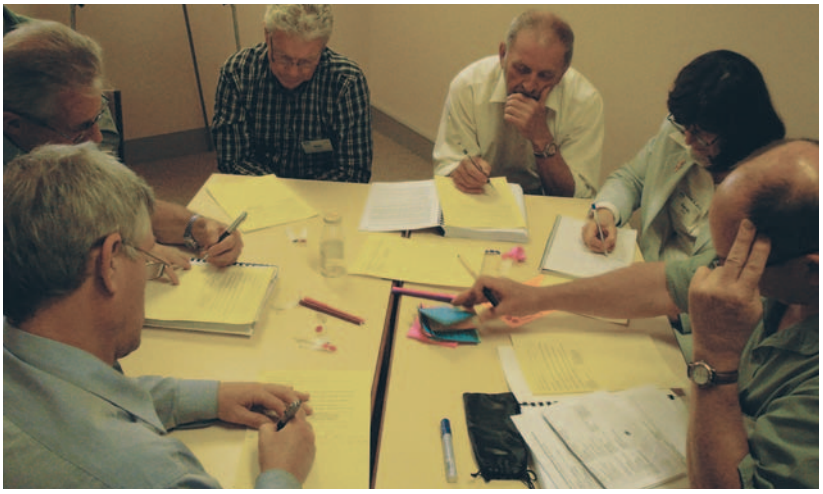
establishing successful RMEs

FACT SHEET

8 writing and updating your business plan

READ THIS FACT SHEET IF...

you want to plan how to develop an organization that manages decentralized wastewater systems, to improve your existing organization, or to expand an existing organization to take on these functions.



WHY WRITE A BUSINESS PLAN?

A governmental organization might use a business plan to assess a new service opportunity. For example, an existing government utility that is considering moving into the decentralized wastewater sector can use the process of writing a business plan to think through pros and cons, and what it might take to set up a new division to deliver decentralized services.

A privately owned organization is most likely to use a business plan to focus on fundraising (equity or debt) with investors and to promote the business. The plan also forms the basis for discussions with administrators involved in corporate formation as well as with utility regulators who control pricing and setting up certificated franchise areas.

Regardless of governance structures, the business planning process is a useful management tool. An effective plan will:

- Help managers to focus on ideas and convert them to realistic courses of action that emphasize measurable goals.
- Create a specific, defined management path in the early stages.
- Identify targets for performance measurement, or "milestones."
- Provide a persuasive basis for attracting equity and debt financing, or people.

- Assist in complying with regulations, defining job duties, etc.
- Identify professional expertise that will be necessary to meet the goals of the RME, once established.

Business plans are required for financing. Banks or professional investors will not finance a new venture without a business plan. Even with a plan, the content and packaging must be excellent: concise, hard-hitting, and comprehensive.

Business plans demonstrate planning. A plan shows that management has thought about its corporate goals, management team, products, strategies, competition, and the need for capital. A business plan honestly lays out the weaknesses as well as strengths, problems as well as opportunities—and strategies to deal with it all.

Many organizations write a plan only when they must, for an external audience such as a lender or an outside investor. The common refrain "I'm too busy running the business" is a big mistake. An organization can hire a business planner and receive advice and support. (See *Related Resources* at the end of this fact sheet.)

Getting to know your customers and including them in your processes is critical for success.

In a New Jersey community in the 1980s, local officials developed a comprehensive management program for onsite wastewater treatment systems in coordination with the county health department. The public, who ultimately would pay for the management, was not involved in the process. The public meeting at which the management program was presented saw such vehement public outcry that the concept of management was taken off the table as a matter of statewide policy for over a decade.

HOW TO WRITE A BUSINESS PLAN

The business plan should reflect the nature of the specific RME or service provider, its industry, and its stage of development: just starting (no customers) versus expanding (some customers).

The text of a plan should be 25-30 pages long, excluding attachments. The plan must be crisp and easy to read. If you are seeking financing, it must persuade banks, investors, and/or grant providers that you are professional—and that they should want to learn more about the organization and you, its management.

There are many publications on how to write a winning business plan, but many beginning business owners do not do their homework--or they read an instructional piece, and then ignore what it says. In any case, most real plans are poorly conceived, badly written, and incomplete.

What follows is an outline of a standard business plan. Variations of the layout are fine, as long as all the topics are covered completely. Failure to cover all the key areas is one of the most common mistakes of managers starting a business.

OUTLINE OF A STANDARD BUSINESS PLAN

COVER PAGE

- Including "who to contact" information

EXECUTIVE SUMMARY

- 1,400 words or less, 3-4 pages.
- Include an organization summary paragraph that includes: **1)** Name, **2)** Type of RME (non-profit, governmental, private), **3)** Legal structure

(501-c4, Limited Liability Corporation, C Corporation, etc), **4)** Location and web address.

- Include links/additional info around legal structure options *(Fact Sheet #4)*.
- Summarize sections listed below.
- Include amount of financing (loan or investment) needed.

MAIN PLAN (25-30 PAGES)

Market Opportunity

- What trends or events exist that create an opportunity for your operation as an RME? This might include regulations that require hiring and paying you.
- What problem exists that you hope to solve? What is not currently working and why? Is there a need to comply with new regulations? An environmental problem?
- How large is your attainable market? What is its expected growth?
- Segment the market according to what you can realistically hope to service. If you plan to start and stay in a single county, don't quote the entire state as your total market.

Customers

- Customers are the ones paying you. Who are they? What is the relevant demographic profile? Are they new homeowners? Existing homeowners? Are they full-time residents or are these second homes? Are they high- or low-income (describe bracket)? Does age or education level matter?
- What do your customers care about? Is there a problem they want you to solve? Or do they just not want to think about their wastewater systems?
- Talk to some. Enterprises that fail often do so because they don't understand their customers. Go out and talk to them. Also, do a survey. (See *Related Resources* at the end of this fact sheet.)

Product / Services

- Describe your product and/or service. What do you do? Design? Build? Own? Service? License? Inspect?
- How does it address the market problem or opportunity?
- What are its main features and benefits to customers?
- Think about it from your customers' perspective. How would you pitch it?
- Don't forget features like maintenance, repair, replacement, and customer service.
- How will you charge? An up-front fee? A monthly fee? How much will you charge?

Competition

- What alternatives do your customers have to hiring you?
- How do you compare with competitors on features customers care about (cost, reliability, service, etc.)? What is your competitive advantage?
- You have more competition than you think. Doing nothing or sticking with the status quo are real competition since people hate to change, or to pay for what was free.

Marketing

- How will you get your customers? Mailings? Web site? Referrals from other utility providers? Other advertising?

Using computers to improve operations.

The Washington Island Utility District installed a fully automated web-based database and tracking system that has improved operations significantly. Service providers, inspectors, and regulators are able to enter information from all onsite system activities (inspection, maintenance, repair, pumping, and disposal). The system notifies the District when properties miss inspections or other required actions. Property owners can access their complete service history, and pay their inspection fees online. By having service personnel directly input data, the district is no longer liable for data manipulation errors.

8 WRITING AND UPDATING YOUR BUSINESS PLAN

Explain your terms.

Business plans should avoid jargon or industry-specific acronyms. For example, use "Responsible Management Entity" rather than "RME" and explain what it means, as most bank loan officers and potential investors will not be familiar with the term "RME." Add an explanation of decentralized wastewater systems and how they differ from centralized systems.

- Even if your customers must use your services, you will need to publicize your business and explain how customers sign up.
- Will you need to gain support from environmental or neighborhood groups to support (or not stand in the way of) your pitch to customers?
- Consider partnerships to make your sales process easier and cheaper. Can you work with real-estate developers or agents to include descriptions of your services in their literature? Have municipalities advertise your services? Schedule town meetings?

Operations Plan

- What activities do you need to undertake? (See *Related Resources* at the end of this fact sheet.)
- How will you deliver your service? This includes labor, materials, equipment, outsourcing, systems, processes, and administration.
- If you design the system, how will you do it? If you install systems, how will you do that? How will you connect people to it? Maintain and service it? Will you hire people full or part time? Will you outsource some functions?
- Will you buy, rent, or lease your equipment?
- What kinds of permits, licenses, inspections, and other regulatory compliance will you need to do business? How will you meet these obligations?
- How will you bill people? How will you collect when people fail to pay?
- What types of skilled workers will you need? How will you find and keep them on?
- What kinds of administrative details must you address: legal, insurance, IT, HR, regulatory, etc.?
- How will you start, grow and expand? What kinds of steps (applications, approvals) will you need to take to begin? Will you start offering services in one neighborhood and then expand? Start with one type of customer and then add others? Something else?

Management Summary

- Who is on the team? What are their relevant skills and backgrounds?
- Who do you need on the team that you don't yet have (for example, sales, operations, or finance staff)? How do you plan to bridge these gaps?
- How do you plan to motivate and reward your people?
- Who is on your Board of Directors?

Financial Assumptions

- How are you assuming your revenues will increase? How quickly will you add new customers? What is your price? Can you increase your price?
- What are your major costs? How will these increase over time?
- How many people will you have on staff—to start, and as you grow?
- What are your insurance needs, and will these needs change over time?

Financial Statements

- Projected financial statements: Income statement, Balance Sheet, Sources and Uses of Cash (Cash Flow Statement).
- Breakeven analysis, financial ratios, and financing needs.
- See *Fact Sheet #9* for more information.

8 WRITING AND UPDATING YOUR BUSINESS PLAN

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RELATED RESOURCES

There are many resources on the web for helping small organizations think through what is important for them. The U.S. Small Business Administration website is a great place to go for useful guidance: www.sba.gov/smallbusinessplanner/index.html). It has everything you need for every stage, from blue-sky wonderings to everyday operations. The Canadian equivalent in British Columbia even has an interactive process for creating your business plan, and offers to review a draft business plan (www.smallbusinessbc.ca/bizResources-planReview.php))—you may even find a similar service locally. There are plenty of privately run sites too, like this one —www.prenhall.com/scarbzim/html/resource.html.

The Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems (www.epa.gov/owm/septic/pubs/onsite_handbook.pdf) is a "how to" guide in an operational sense, for managing decentralized systems in line with the EPA's Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems.

Customer surveys and interviews are a valuable source of information. You can do an online survey (one example is available at www.surveymonkey.com). Or, you can do a written survey by mail, including a stamped envelope for responses. Refer to advice for designing good survey questions—freely available on the Internet.

This fact sheet was prepared by the Institute for Sustainable Futures at the University of Technology Sydney in Australia; Stone Environmental, Inc., in Vermont; and Maureen Burke, independent consultant.

establishing successful RMEs

FACT SHEET

9

WERF
Water Environment Research Foundation
Collaboration. Innovation. Results.

projecting your financial requirements

READ THIS FACT SHEET IF...

you are a new or expanded organization managing decentralized wastewater systems and want to plan realistically to remain financially viable in the long term.

You need financial projections to get funding from banks, and lending agencies. Projections help you plan for breaking even and starting to make a profit. This is important even if you are a non-profit RME—you must break even to remain viable. (See *Fact Sheet #1* for more on what an RME is.)

Your financial projections should:

- Establish capital costs.
- Project ongoing operation and maintenance costs.
- Make provision for future replacement.
- Analyze and project the user base over time.
- Identify potential funding and revenue streams over time.

Financial projections produce the following kinds of outputs:

- Income Statements.
- Balance Sheets.
- Sources and Uses of Cash Statements (Cash Flow Statements).

This fact sheet is a comprehensive starting point that addresses the basics. It is accompanied by a separate spreadsheet model for making simple financial projections for the organization. (See <Model Template.xls> file.)

You can use the template model to help calculate Balance Sheets, and Sources and Uses of Cash. You can also do some statement analysis by

inputting your customized income statement and making some simple assumptions.

In practice, however, you will likely need to build your own Income Statement model. The key drivers often are unique to the particular situation. You can hire someone or get help from one of the many resources available. (See *Related Resources* at the end of this fact sheet.)

Financial planning can turn a failing organization around.

Overinvestment in sewer expansions put Charlotte County Utilities (CCU) deeply into debt in the mid 1990s, with customers outraged by high rate rises to service debts. Under threat of privatization, staff members took stock of the existing situation and made decisions based on business criteria. CCU turned to mini-expansions of the network using pressure sewers financed by a revolving fund, rather than taking on further debt. By cutting costs, increasing its customer base, and achieving operational and organizational efficiencies, CCU was able to reduce rates every year from 1998 to 2002.

SOME WARNINGS

- **Most people starting new businesses are much too optimistic; they underestimate the time it takes to get things done, and how much things will cost.** Their energy and enthusiasm cloud their judgment. Over-optimistic expectations often lead to underestimating how much money is needed to finance initial losses.
- **Doubling the size of the business each year is about the maximum a good CEO can really achieve.** And that is after the business really gets going—in Year Two or Three. Even growth that fast is extremely difficult to manage. Most successful businesses do not grow faster than 100% per year, nor do they need to.

GETTING STARTED

Tackle the Income Statement first.
Project your number of customers based on the key revenue driver. New home sales? Transfer of existing systems to your company? Number of installations possible in a month? RME person to go out and sign homes up? Alternately, project the price you can charge per customer. It may make sense to focus on a realistic number of initial customers as a base from which to project expansions.

Next, think through the costs associated with serving these customers:

- **Cost of Goods Sold.** These are the direct costs of providing services—materials, installation costs, inspection, sampling and testing, maintenance, replacement of failed mechanical equipment, regulatory costs, billing system, etc.
- **Selling Costs.** Training field staff, marketing, advertising, travel, website, etc.
- **General & Administrative Costs.** Management, office space, supplies, utilities, insurance, human resources, IT, etc.

It is usually best to do monthly projections for the first two years, then quarterly after that. Add the periods up, and calculate the annual summaries.

Once you have built out your Income Statement to several years, you can transfer the totals to the Model Template, or construct your own.

Some key points to remember:

- Following these financial conventions allows you to compare your projections with other similar RMEs to see if they're reasonable. Some government organizations, for example the USDA in Iowa, support new RMEs by showing them similar budgets and projections from existing RMEs in other locations.

9 PROJECTING YOUR FINANCIAL REQUIREMENTS

Being conservative about service and revenue structures can reduce financial risk.

Mobile Area Water and Sewer System (MAWSS) in Alabama minimizes its financial risk through conservative service and revenue structures to ensure its costs will be co vered. MAWSS typically meets 30% to 40% of the facility cost, and recovers the remainder from developers who connect to the system. The developer fees are set at a level that enables MAWSS to recover the developer's portion of the facility cost within 10 years.

- You may not have any revenues for the first few months—as you build the system, sign up customers, etc.—but you will still have expenses. Model this reality.
- RMEs and service providers need to attain a critical mass of customers in order to support necessary staffing requirements. This depends very much on the situation—the services provided, the location, and user fees charged. One study of RMEs across the country estimated that, on average, a minimum of $270,000 is required annually to cover fixed administrative and operating costs. That means a critical mass of 750 to 1,000 connections if user fees are to be kept around $30 per month. An RME in Iowa projected they need 300 users paying $30 per month to maintain each staff member. On the other hand, an O&M service provider in Virginia estimates its critical mass at about 300 customers. Since estimations vary, you will need to make estimations to fit your situation.
- Don't forget to figure in one-time start-up costs—to incorporate, write a business plan, obtain licensing, pay permitting fees, obtain regulatory approval, etc.
- Be sure to model total headcount and include cost of payroll benefits (typically 20-25% of salary). You should allocate personnel costs based on function to Cost of Goods Sold, Marketing & Sales, or General & Administrative.
- Rental space can be estimated by using the formula (Headcount x Avg. Sq. Ft. Per Person x $ Cost Per Sq. Ft.).

Your projections might look something like this:

Monthly Projections	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Revenues	0	0	300	600	1,300	2,600
Cost of Goods Sold	0	0	100	300	600	1,300
Gross Profit	0	0	200	300	700	1,300
Sales & Marketing Exp.	400	500	700	900	1,100	1,200
General & Admin Exp.	400	700	900	1,100	1,300	1,600
Operating Income (Loss)	(800)	(1,200)	(1,400)	(1,700)	(1,700)	(1,500)
Depreciation Expense	100	100	100	100	100	100
Interest Expense	100	100	100	100	200	200
Taxes	0	0	0	0	0	0
Net Income (Loss)	(1,000)	(1,400)	(1,600)	(1,900)	(2,000)	(1,800)

Operating income is calculated on gross profit less expenses. It is an estimate of how much money you will need to raise—on top of the cost of any property and equipment you must buy. Does this number make sense? Are you losing enough money (have you remembered all your costs)? Are you losing more money than you can raise?

There are two approaches to building out future years:

- Continue estimating growth of customers from month to month, quarter to quarter, as described above,

Or:

- Pick a break-even year—the year your operating income exceeds costs and you don't need outside financing to survive. Take this approach if there is a year by which you must break even. If, say, banks or investors require

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Financing alternatives.

For parts of its wastewater infrastructure, the Town of Paradise, California, used the municipal lease concept, which enables a town and eligible private parties to mutually benefit from the tax-exempt borrowing power of a municipality. As a government institution, the town can access a low interest loan with a lease-to-purchase arrangement with the lender. The debt plus O&M costs are recovered through user fees. The town (as RME) owns the system once the loan is paid off, and the system is paid for by users rather than general taxpayers.

The Washington Island Utility District in Wisconsin is the RME for the island's onsite systems and wastewater holding tanks (with periodic hauling to treatment sites). It raised revenues through fees paid by onsite system owners for spreading wastewater on fields, spreading-field rents paid by pumpers, permit and inspection fees, and other charges. The district's revenues have exceeded its costs, and the surplus goes into a reserve fund for future investments. The reserve partly funded a large treatment plant to accept holding-tank wastes and septic tank contents.

that you reach break-even by year three, figure out: What would this take in sales? Figuring out what your break-even year looks like, and when it will occur, probably is the single most important part of making a good set of projections.

Look especially at the gross and operating profit margins, and at the categories of costs. At this stage of your business, your profit margins should not be higher than similar RMEs—nor your cost margins lower. Does your business differ in key respects? If so, can you explain why?

If your projections look reasonable, then you can smooth in the year(s) between Year One and your projected break-even year. Project out past your break-even year. Do not grow faster than people will believe. Consider a 50% annual growth rate in revenues as a first cut. Remember to increase costs as you grow.

With either approach, remember to increase costs with sales. A common mistake, for example, is to forget to add personnel as the business grows. As personnel increases, so may rent, supplies, utilities, insurance, and other expenses. It is also important to account for potential increases in maintenance costs over time as systems age.

NOTES ON USING THE TEMPLATE MODEL

- Typical key asset items to include are cash in bank, accounts receivable, inventory, fixed assets,[1] other assets.[2]
- Other reasonable links or relationships are possible. The balance sheet should grow in line with the growth of the business. Balance sheets use cash, too.
- You also need to project Capital Expenditures (property, plant, equipment purchases) and some Depreciation Expenses. Include replacement costs for failed as well as worn out equipment. Set Depreciation Expense as a percentage of Net Fixed Assets as of the end of the previous year. The template assumes an average rate of 10 years.
- The template model will use this information to complete a "Sources and Uses of Cash" Statement and generate a large number in the "Necessary to Balance" line of the Balance Sheet.
- Necessary to Balance is not an accounting category. Instead, for each year, "Necessary to Balance" represents the amount of financing that you need. You must assume that you will sell equity or borrow debt, or some combination—equal to the amount of "Necessary to Balance."

RELATED RESOURCES

There are many resources on the web for helping people with financial projections. The Small Business Administration website (www.sba.gov/smallbusinessplanner/index.html) is a great place to go for useful guidance, online training courses, and to find links to other resources like Small Business Development Centers.

[1] Net Fixed Assets from last year, plus Capital Expenditures minus Depreciation, this year.
[2] Other Assets might include prepaid insurance or rent, intangible assets, etc.

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FACT SHEET **10**

WERF
Water Environment Research Foundation
Collaboration. Innovation. Results.

marketing: making your services known

READ THIS FACT SHEET IF...

you are planning to start an organization that manages decentralized wastewater systems and are wondering about making your services known.

TABLE ROCK LAKE WATER QUALITY, INC.

WHY?

Marketing and maintaining a positive public face is important for many reasons. Which reasons are most important depends on the type of RME or service provider you are. (See *Fact Sheet #1* for what an RME is; see *Fact Sheet #4* for an explanation of the different types of RMEs.)

DO YOU HAVE COMPETITORS?

If your organization operates through maintenance contracts with your customers, you generally have competitors. To get new customers and keep your existing customers, you need to differentiate your service from others and maintain good relationships with your customers.

If your target customers are existing communities with existing systems that were previously not regularly maintained, marketing is important to get people to sign up. If there is no regulatory requirement for them to maintain their systems, you are competing against a "do-nothing" alternative. You need to convince people of the value of management and gain their trust. Teaming up with environmental health regulators and/or educators can help. If there are established neighborhood groups or environmental groups in your area, you

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10 MARKETING: MAKING YOUR SERVICES KNOWN

could run marketing campaigns that inform them of the importance of the services you provide. Keep in mind, though, that to build your reputation as a credible and trustworthy organization, you need to be all that you claim.

MARKETING CAN MAKE THE DIFFERENCE BETWEEN SURVIVING—AND NOT.

This story is true; the names have been changed.

Rick and Bob are competing onsite system contractors in an area where a manufacturer mandates O&M with qualified contractors. Rick has a shy personality and waits in his vehicle until his customers leave for work to move onto their properties. Bob, on the other hand, is an extrovert who relates to his customers like friends—he knows the dog's name and remembers the kid's birthday. Bob's customers trust him, pay the whole bill on time, and give him referrals. Rick's customer base is shrinking, and he gets phone calls from unhappy people who receive bills for services they don't think even happened.

Getting some training from a marketing consultant would help Rick to be more competitive—or he might need to hire external marketers.

Team up with developers to do your marketing.

Mobile Area Water and Sewer System (MAWSS) owns and operates decentralized systems in new developments. Developers arrange for each new home owner to sign a "Homeowner's Sewer Collection System Agreement" that tells them the do's and don'ts of using their system and gives them liability for misuse, before a connection is established. This agreement is legally binding on future owners.

Referrals from satisfied customers can go a long way. The actions of your service personnel matter a great deal, especially when they work on your customers' properties. Train your staff to present themselves and your business positively. They are your marketers and the public face of your enterprise!

RMEs that own and operate systems sometimes have to compete to gain access to new developments. Develop good relationships with developers and collaborate with them to gain trust and build your reputation.

Service providers could also team up with developers or real estate agents—or with other service providers who have access to your target customers—to publicize and provide information about your services.

ARE YOU PROVIDING A MONOPOLY SERVICE?

Many types of RME or service provider will not have competitors; customers in some areas may have no alternative but to sign up. These include utility-type RMEs (governmental or privately owned), home owners' associations, wastewater districts or zones, or entities that run operating permit schemes.

Even if your customers must use your services, you need to publicize your business so that they know you are their service provider. Customers also need to know how to sign up and what to do if things go wrong. Marketing is largely about keeping people informed, helping them learn about their systems and how to use and operate them, and demonstrating continuing value from providing management. Most importantly, marketing is about building and maintaining trust.

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Gaining the trust of your customers by talking directly always helps.

Even large utilities that provide a monopoly service recognize this.

When Charlotte County Utilities converts individual septic systems to neighborhood treatment systems, they have a series of meetings with neighborhood residents where officials explain the program and frankly describe disruptions during construction. They identify staff and contractor vehicles, introduce the job crew, and tell residents what to do if construction problems arise. As a result, conversions progress more smoothly.

GENERAL MARKETING RULES.

- In most cases, your target customers are readily apparent (new homes in a new development, for example, or new and existing homes in a particular area). For these situations, talking directly with customers or prospective customers is usually the best approach.
- Direct interaction with customers gives you an opportunity to gain feedback and improve your service.
- Your technical field staff, as well as anyone who answers telephone, mail, or e-mail inquiries, is your public interface and therefore your "marketers." It is well worth training them to be effective in this role.
- An informative website can be a useful marketing tool, providing potential customers with comprehensive information about your services and organization that can't be conveyed effectively through other channels.

YOUR PRICING STRATEGY IS IMPORTANT FOR YOUR PUBLIC FACE AND YOUR VIABILITY.

To determine how you should price your product or service, you must know:

- How competitors or other similar organizations price their services.
- What your costs are.
- What your profit margins should be.
- What your customers' capacity to pay is.
- What message you want to send with your price (quality, value?).

The tendency may be to price your services much too low for fear that the competition will undercut you. But if you have a superior offering and advantage, then stand your ground and be willing to charge more for this. It is easier to cut prices later than to raise them.

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