



3rd International  
Faecal Sludge Management  
Conference



# UbuntuSAN: A Micro-Entrepreneurship Model for Point-of-Use Dry Sanitation and Sludge Beneficiation using Concentrated Solar Power

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Marshall Sheldon,  
Deborah Cousins, Alvin Lagardien

Cape Town, South Africa



# Smart Designs changing lives

THE PROBLEM



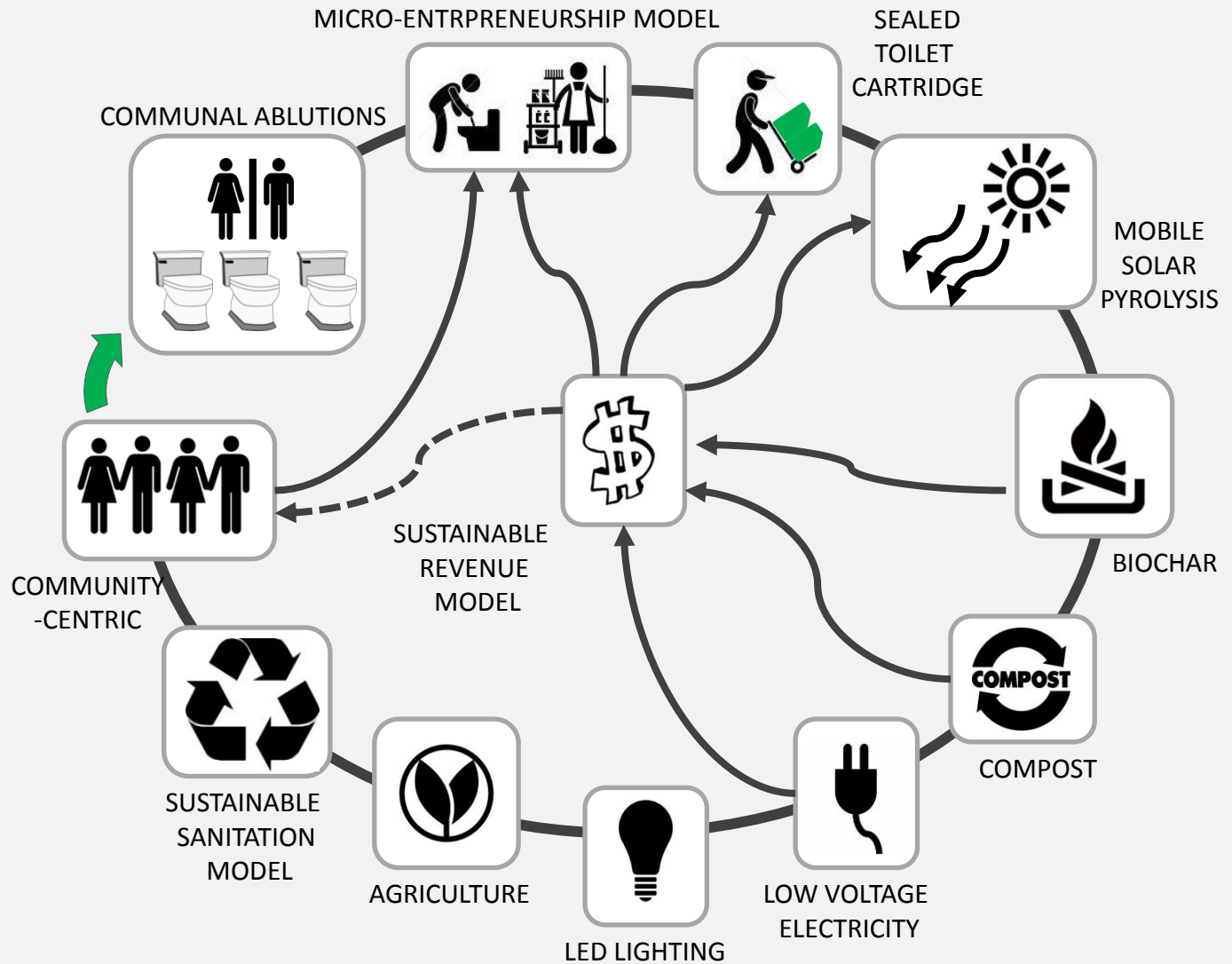
# Smart Designs changing lives

THE PROBLEM



# Smart Designs changing lives

## CLOSED-LOOP SANITATION MODEL



MOBILITY + MODULARITY = VERSATILITY

Smart  
Designs  
changing  
lives

MOBILITY



**Abōd**

ONE HOUSE, ONE FAMILY, ONE DAY

# Smart Designs changing lives

MOBILITY

# Abōd

ONE HOUSE, ONE FAMILY, ONE DAY



MOBILITY + MODULARITY = VERSATILITY

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Designs  
changing  
lives

SATELLITE  
ABLUTIONS



**Abōd**

ONE HOUSE, ONE FAMILY, ONE DAY

  
UBUNTUSAN

# Smart Designs changing lives

SATELLITE ABLUTIONS



**Abōd**

ONE HOUSE, ONE FAMILY, ONE DAY



# REINVENT THE TOILET

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lives

CARTRIDGE  
BASED  
SERVICES



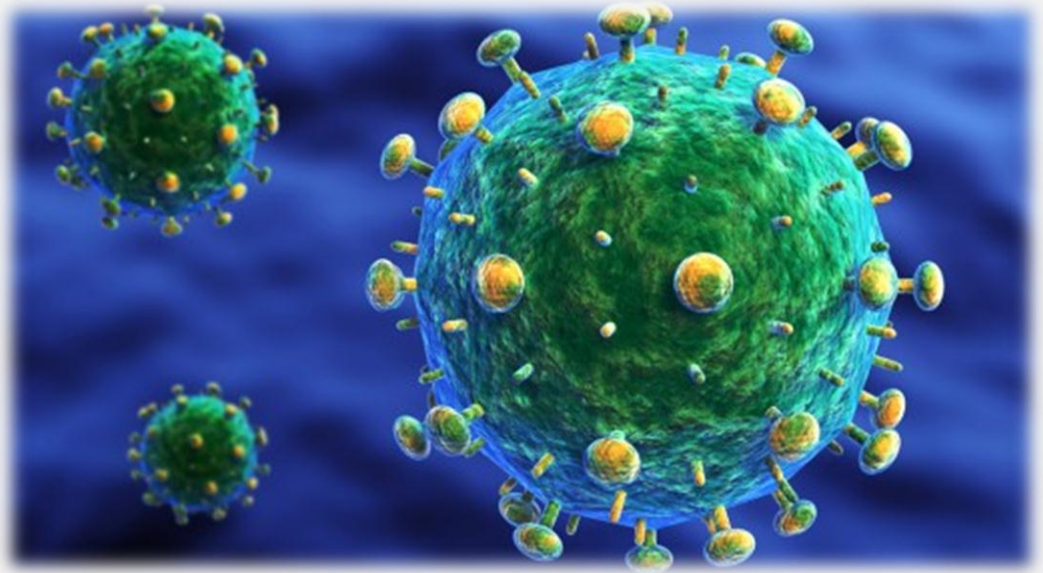
# Smart Designs changing lives

SATELLITE ABLUTIONS



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changing  
lives

ELIMINATE  
PATHOGENS



# CAPTURING THE POWER OF THE SUN

Smart  
Designs  
changing  
lives

LINKING THE POWER  
OF THE SUN TO  
SANITATION



# BY CONCENTRATING SOLAR ENERGY

Smart  
Designs  
changing  
lives

LINKING THE POWER  
OF THE SUN TO  
SANITATION



# Smart Designs changing lives

LINKING  
MOBILITY TO  
SOLAR CAPTURE



# CONCEPT-TO-PROTOTYPE

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CONCEPT-TO-  
PROTOTYPE



# FUNCTIONAL DESIGN

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changing  
lives

COMBINING  
FORM &  
FUNCTION





# DOES IT WORK?

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lives

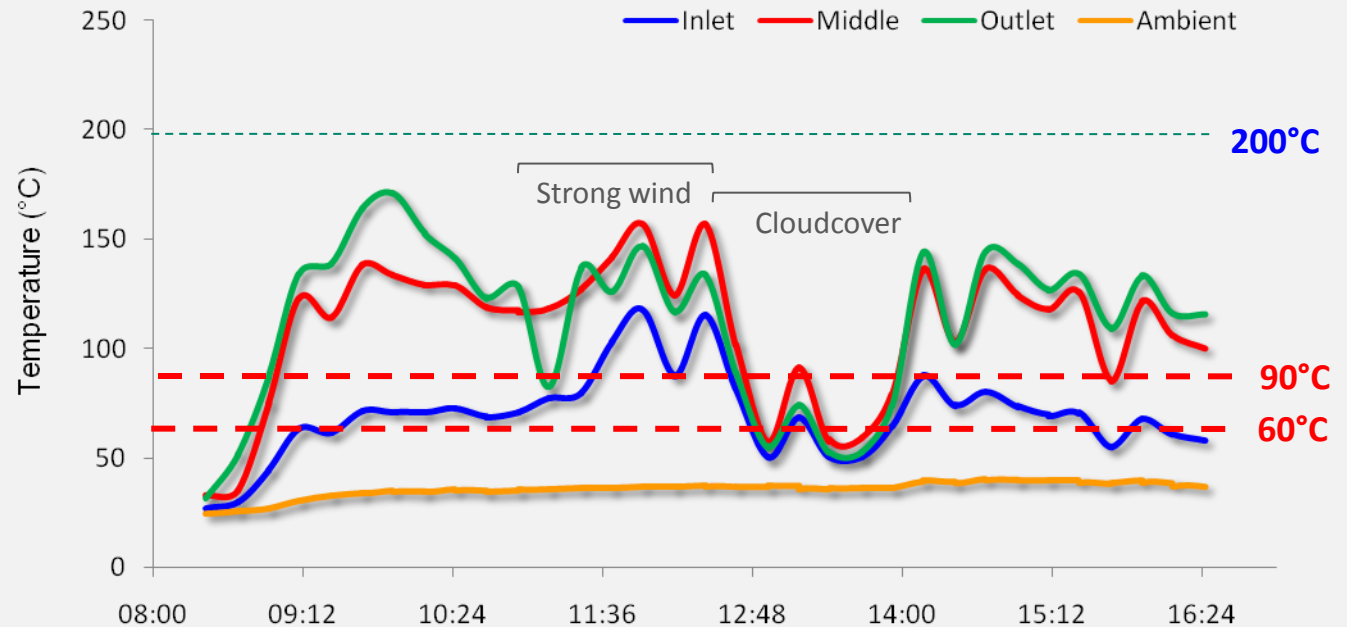
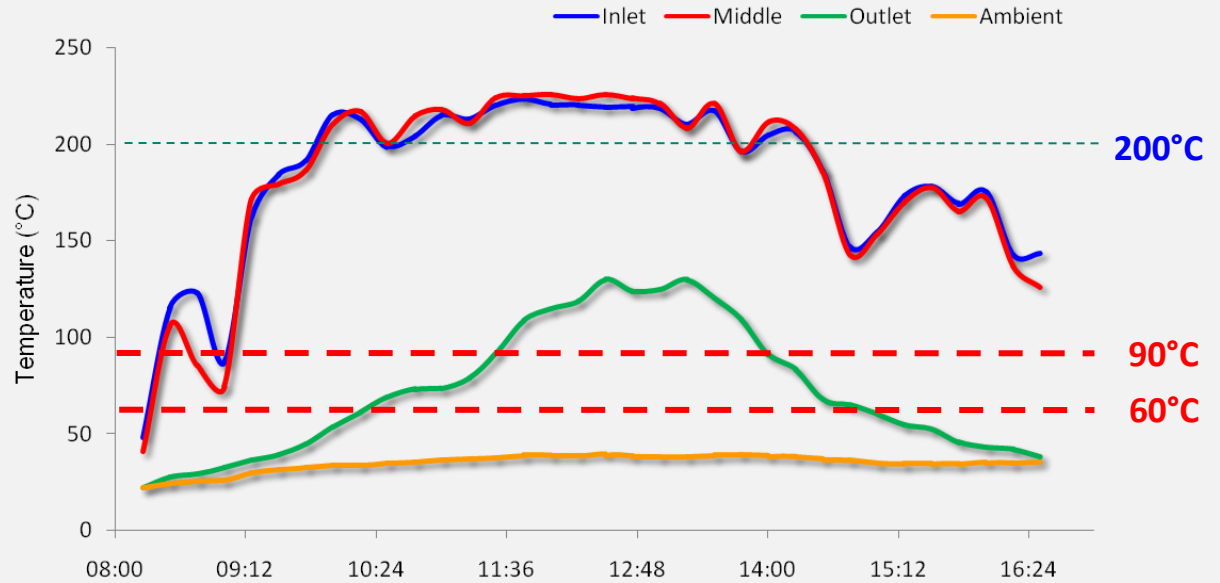
MEETING  
DESIGN  
SPECIFICATIONS



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OPTIMISATION USING THERMAL PROFILING

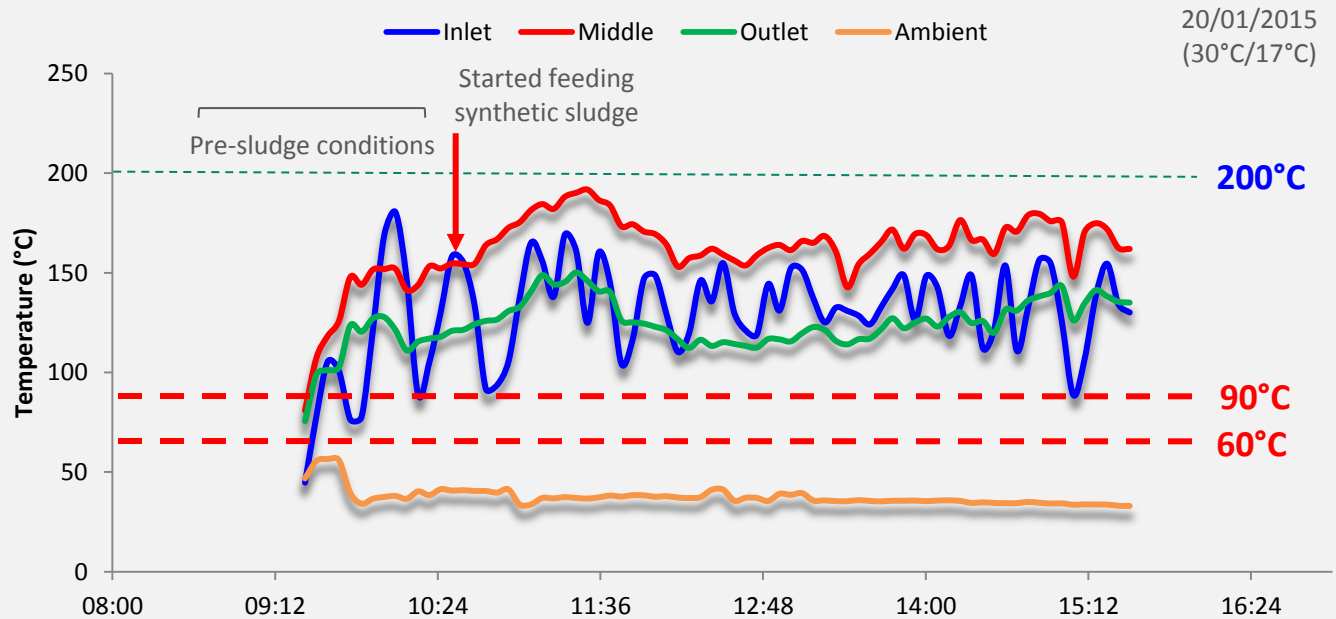
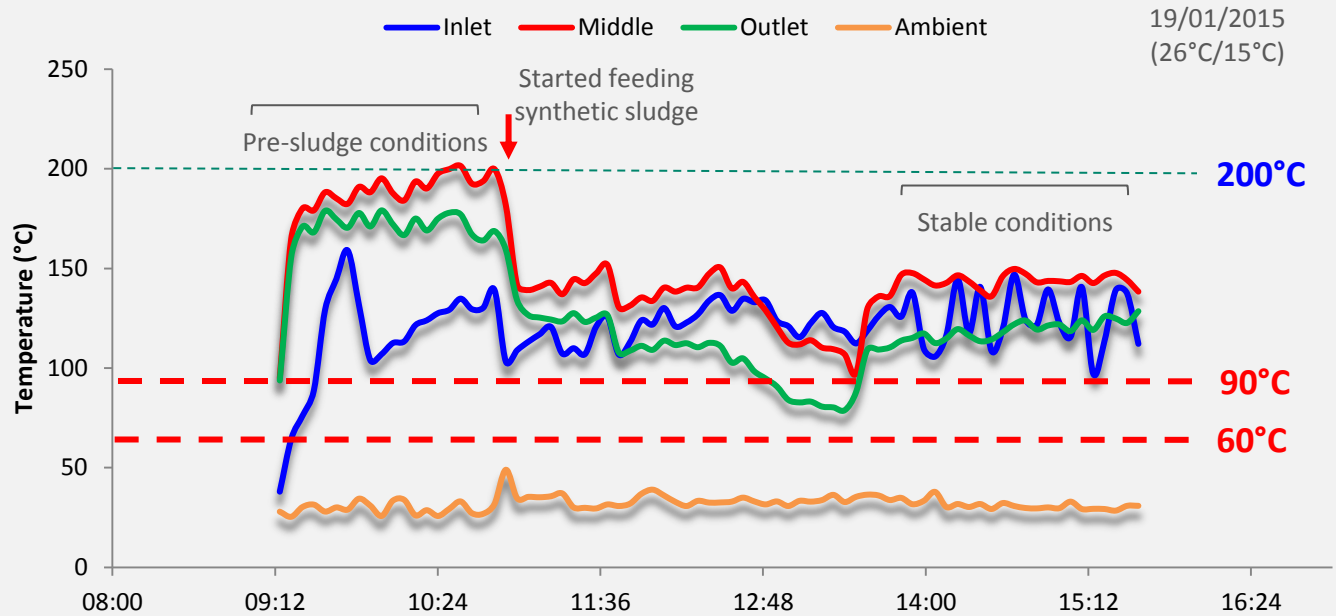
GOAL: ACHIEVE THERMAL DEATH POINT OF ASCARIS 60 - 90°C



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OPTIMISATION USING THERMAL PROFILING

GOAL: ACHIEVE THERMAL DEATH POINT OF ASCARIS 60 - 90°C



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OPTIMISATION  
USING THERMAL  
PROFILING

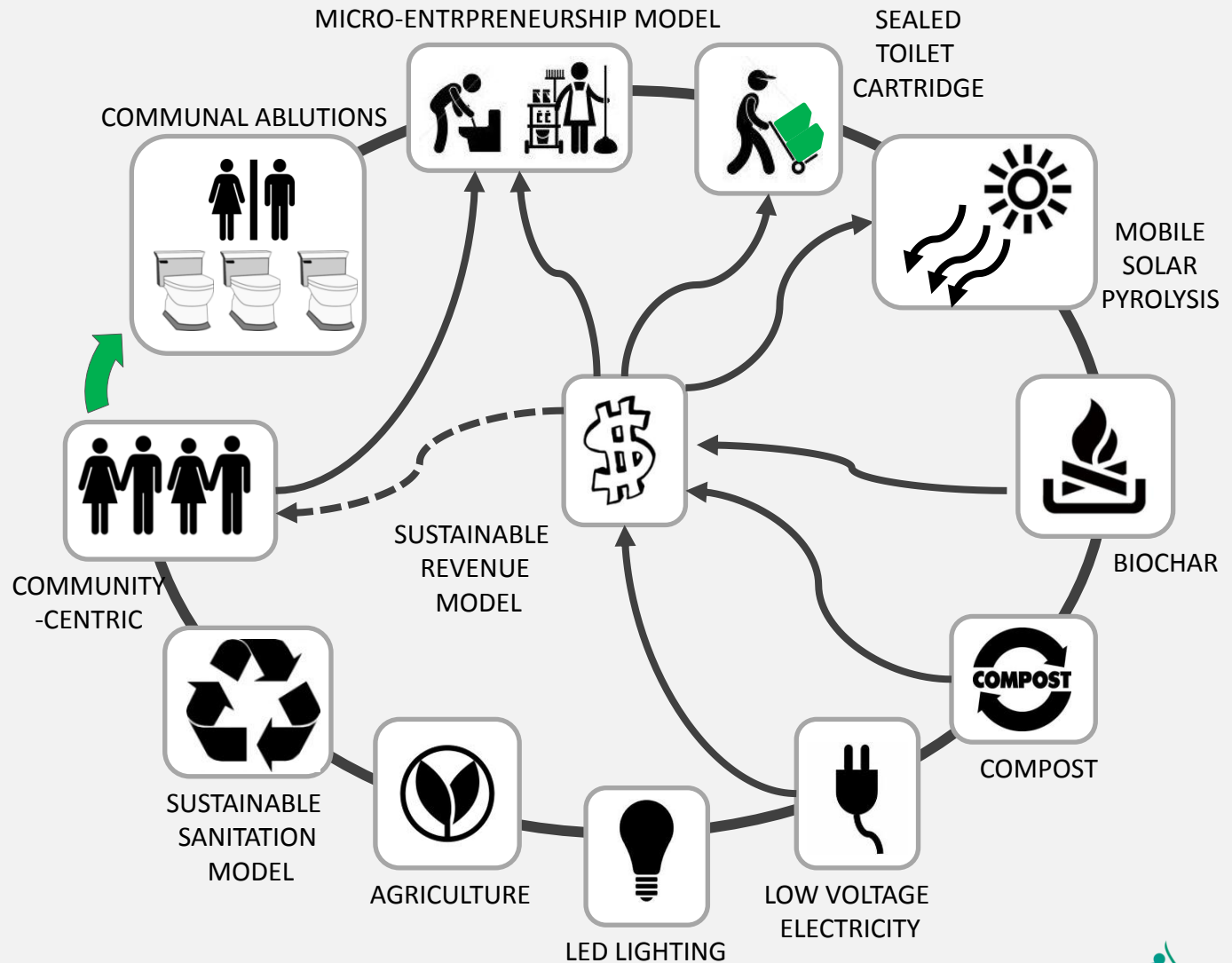
GOAL: ACHIEVE  
THERMAL DEATH  
POINT OF ASCARIS  
>60°C



# A SOLUTION TO EXPLORE

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Designs  
changing  
lives

CLOSED-LOOP  
SANITATION  
MODEL



# WHERE TO NEXT ?

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Designs  
changing  
lives



Smart  
Designs  
changing  
lives

PROGRESS  
CLEANBURN  
COOKSTOVE

REDD  
COOKR  
CLEANBURN COOKSTOVE



# REDD COOKR

CLEANBURN COOKSTOVE

Smart  
Designs  
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lives

REDD COOKR





# COMMUNITY ENGAGEMENT

Smart  
Designs  
changing  
lives

MASIPHUMELELE –  
CAPE TOWN



# COMMUNITY ENGAGEMENT

Smart  
Designs  
changing  
lives

MASIPHUMELELE –  
CAPE TOWN



# COMMUNITY ENGAGEMENT

Smart  
Designs  
changing  
lives

EASTERN CAPE



Smart  
Designs  
changing  
lives



COMMUNITY

POINT  
OF  
SALE

VOUCHER  
SALE



DATA  
TRACKING



GROUP  
MICROFINANCE



REVENUE MODEL



m-pesa vodacom





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## ACKNOWLEDGEMENTS

BILL & MELINDA  
GATES *foundation*



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