

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Science

Technology

And Implem

entation

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Climate change poses a fundamental threat to humanity, and thus solutions for both mitigation and adaptation strategies are becoming increasingly necessary.

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Science

Technology And

Implementation

Biochar can offer a range of environmental services, such as reclamation of degraded land, improvement of soil fertility and carbon sequestration.

However, it also raises questions,

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

regarding
sustainable
feedstock
provision,
biomass
pyrolysis, and
soil amendment.
These questions,
among various
others, are
addressed in this
state-of-the-art

Online Library

Biochar For

Environmental

compendium.

Management

Covering a broad

Science

geographical

Technology And

range, with

Implementation

regional

assessments

from North

America, Europe,

the Near East,

and Southeast

Asia, this

interdisciplinary

Online Library

Biochar For

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Management

Science

Technology And

Implementation

volume focuses on the entire biochar supply chain, from the availability and economics of biomass resources, to pyrolysis, and ultimately to the impacts on soil properties. The

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Biochar For

Environmental

Management

Science

Technology And

Implementation

combination of
theory with
practical

examples makes
this a valuable

book for

researchers,

policymakers,

and graduate

students alike, in

fields such as

soil science,

Online Library
Biochar For
Environmental
Management,
Science
Technology And
Implementation

sustainable
development,
climate change
mitigation,
biomass and
bioenergy,
forestry, and
environmental
engineering.
Biochar and its
implementation
as a renewable-

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

based material is one of the topics on which the research community has focused the greatest energy in the last twenty years. This book provides readers with a scientific and technological

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

overview of
biochar,
including new
technologies for
biochar

production, new
environmental
and agronomic
applications (e.g.
biochar as
growing media
component or

Online Library

Biochar For

Environmental

biochar

Management

application for

Science

mine land

Technology And

reclamation) and

Implementation

some emerging

biochar

applications in

different fields

(e.g. energy

storage and

catalysis). A

special emphasis

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

is placed on
analyzing the
links between the
different stages
of the value

chain,
underpinning the
economic
viability of
biochar

systems. Biochar
as a Renewable-

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Based Material:
With Applications
in Agriculture,
the Environment
and Energy is
designed as a
textbook for
graduate and
postgraduate
courses as well
as a handbook
for early-stage

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

scientists, policy
makers and
potential
technology
customers. The

book is written by
internationally
recognized
scientists with a
variety of
complementary
backgrounds.

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Biochar For

Environmental

Management

Science

Technology And

Implementation

This volume provides an overview of the fundamental concepts and recent advancements in organic farming, a form of agriculture that is increasing rapidly in

Online Library

Biochar For

Environmental

popularity.

Readers will

discover

information on

the history of

organic farming,

environmental

friendly practices

and challenges,

and innovations

in the field. The

chapter authors

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Environmental

Management

Science

Technology And

Implementation

analyze pertinent aspects of this integrated farming system including strategies to improve seed quality, methods to improve soil fertility, and the advantages of using organic

Online Library

Biochar For

Environmental

fertilizers.

Management

Particular

Science

attention is also

Technology And

Implementation

given to weed

management

practices,

bioenergy

production and

insights into the

ways organic

farming can

adapt to global

change.

bioenergy

production and

insights into the

ways organic

farming can

adapt to global

change.

Online Library

Biochar For

Environmental

climate change

Management

and build

Science

sustainable food

Technology And

systems for

Implementation

future

generations.

Scientists,

decision-makers,

professors, and

farmers who wish

to work towards

making

Online Library

Biochar For

Environmental

agricultural
Management
systems more

Science
Technology And
Implementation
sustainable will
find this book
appealing.

Environmental

Health discusses

environmental

effects on human

health. It

examines heavy

metal pollution,

Online Library

Biochar For

Environmental

biological effects

of arsenic (on

reproductive

health,

especially),

effects of soil

organic carbon,

chemical

pollution of

drinking water,

climate change

and vector-borne

Online Library

Biochar For

Environmental

Management

diseases, marine

fuels, particulate

matter, and the

United Nations

Sustainable

Development

Goals (SDGs).

Microwave and

Radio-Frequency

Technologies in

Agriculture

Advanced

Online Library
Biochar For
Environmental
Biofuels and
Management
Bioproducts
Science
Applications in
Technology And
Therapeutics,
Implementation
Biofuels,
Agriculture, and
Environmental
Science
The Global
Carbon Cycle
Assisted
Phytoremediation

Online Library

Biochar For

Environmental

Resource

Management

Recovery from

Science

Wastes

Technology And

Implementation

Biochar is the carbon-

rich product when

biomass (such as

wood, manure or crop

residues) is heated in a

closed container with

little or no available

air. It can be used to

improve agriculture

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Environmental

Management

Science

Technology And

Implementation

and the environment in several ways, and its stability in soil and superior nutrient-retention properties make it an ideal soil amendment to increase crop yields. In addition to this, biochar sequestration, in combination with sustainable biomass production, can be

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Biochar For

Environmental

Management

Science

Technology And

Implementation

carbon-negative and therefore used to actively remove carbon dioxide from the atmosphere, with major implications for mitigation of climate change. Biochar production can also be combined with bioenergy production through the use of the gases that are given off

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Biochar For

Environmental

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Science

Technology And

Implementation

in the pyrolysis process. This book is the first to synthesize the expanding research literature on this topic. The book's interdisciplinary approach, which covers engineering, environmental sciences, agricultural sciences, economics and policy, is a vital

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Science
Technology And
Implementation

tool at this stage of biochar technology development. This comprehensive overview of current knowledge will be of interest to advanced students, researchers and professionals in a wide range of disciplines.

Agricultural and
Environmental

Online Library

Biochar For

Environmental

Applications of
Biochar: Advances

and Barriers: Over the

past decade, biochar

has been intensively

studied by agricultural

and environmental

scientists and applied

as a soil quality

enhancer and

environmental

ameliorator in various

trials worldwide. This

Online Library

Biochar For

Environmental

book, with 21 chapters
by 57 accomplished

international

researchers, reports on

the recent advances of

biochar research and

the global status of

biochar application.

Scientific findings,

uncertainties, and

barriers to practice of

biochar amendment

for sustaining soil

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

fertility, improving crop production, promoting animal performance, remediating water and land, and mitigating greenhouse gas emissions are synthesized. The book presents a whole picture of biochar in its production, characterization,

Online Library

Biochar For

Environmental

application, and
development.

Management

Science

Technology And

Implementation

Applications of
Biochar: Advances

and Barrier highlights

the mechanisms and

processes of biochar

amendment for

achieving stunning

agricultural and

environmental

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

benefits. Composition and characteristics of biochar, its interactions with contaminants and soil constituents, and its transformation in the environment are illustrated to enlighten the achievements of biochar amendment in improving soil physical, chemical,

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Biochar For

Environmental

Management

Science

Technology And

Implementation

and biological quality

and animal health,

reducing soil

greenhouse gas

emissions, and

decontaminating

stormwater and mine

sites. Additional

emphasis is given to

the pyrogenic carbon

in Terra Preta soils

and Japanese

Andosols, the pyrolysis

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

technology for
converting agricultural
byproducts to biochar,
and the existing
economic and
technical barriers to
wide application of
biochar in Australia,
China, New Zealand,
North America, and
Europe. Readers will
appreciate the
comprehensive review

Online Library

Biochar For

Environmental

on the up-to-date
biochar research and

application and gain

critical guidance in

best biochar

generation and

utilization.

Across the world,

ecosystems are for

sale. ‘ Green

grabbing ’ – the

appropriation of land

and resources for

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

environmental ends

— is an emerging

process of deep and

growing significance.

A vigorous debate on

‘ land grabbing ’

already highlights

instances where

‘ green ’ credentials

are called upon to

justify appropriations

of land for food or

fuel. Yet in other

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

cases, environmental green agendas are the core drivers and goals of grabs. Green grabs may be driven by biodiversity conservation, biocarbon sequestration, biofuels, ecosystem services or ecotourism, for example. In some cases these agendas

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Biochar For

Environmental

Management

Science

Technology And

Implementation

involve the wholesale alienation of land, and in others the restructuring of rules and authority in the access, use and management of resources that may have profoundly alienating effects.

Green grabbing builds on well-known histories of colonial

Online Library

Biochar For

Environmental

and neo-colonial
Management
resource alienation in

Science
the name of the

Technology And
environment. Yet it

Implementation
involves novel forms

of valuation,

commodification and

markets for pieces and

aspects of nature, and

an extraordinary new

range of actors and

alliances. This book

draws together

Online Library

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Environmental

Management

Science

Technology And

Implementation

seventeen original cases from African, Asian and Latin American settings to ask: To what extent and in what ways do ‘ green grabs ’ constitute new forms of appropriation of nature? What political and discursive dynamics underpin ‘ green grabs ’ ?

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Environmental

Management

Science

Technology And

Implementation

How and when do appropriations on the ground emerge out of circulations of green capital? What are the implications for ecologies, landscapes and livelihoods? Who is gaining and who is losing? How are agrarian social relations, rights and authority being

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Biochar For

Environmental

Management

Science

Technology And

Implementation

restructured, and in whose interests? This book was published as a special issue of the Journal of Peasant Studies.

Encompassing high priority research areas such as bioenergy production, global warming mitigation, and sustainable agriculture, biochar

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

has received increased
worldwide interest in
the past

decade. Biochar:

Production,
Characterization, and
Applications covers
the fundamentals of
biochar including its
concept, production
technology, and
characteriza

Fundamentals,

Online Library
Biochar For
Environmental
Preparation,
Management
Characterization and
Science
Applications
Science, Technology
and Implementation
Transforming
Agriculture and
Environment
Biochar in European
Soils and Agriculture
Low Carbon
Stabilization and
Solidification of

Online Library

Biochar For

Environmental

Hazardous Wastes

Management

Carbon Farming and

Science

Climate Change

Technology And

Implementation

Interest in biochar

among soil and

environment

researchers has

increased

dramatically over

the past decade.

Biochar initially

attracted

attention for its

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

potential to improve soil fertility and to uncouple the carbon cycle, by storing carbon from the atmosphere in a form that can remain stable for hundreds to thousands of years. Later it

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Biochar For
Environmental
Management
Science
Technology And
Implementation

was found that biochar had applications in environmental and water science, mining, microbial ecology and other fields. Beneficial effects of biochar and its environmental applications cannot be fully

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Biochar For

Environmental

Management

Science,

Technology And

Implementation

realised unless the chemical, physical, structural and surface properties of biochar are known. Currently many of the analytical procedures used for biochar analysis are not well defined,

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

which makes it difficult to choose the right biochar for an intended use and to compare the existing data for biochars. Also, in some instances the use of inappropriate procedures has led to erroneous

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

or inaccurate
values for
biochars in the
scientific
literature.

Biochar: A Guide
to Analytical
Methods fills this
gap and provides
procedures and
guidelines for
routine and
advanced

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

characterisation
of biochars.

Written by
experts, each
chapter provides
background to a
technique or
procedure, a
stepwise guide to
analyses, and
includes data for
biochars made
from a range of

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation
feedstocks
common to all
presented
methods.
Discussion about
the unique
features,
advantages and
disadvantages of
a particular
technique is an
explicit focus of
this handbook for

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

biochar analyses.

Biochar is

primarily

intended for

researchers,

postgraduate

students and

practitioners who

require

knowledge of

biochar

properties. It will

also serve as an

Online Library
Biochar For
Environmental
Management
Science,
Technology, And
Implementation

important
resource for
researchers,
industry and
regulatory
agencies dealing
with biochar.

A fascinating
description of
how utilizing the
biochar
embedded in
terra preta, the

Online Library

Biochar For

Environmental

recently

Management
rediscovered

Science

sacred soil of the

Technology And
pre-Columbian

Implementation
peoples of the

Amazon

rainforest, can

cut our

dependency on

petrochemicals,

restore the health

of our soils,

remove carbon

Online Library

Biochar For

Environmental

from our

overheating

atmosphere, and

restore the planet

to pre-industrial

levels of

atmospheric

carbon by 2050.

The authors show

that the

rediscovery of

terra preta is an

opportunity to

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

move beyond the
West's tradition
of plunder and
genocide of the
native

civilizations of the
Americas by
offering an
invitation to
embrace the
deeper mystery
of the indigenous
methods of

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

inquiry and to
participate in an
animate cosmos
that gave rise to
such a powerful
soil technology.
Sacred Soil, in
recognizing the
need for
biocultural
regeneration,
takes a multi-
disciplinary

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

approach to the
phenomenon of
biochar soils,
utilizing
mythopoeic,
historical,
anthropological,
and scientific
perspectives to
embrace the
deep past, the
vexed present,
and the

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

prospectus for
our future.

Coming at this
crucial juncture in
human history,
the potential
resting in biochar
is also an open
doorway into the
indigenous ways
of knowing that
enabled the pre-
Columbian

Online Library

Biochar For

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Management

Science

Technology And

Implementation

Amazonian high civilizations to support a population of millions while leaving their lands more fertile than when they arose.

Biochar:

Fundamentals

and Applications

in Environmental

Online Library
Biochar For
Environmental
Science and
Management
Technologies,
Volume Six And
Implementation
provides readers
with the
fundamentals of
scientific and
technological
aspects of
biochar
application in
stormwater

Online Library

Biochar For

Environmental

Management
Science,

removal,

greenhouse gas

mitigation, as

landfill cover

material, and new

environmental

and agronomic

applications.

Chapters in this

new release cover

Biochar

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation
application for
soil remediation
in a redox-
sensitive
environment,
Remediation of
heavy metal
contaminated
soil: Role of
biochar, Role of
biochar as a
cover material in
Landfill waste

Online Library

Biochar For

Environmental

disposal system-
Management
Perspective from

Science
Unsaturated soil
mechanics, And

Biochar in soil re-
Implementation
engineering,

Green

remediation of

contaminated

agricultural land

using biochar,

and more.

Additional

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

chapters cover
the Impact of
biochars on redox
processes in soils,
Biochar for
manipulation of
manure
properties, A
relationship
paradigm
between biochar
amendments and
green house gas

Online Library
Biochar For
Environmental
emissions,
Management
Biochar
Science
amalgamation
with clay:
Implementation
Enhanced
performance for
environmental
remediation,
Functionalization
of biochar using
microbial
consortia, and the
Potential role of

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

biochar to mitigate the negative impacts of climate change on water quality.

Provides up to-date information on the use of biochar for contaminant remediation, as landfill cover material, and as a

Online Library

Biochar For

Environmental
Management
tool for energy
transition

Science
Technology And
Implementation
Includes the
aspect of
biochar's use in

mitigating
impacts of
climate change
and how manure
properties can be
altered through
biochar addition

Covers the role of

Online Library
Biochar For
Environmental
microbial
Management
consortia on
Science
biochar
Technology And
functionalization
Implementation
Biochar from
Biomass and
Waste:
Fundamentals
and Applications
provides the
fundamentals of
biochar, such as
its basic

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation
concepts,
production
technology and
characterization
methods, also
including
comprehensive
examples for
readers. This
book includes
information on
state-of-art
biochar

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

application technologies in the fields of agriculture, energy and environmental sciences with step-by-step case studies. Biochar has received worldwide interests in the past decade

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation
because it
encompasses
high priority
research areas,
including
bioenergy
production, global
warming
mitigation and
sustainable
agriculture. Offers
comprehensive
coverage of

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation
Provides
global case
studies covering
a wide range of
application fields,
including
environmental,
agricultural,
syngas and bio-oil

Online Library

Biochar For

Environmental

Covers the
sustainability and

future of biochar

Biochar from

Biomass and

Waste

Science and

Technology

Production,

Characterization,

and Applications

Making Charcoal

and Biochar

Online Library
Biochar For
Environmental
Management
An Introduction
A Guide to
Scientific
Technology And
Implementation

Designed as a
text not only
for students and
researchers, but
anyone
interested in
green
technology,
Advanced

Online Library

Biochar For

Environmental

Biofuels and
Bioproducts

offers the

reader a vast

overview of the

state-of-the-art

in renewable

energies. The

typical chapter

sets out to

explain the

fundamentals of

a new technology

as well as

Online Library

Biochar For

Environmental

Management

providing its
context in the
greater field.

With
Technology And

contributions
from nearly 100

leading

researchers

across the

globe, the text

serves as an

important and

timely look into

this rapidly

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

expanding field.

The 40 chapters

that comprise

Advanced

Biofuels and

Bioproducts are

handily

organized into

the following 8

sections: .

Introduction and

Brazil's biofuel

success .

Smokeless

Online Library
Biochar For
Environmental
biomass
Management
pyrolysis for
Science
advanced
Technology And
biofuels
production and
Implementation
global biochar
carbon
sequestration .
Cellulosic
Biofuels .
Photobiological
production of
advanced
biofuels with

Online Library

Biochar For

Environmental

synthetic

Management

biology · Lipids-

based biodiesels

· Life-cycle

Technology And

energy and

Implementation

economics

analysis · High-

value algal

products and

biomethane ·

Electrofuels

How the dirt

below our feet

can save us from

Online Library

Biochar For

Environmental

extinction

Management

Never HIGHLIGHT

a Book Again!

Virtually all of

the testable

terms, concepts,

persons, places,

and events from

the textbook are

included.

Cram101 Just the

FACTS101

studyguides give

all of the

all of the

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

outlines,
highlights,
notes, and
quizzes for your
textbook with
optional online
comprehensive
practice tests.
Only Cram101 is
Textbook
Specific.

Accompanys:
9781844076581 .
Biochar is the

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Science

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Implementation

carbon-rich product which occurs when biomass (such as wood, manure or crop residues) is heated in a closed container with little or no available air. It can be used to improve agriculture and the environment

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Environmental

Management

Science

Technology And

Implementation

in several ways,
and its
persistence in
soil and nutrient
retention
properties make
it an ideal soil
amendment to
increase crop
yields. In
addition to
this, biochar
sequestration,
in combination

Online Library

Biochar For

Environmental

with sustainable
Management
biomass

production, can

be carbon-

negative and

therefore used

to actively

remove carbon

dioxide from the

atmosphere, with

potentially

major

implications for

mitigation of

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

climate change.

Biochar

production can

also be combined

with bioenergy

production

through the use

of the gases

that are given

off in the

pyrolysis

process. The

first edition of

this book,

Online Library
Biochar For
Environmental
Management
published in
2009, was the
definitive work
reviewing the
expanding
research

literature on
this topic.

Since then, the
rate of research
activity has
increased at
least ten-fold,
and biochar

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

products are now
commercially
available as
soil amendments.
This second
edition includes
not only
substantially
updated
chapters, but
also additional
chapters: on
environmental
risk assessment;

Online Library
Biochar For
Environmental
Management
on new uses of
biochar in
composting and
potting mixes; a
new and
controversial
field of
studying the
effects of
biochar on soil
carbon cycles;
on traditional
use with very
recent

Online Library

Biochar For

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Management

Science

Technology And

Implementation

discoveries that
biochar was used
not only in the
Amazon but also
in Africa and
Asia; on changes
in water
availability and
soil water
dynamics; and on
sustainability
and
certification.

The book

Page 92/245

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

therefore
continues to
represent the
most
comprehensive
compilation of
current
knowledge on all
aspects of
biochar.

**New Advances
Towards
Sustainable
Agricultural**

Online Library
Biochar For
Environmental
Systems
Management
Fundamentals and
Applications
Using Fire to
Cool the Earth
Agricultural and
Environmental
Applications of
Biochar
An Imperative
Amendment for
Soil and the
Environment
Bioresource

Online Library
Biochar For
Environmental
**Utilization and
Management**
Biochar
Application:
Essential Soil
Microbial
Ecology
outlines the
cutting-edge
research on
the
interactions

Online Library
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Environmental
Management
Science
Technology And
Implementation

of complex
microbial
populations
and their
functional,
structural,
and
compositional
dynamics, as
well as the
microbial
ecology of

Online Library

Biochar For

Environmental

biochar

Management

application to

Science

soil, the use

Technology And

of different

Implementation

phyto-chemical

analyses,

possibilities

for future

research, and

recommendation

s for climate

change policy.

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Biochar, or charcoal produced from plant matter and applied to soil, has become increasingly recognized as having the potential to address

Online Library

Biochar For

Environmental

multiple

Management

contemporary

Science

concerns, such

Technology And

as

Implementation

agricultural

productivity

and

contaminated

ecosystem

amelioration,

primarily by

removing

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

carbon dioxide
from the
atmosphere and
improving soil
functions.

Biochar

Application is
the first
reference to
offer a
complete
assessment of

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

the various
impacts of
biochar on
soil and
ecosystems,
and includes
chapters
analyzing all
aspects of
biochar
technology and
application to

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

soil, from
ecogenomic
analyses and
application
ratios to

nutrient

cycling and

next

generation

sequencing.

Written by a

team of

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

international
authors with i
nterdisciplina
ry knowledge
of biochar,

this reference
will provide a
platform where
collaborating
teams can find
a common
resource to

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

establish
outcomes and
identify
future
research needs
throughout the
world.

Includes
multiple
tables and
figures per
chapter to aid

Online Library

Biochar For

Environmental

in analysis

Management

and

Science

understanding

Technology And

Implementation

comprehensive

table of the

methods used

within the

contents,

ecosystems,

contaminants,

future

Online Library

Biochar For

Environmental

research, and

Management

application

Science

opportunities

Technology And

Implementation

the book

Includes

knowledge gaps

and directions

of future

research to

stimulate

further

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

discussion in
the field and
in climate
change policy
Outlines the
latest
research on
the
interactions
of complex
microbial
populations

Online Library
Biochar For
Environmental
and their
Management
functional,
Science
structural,
Technology And
and
Implementation
compositional
dynamics
Offers an
assessment of
the impacts of
biochar on
soil and
ecosystems

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Biochar is a carbon-rich material produced from the pyrolysis of organic materials from agricultural and forestry biomass at a relatively low temperature in

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

the absence of
oxygen. As

such, it has
potential for

solving many
agricultural

and

environmental

problems. This

book is

divided into

five sections:

Online Library

Biochar For

Environmental

Management

Science

“Introduction,
” “Production
and
Technology And
Legislation of
Implementation
Biochar,”

“Applications
of Biochar for
Soil Fertility
Improvement,”

“Role of
Biochar for
Soil

Online Library
Biochar For
Environmental
Remediation
Management
and
Science
Ameliorating
Technology And
Salinity
Implementation
Effects" and
"Applications
of Biochar for
Water
Treatment."
Chapters
address topics
such as the

Online Library

Biochar For

Environmental

pros and cons

of biochar,

its

production,

and its role

in remediating

and treating

contaminated

soils and

water.

Making

Charcoal and

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Biochar is written with the interested amateur in mind, with the certainty that anyone who has a go at making charcoal will soon get the bug. Before you know it,

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

you will be upgrading to a shiny new retort and there will be no looking back! This book gives a wide range of possibilities for making charcoal on a

Online Library
Biochar For
Environmental
small scale
Management
and for
Science
commercial
Technology And
production.
Implementation

There are
chapters on
the heritage
skills of
earth burns,
the enduring
popularity of
metal kilns

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

and the future
represented by
the charcoal
retort.

Biochar - or
small particle
charcoal - has
been heralded
as an ancient
but
rediscovered
'super

Online Library

Biochar For

Environmental

substance'

Management

Science

Technology And

Implementation

increase soil

fertility and

productivity

whilst locking

up carbon into

the ground.

This book

looks at the

ongoing

discussion and

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

weighs up the evidence. It concludes with a celebration of the myriad ways in which charcoal can be put to use. Covering the essentials for starting a business such

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

as legislation
and marketing,
there are also
chapters on
why charcoal
is in the
ascendency
from the
ubiquitous
barbecue to
the most
recent

Online Library

Biochar For

Environmental

research into

Management

biochar and

Science

carbon

Technology And

sequestration.

Implementation

Fully

illustrated

with 195

colour

photographs.

This book

provides up-to-

date

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

information on
biochar use in
management of
soil health,
agriculture
productivity,
green-house
gases,
restoration
ecology and
environment.

Biochar

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

application to
nutrient

deficient and
disturbed

soils is a

viable option

which may

promotes

advances in

food safety

and food

security to

Online Library

Biochar For

Environmental

human

Management

nutrition and

Science

overall

Technology And

Implementation

research in

the

the

agricultural

sciences. The

book describes

in detail how

the

recalcitrant

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

biochar is able to persist for long periods of time and work as a shelter for soil microbial colonisation and their biomass/numbers. This book also

Online Library

Biochar For

Environmental

includes

Management

contents

Science

related to

Technology And

important role

Implementation

of biochar

applications

in the

restoration of

contaminated

agricultural

soils. The

book will be

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

of particular
interest to
students,
teachers and
researchers in
the

disciplines.

Encyclopedia

of

Environmental

Management,

Four Volume

Online Library
Biochar For
Environmental
Set
Management
Burn
Science
Organic
Technology And
Farming
Implementation
An

Introduction
for Agricultur
alists and
Engineers
Biochar As A R
enewable-based
Material: With

Online Library
Biochar For
Environmental
Applications
Management
In
Science
Agriculture,
Technology And
The
Implementation
Environment

And Energy

Sacred Soil

Humanity's ability
to produce enough
food is mostly due
to adoption of new
methods and

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

technologies by
the agricultural
industries as they
became available.

New information,
communication
and high speed
processing and
precision
agriculture
technologies have
the potential to

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

transform the
agricultural
industry. These
technologies
incorporate radio-
frequency and
microwave
radiation into their
systems. This
book presents an
overview of how
these technologies

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

are being used in agricultural systems. The main purpose of the book is to provide a glimpse of what is possible and encourage practitioners in the engineering and agricultural industries to

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Management

Science

Technology And

Implementation

explore how radio-frequency and microwave systems might further enhance the agricultural industry. The authors have extensive experience in agricultural and microwave

Online Library
Biochar For
Environmental
engineering,
Management
instrumentation
Science
and
Technology And
communication
Implementation
systems.

This book
systematically
covers the
fundamentals and
applications of
modified biochar.
The 19 chapters

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

are divided into 3 sections that provide a holistic overview for researchers from all related fields.

Section 1 and 2 present the pyrolysis process, including the advantages and limitations of the

Online Library

Biochar For

Environmental

physical, chemical,

Management
and biological

Science
modification

Technology And

Implementation

characterization of

modified biochar.

modified biochar.

Section 3

highlights the wide

spectrum of

applications of

modified biochar in

modified biochar in

fuel cells and

fuel cells and

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

batteries,
remediation of
organic and
inorganic
contaminants from
soil and water and
soil fertilization.
Given its scope,
the book appeals
to a broad
readership in
various fields of

Online Library

Biochar For

Environmental

chemical

engineering,

materials science,

and environmental

science.

This report offers a

review of what is

known about

opportunities and

risks of biochar

systems in

developing

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

countries. Its aim is to fill in critical knowledge gaps between the biochar research

community and development practitioners on the ground.

This book is the outcome of a NAill Advanced Study

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Institute on the
contemporary glo
bal carbon cycle,
held in n Ciocco,
Italy, September
8-20, 1991. The
motivation for this
ASI originated
from recent
controversial
findings regarding
the relative roles of

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

the ocean and the
land biota in the
current global
balance of
atmospheric
carbon dioxide.

Consequently, the
purpose of this
institute was to
review, among
leading experts in
the field, the

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

multitude of known
constraints on the
present day global
carbon cycle as
identified by the
fields of
meteorology,
physical and
biological
oceanography,
geology and
terrestrial

Online Library
Biochar For
Environmental
biosphere
Management
sciences. At the
Science
same time the
Technology And
form of an
Implementation
Advanced Study
Institute was
chosen, thus
providing the
opportunity to
convey the
information in
tutorial form across

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

disciplines and to young researchers entering the field.

The first three sections of this book contain the lectures held in Il Ciocco. The first section reviews the atmospheric, large-scale global constraints on the

Online Library

Biochar For

Environmental

present day

carbon cycle

Management

including the

Science

emissions of

Technology And

carbon dioxide

Implementation

from fossil fuel use

and it provides a

brief look into the

past. The second

section discusses

the role of the

terrestrial

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

biosphere and the
third the role of the
ocean in the
contemporary
global carbon
cycle.

Leveraging

Current

Knowledge and

Exploring Future

Potential for

Climate-Smart

Online Library
Biochar For
Environmental
Agriculture
Management
Studyguide for
Science
Biochar for
Technology And
Environmental
Implementation
Management:

Science and
Technology by
Johannes
Lehmann (Editor),
ISBN

9781844076581

The Biochar

Page 147/245

Online Library
Biochar For
Environmental
Solution
Management
Climate Change
Science
Adaptation in the
Technology And
Water Sector
Implementation
A Regional Supply
Chain Approach in
View of Climate
Change Mitigation
Biochar and the
Regeneration of
the Earth

Assisted

Page 148/245

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Phytoremediation covers a wide range of uses of plants for remediation of environmental pollutants. It includes coverage of such techniques as root engineering, transgenic

Online Library

Biochar For

Environmental

plants,

Management

increasing the

Science

biomass, use of

Technology And

genetic

Implementation

engineering and

genome editing

technology for

rapid phytoreme

diation of

pollutants. In

order to

improve the

efficiency of

Online Library
Biochar For
Environmental
plant
Management,
remediation,
Science
genetic
Technology And
engineering
Implementation
plays a vital
role in the
overexpression
of genes or
gene clusters,
which are
responsible for
degradation and
uptake of

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*pollutants. The book presents s
tate-of-the-art
techniques of
assisted phytor
emediation to
better manage
soil and water
pollution in
large amounts.
This book is a
valuable
resource for*

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*researchers,
students, and
engineers in
environmental
science and
bioengineering,
with case
studies and sta
te-of-the-art
research from
eminent global
scientists.*

This book

Page 153/245

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*serves as an
excellent basis
from which
scientific
knowledge can
grow and widen
in the field of
environmental
remediation.*

*Provides a
clear picture
of how to
design, tune,*

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*and implement
assisted phytoremediation
techniques
Offers a
comprehensive
analysis of
current
perspective and
state-of-the-
art
applications of
assisted phytoremediation*

Online Library

Biochar For

Environmental

remediation

Management

Introduces the

Science

potential of

Technology And

genetic

Implementation

engineering as

a rapid, cost-

effective

technology for

environmental

remediation

using plants

Sustainability

Science and

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Technology: An Introduction explains the root causes of global failures in natural and human systems, as well as the most readily available technological solutions. The book dispels

Online Library
Biochar For
Environmental
risky
Management
scientific and
Science
technological
Technology And
ideas that
Implementation
further
complicate the
current
environmental
and
socioeconomic
predicaments.
It also bridges
gaps among

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*scientific and
technological
fields and
systematically
translates
current
findings for a
wide technical
and public
audience.*

*Written at a
level*

accessible to

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*all, the story
is told one
bite-sized
chapter at a
time, about the
size of a
scientific
journal
article. The
chapters are
self-contained,
each grappling
with a large*

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

topic. This provides more in-depth coverage of a topic than a standard encyclopedia article and promotes the widest possible dialog around sustainability issues and

Online Library

Biochar For

Environmental

their

Management

solutions. Case

Science

studies from

Technology And

all continents

Implementation

and all

technological

development

levels expound

viable

solutions for

each of the

planetary

systems: water,

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*soils, and
atmosphere. In
turn, the wider
socioeconomic
context of
sustainable
science and
technology is
examined. One
of the first
books to
address the
full scope of*

Online Library

Biochar For

Environmental

sustainability,
Management
it sets the

Science
stage for

Technology And
discussion and

Implementation
sustainability

re (training)

across

professional

divides. The

editor and

contributors

take a balanced

approach that

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*is neither too
technical nor
too focused on
any particular
field. They
highlight
global and
regional
perspectives
and the
linkages
between
different*

Online Library

Biochar For

Environmental

planetary and

Management

human systems.

Science

The book helps

Technology And

you understand

Implementation

the thorny

essence of

sustainability

issues—often

fraught with

ethical

dilemmas,

obsolete

technologies,

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*and lifestyle i
mplications—and
how to develop
solutions to
them.*

Sustainable

Biochar for

Water and

Wastewater

Treatment

addresses the

worldwide water

contamination

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*and scarcity
problem by
presenting an
innovative and
cost-efficient
solution. This
book directly
deals with the
Sustainable
Development
Goal 6: Ensure
availability
and sustainable*

Online Library
Biochar For
Environmental
management of
Management
water and
Science
sanitation for
Technology And
all. Each
Implementation
chapter is
authored by a
respected
expert in the
field of water
and wastewater
treatment, with
each chapter
including case

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*studies, worked
examples, and
exercises. As
such, the book
is the perfect
introduction to
the field and
is multipurpose
in that it can
be used for
teaching,
learning,
research, and*

Online Library

Biochar For

Environmental

*practice. The
book is*

invaluabe for

undergraduate

level and above

in water

science,

environmental

sciences, soil

science,

material

sciences and

engineering,

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

chemical sciences and engineering, and biological sciences. The book covers the various aspects of biochar requirements for use in adsorption science and technology. It

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

includes vital information on this hot topic and provides a real solution to the global issues of water contamination and scarcity.

Presents case studies in each chapter, making this applicable

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*for those who
want to*

implement

examples into

their own work

Includes in

each chapter

example

calculations

with an

exercise at the

end of each

chapter, making

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*this a great
teaching tool
Includes excel
spreadsheets
online, perfect
for use as a
laboratory
guide*

*This user-
friendly book
introduces
biochar to
potential users*

Online Library

Biochar For

Environmental

in the

Management

professional

Science

sphere. It de-

Technology And
mystifies the

Implementation
scientific,

engineering and

managerial

issues

surrounding

biochar for the

benefit of

audiences

including

Online Library

Biochar For

Environmental

*policy makers,
landowners and*

farmers, land

use,

agricultural

and

environmental

managers and

consultants,

industry and

lobby groups

and NGOs. The

book reviews st

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*ate-of-the-art
knowledge in an
approachable
way for the non-
scientist,
covering all
aspects of
biochar
production,
soil science,
agriculture,
environmental
impacts,*

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*economics, law
and regulation
and climate
change policy.*

Chapters

*provide 'hands-
on' practical
information,
including how
to evaluate
biochar and
understand what
it is doing*

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

*when added to
the soil, how
to combine
biochar with
other soil
amendments*

*(such as manure
and composts)
to achieve
desired
outcomes, and
how to ensure
safe and*

Online Library
Biochar For
Environmental
effective use.
Management
Science
The authors
also present
research
Technology And
Implementation
findings from
the first
coordinated
European
biochar field
trial and
summarize
European field
trial data.

Online Library
Biochar For
Environmental
*Explanatory
boxes,
infographics
and concise
summaries of
key concepts
are included
throughout to
make the
subject more
understandable
and
approachable.*

Online Library

Biochar For

Environmental

Biochar:

Fundamentals

and

Applications in

Environmental

Science and

Remediation

Technologies

Advances and

Barriers

Biochar for

Environmental

Management

Page 183/245

Online Library

Biochar For

Environmental

Biochar

Management

Applications in

Science

Agriculture and

Environment

Technology And

Implementation

Management

Biochar

Application

Sustainability

Science and

Technology

Low Carbon

Stabilization and

Management

Low Carbon

Stabilization and

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

Solidification of Hazardous Wastes details sustainable and low-carbon treatments for addressing environmental pollution problems, critically reviewing low-carbon stabilization/solidification technologies. This

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Environmental

Management

Science

Technology And

Implementation

book presents the latest state-of-the-art knowledge of low-carbon stabilization/solidification technologies to provide cost-effective sustainable solutions for real-life environmental problems related

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

to hazardous wastes including contaminated sediments. As stabilization/solidification is one of the most widely used waste remediation methods for its versatility, fast implementation and final treatment

Online Library

Biochar For

Environmental

Management

Science

Technology And

Implementation

of hazardous
waste treatment, it
is imperative that
those working in
this field follow the
most recent
developments.

Low Carbon
Stabilization and
Solidification of
Hazardous Wastes
is a necessary

Online Library

Biochar For

Environmental

read for

Management

academics,

Science

postgraduates,

Technology And

researchers and

Implementation

engineers in the

field of

environmental

science and

engineering, waste

management, and

soil science, who

need to keep up to

Online Library

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Environmental

Management

Science

Technology And

Implementation

date with the most recent advances in low-carbon technologies. This audience will

develop a better understanding of these low-carbon mechanisms and advanced characterization technologies,

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Environmental

Management

Science

Technology And

Implementation

fostering the future development of low-carbon technologies and the actualization of green and sustainable remediation.

Focuses on stabilization/solidification for environmental remediation, as

Online Library

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Environmental

Management

Science

Technology And

Implementation

one of the most

widely used

environmental

remediation

technologies in

field-scale

applications

Details the most

advanced and up-

to-date low-carbon

sustainable

technologies

Online Library

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Management

Science

Technology And

Implementation

necessary to guide
future research
and sustainable
development
Provides

comprehensive
coverage of low-
carbon solutions
for treating a
variety of
hazardous wastes
as well as

Online Library

Biochar For

Environmental

contaminated soil

Management

and sediment

Science

Black is the new

Technology And

Green!How to

Implementation

transform

agriculture and the

environment. A

friendly,

informative

inspiring and break-

through reference

guide for anyone

Online Library
Biochar For
Environmental
Management
Science
Technology And
Implementation

interested in
biochar or
concerned about
environmental
issues.

First Published in
2009. Routledge is
an imprint of
Taylor & Francis,
an informa
company.

Winner of an

Page 195/245

Online Library

Biochar For

Environmental

Outstanding

Academic Title

Award from

CHOICE Magazine

Encyclopedia of

Environmental

Management gives

a comprehensive

overview of

environmental

problems, their

sources, their

Online Library

Biochar For

Environmental

assessment, and

their solutions.

Management

Science

Through in-depth

Technology And

Implementation

entries and a

topical table of

contents, readers

will quickly find

answers to

questions about

specific pollution

and management

issues. Edited by

Online Library

Biochar For

Environmental

the esteemed

Management

Sven Erik

Science

Jørgensen and an

Technology And

advisory board of

Implementation

renowned

specialists, this

four-volume set

shares insights

from more than

500

contributors—all

experts in their

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fields. The encyclopedia provides basic knowledge for an integrated and ecologically sound management system. Nearly 400 alphabetical entries cover everything from air, soil, and water

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pollution to

agriculture,

energy, global

pollution, toxic

substances, and

general pollution

problems. Using a

topical table of

contents, readers

can also search for

entries according

to the type of

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problem and the
methodology. This

allows readers to

see the overall

picture at a glance

and find answers

to the core

questions: What is

the pollution

problem, and what

are its sources?

What is the "big

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picture," or what background knowledge do we need? How can we diagnose the problem, both qualitatively and quantitatively, using monitoring and ecological models, indicators, and services? How

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can we solve the
problem with
environmental
technology,
ecotechnology,
cleaner

technology, and
environmental
legislation? How
do we address the
problem as part of
an integrated

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management
strategy? This

Management

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accessible

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examines the

entire spectrum of

tools available for

environmental

management. An

indispensable

resource, it guides

environmental

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managers to find
the best possible
solutions to the
myriad pollution
problems they

face. Also

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Francis

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Current

Developments in

Biotechnology and

Bioengineering

A comprehensive

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Implementation
Safety

Biochar in
Agriculture for
Achieving
Sustainable
Development
Goals
Science and

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Practice

Management

An 800-CEO-READ

Science

"Editor's Choice"

Technology And

Implementation

March 2019 How We

Can Harness Carbon

to Help Solve the

Climate Crisis In

order to rescue

ourselves from

climate catastrophe,

we need to radically

alter how humans

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*live on Earth. We
have to go from
spending carbon to
banking it. We have
to put back the trees,
wetlands, and corals.*

*We have to regrow
the soil and turn back
the desert. We have
to save whales,
wombats, and
wolves. We have to*

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*reverse the flow of
greenhouse gases and*

*send them in exactly
the opposite direction:*

down, not up. We

have to flip the

carbon cycle and run

it backwards. For

such a revolutionary

transformation we'll

need civilization 2.0.

A secret unlocked by

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*the ancients of the
Amazon for its ability
to transform
impoverished tropical
soils into terra*

*preta—fertile black
earths—points the
way. The indigenous
custom of converting
organic materials into
long lasting carbon
has enjoyed a*

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reawakening in

recent decades as the

Science

quest for more

sustainable farming

methods has grown.

Yet the benefits of

this carbonized

material, now called

biochar, extend far

beyond the soil.

Pyrolyzing carbon

has the power to

Online Library

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restore a natural

balance by unmining

the coal and

undrilling the oil and

gas. Employed to its

full potential, it can

run the carbon cycle

in reverse and

remake Earth as a

garden planet. Burn

looks beyond

renewable biomass or

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carbon capture

energy systems to

offer a bigger and

bolder vision for the

next phase of human

progress, moving

carbon from wasted

sources: into soils and

agricultural systems

to rebalance the

carbon, nitrogen, and

related cycles;

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enhance nutrient

density in food;

rebuild topsoil; and

condition urban and

agricultural lands to

withstand flooding

and drought to

cleanse water by

carbon filtration and

trophic cascades

within the world's

rivers, oceans, and

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*wetlands to shift
urban infrastructures*

such as buildings,

roads, bridges, and

ports, incorporating

drawdown materials

and components,

replacing steel,

concrete, polymers,

and composites with

biological carbon to

drive economic

Online Library

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reorganization by

incentivizing carbon

drawdown Fully

developed, this

approach costs

nothing—to the

contrary, it can save

companies money or

provide new revenue

streams. It contains

the seeds of a new,

circular economy in

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which energy, natural

Management

resources, and

Science

human ingenuity

Technology And

enter a virtuous cycle

Implementation

of improvement.

Burn offers bold new

solutions to climate

change that can begin

right now.

Current

Developments in

Biotechnology and

Online Library

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Bioengineering:

Resource Recovery

from Wastes includes

the latest and

innovative research

and technological

developments in the

biotechnology and

bioengineering

pertaining to various

resource(s) recovery

from wastes. The

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contents are

organized into two

broader sections

covering resource

recovery from

industrial wastewater

and resource

recovery from solid

wastes. Sections cover

energy, bioproducts,

nutrients, municipal

food wastes,

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Environmental

electronic wastes,

agricultural waste

and others. The state-

of-the-art situation,

potential advantages

and limitations are

also provided, along

with strategies to

overcome limitations.

This book is a useful

guide into research

demands in solid and

Online Library

Biochar For

Environmental

liquid waste treatment

and management for

environmental/econo

mic sustainability.

Provides state-of-art

information and

applications on

microbiological and

biotechnological

interventions for

resource recovery

Covers municipal

Page 224/245

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Biochar For

Environmental

food wastes,

electronic wastes and

agricultural wastes

Reviews current

information relating

to bioremediation

Contains recent

information, clearly

illustrated with tables,

figures and pictures

Outlines different

technological and

Online Library

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Environmental

biological aspects of

resource recovery

from industrial waste

and effluents

Technology And

Biochar in

Agriculture for

Achieving Sustainable

Development Goals

introduces the state-

of-the-art of biochar

for agricultural

applications to

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Biochar For

Environmental

actualize sustainable

development goals

and highlight current

challenges and the

way forward. The

book focuses on

scientific knowledge

and biochar

technologies for

agricultural soil

improvement and

plant growth. Sections

Page 227/245

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Biochar For

Environmental

provide state-of-the-art knowledge on

biochar production and characterization, focus on biochar for

agricultural

application and soil improvement, discuss the roles of biochar

for environmental improvement in

farmland to relieve

Online Library

Biochar For

Environmental

water and waste

Management

management as well

Science

as climate change,

Technology And

highlight biochar

Implementation

used for boosting

bioeconomy and

clean energy, and

discuss future

prospects. This book

will be important to

agricultural engineers

and researchers as

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well as those seeking

to improve overall

soil and

Technology And

environmental

conditions through

the use of biochar.

Focuses on biochar

utilization in

agricultural

applications, targeting

deeper elaboration of

biochar as a cost-

Online Library

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Environmental

effective and

renewable material in

field-scale agriculture

applications

Highlights biochar's

role in boosting the

bioeconomy which

shows great potential

for promoting a

circular economy and

maximizing

environmental, social

Online Library

Biochar For

Environmental

and economic

benefits Connects

Science

biochar applications

with sustainable

development goals

The need for

exploration,

conservation, and

sustainable utilization

of bioresources is

undeniable for the

survival and growth

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of mankind. This new book throws light on new and recent research on and development of effective strategies for sustainable utilization of bioresources using modern tools and techniques to help meet this challenge.

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This volume addresses the utilization of bioresources in therapeutics, in biofuel, in agriculture, and in environmental protection. Beginning with the diverse potential applications of bioresources in

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*food, medicine, and
cosmetics, the volume*

*goes on to address the
various different
underutilized*

bioresources and

their sustainable uses.

It discusses important

advances in biofuel

and patents that

highlight recent

developments that

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address the energy

crises and the

continuously

fluctuating cost of

petroleum. It explores

new renewable

energy sources from

bioresources and

their sustainable

utilization in the

bioenergy and

biofuel industry.

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Several chapters focus on the sustainable utilization of bioresources in the agricultural sector.

The volume considers that developing countries have huge agricultural resources that could be employed for production of value-

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Implementation

added byproducts for the sustainable development of a bio-based economy. The book discusses efficient use of underexploited natural bioresources, new chemical approaches for the generation of novel biochemicals, and the

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*applications of
genetics approaches*

Management

Science

for bioresource

Technology And

Implementation

production of value-

added products.

Further, strategies for

the production of

biopesticides utilizing

bioresources are also

discussed.

Environmental

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Environmental
Health
Management
Essential Soil
Science
Microbial Ecology
Technology And
Biochar
Implementation
Green Grabbing: A
New Appropriation
of Nature
Sustainable Biochar
for Water and
Wastewater
Treatment
Engineered Biochar

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Science

Technology And

Implementation

This book addresses the crucial aspects of plant adaptation strategies in higher as well as lower plant groups. Stress induced by changing environmental conditions disrupts or alter various physiological and metabolic processes in organisms, however, plants have

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evolved various
defence strategies to

cope with external

perturbations. The

book discusses

speciation changes in

response to extreme

ecological conditions

such as cold, heat,

aridity, salinity,

altitude, incidental UV

radiation and high

light intensity, which

are particularly

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Science

Technology And

Implementation

relevant in the current scenario of global warming. It also explores the effects of human activities and emission of phytotoxic gases. Further, it describes the overall adaptation strategies and the multifaceted mechanisms involved (integrated complex mechanism), ranging from morphological to

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Environmental

Management

Science, Technology And Implementation

molecular alterations,

focusing on plants'

capabilities to create

an inner environment

to survive the altered

or extreme conditions.

This book is a

valuable tool for

graduate and

research students, as

well as for anyone

working on or

interested in

adaptation strategies

Online Library
Biochar For
Environmental
in plants.
Management
Plant Adaptation
Strategies in
Technology And
Changing
Environment
Implementation
Biochar Systems for
Smallholders in
Developing Countries